

Resolution 6-F



Nassau County Hazard Mitigation Plan

Nassau County, New York

January 2021



HAGERTY

Nassau County Hazard Mitigation Plan

Executive Summary



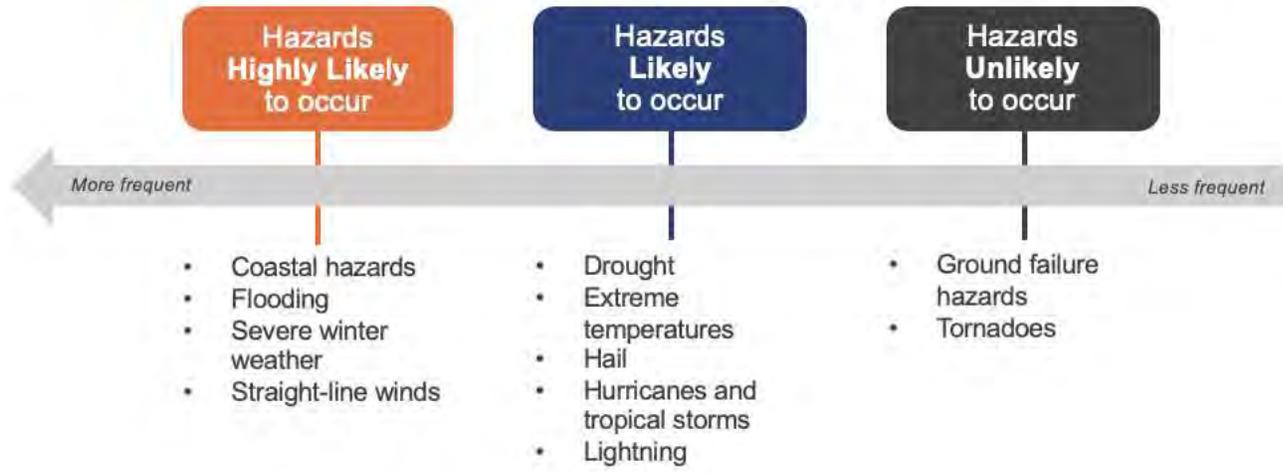
The Nassau County Hazard Mitigation Plan (Plan) is tangible evidence of Nassau County's **dedication to identifying and reducing the risks** associated with natural hazards to increase resilience of the community. Additionally, the County recognizes the importance of **maintaining a Federal Emergency Management Agency (FEMA) approved hazard mitigation plan** in order to maintain eligibility for the FEMA Hazard Mitigation Assistance (HMA) program, thereby opening the door to additional financial resources for the County.

Planning Process

Nassau County, in coordination with stakeholder groups, conducted a comprehensive, year-long planning process to update and redevelop their hazard mitigation plan to account for new risk data and cater to updated community priorities. Through this process, the County established a group of jurisdictions interested in participating (i.e., Planning Committee), identified hazards of concern, profiled these hazards, estimated risk and potential losses associated with these hazards, developed mitigation goals and actions that address the hazards that impact the area, and developed a strategy for plan implementation, to be executed upon conditional approval of the Plan from the New York State Division of Homeland Security and Emergency Services (NYS DHSES) and FEMA.

Risk Assessment

The purpose of the risk assessment is to evaluate the risks of natural hazards that are anticipated to impact the people, economy, services, housing, infrastructure, and environment of Nassau County. This assessment evaluated coastal hazards, drought, extreme temperatures, flooding, ground failure hazards, hail, hurricanes and tropical storms, lightning, severe winter weather, and straight line winds. Key considerations in this analysis were the likelihood that a hazard would occur (probability of occurrence), the anticipated severity (extent) of the hazard, and anticipated impact of the hazard on the community. The assessment found that:



Mitigation Strategy



The mitigation strategy is the heart of the Nassau County Hazard Mitigation Plan. This section defines the County’s vision for mitigating risk and reaching resilience. The section details an implementation strategy that will be carried out over the next five years. The cornerstone of the County’s Mitigation Strategy are these six mitigation goals that all mitigation actions align with:

- 1** Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.
- 2** Build and support local capacity to prepare for, respond to, and recover from disasters.
- 3** Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
- 4** Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
- 5** Develop and implement long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
- 6** Improve coordination between land use and redevelopment planning to encourage safe, economically sound investments.

Plan Organization

This Plan consists of the Base Plan, its Appendices, and the Jurisdictional Annexes. The Base Plan is comprised of the following sections:

- **Section 1 Introduction** introduces the reader to the Plan and provides context for the information included in the Plan.
- **Section 2 Planning Process** describes the planning process and records participation of various stakeholders in the planning process.
- **Section 3 County Profile** analyzes the current and future demographics, geography, and climate in the County to inform the mitigation planning process.
- **Section 4 Risk Assessment** analyzes the County and its jurisdictions’ risk and vulnerabilities to natural hazards.
- **Section 5 Capability Assessment** collates the County’s capabilities and assesses how these capabilities can support mitigation programs or be improved to support mitigation.
- **Section 6 Mitigation Strategy** describes the County’s mitigation strategy, including the Plan’s goals for a mitigation program, Countywide mitigation actions, and a road map for how the County will implement the Plan throughout the five year planning cycle.

The Base Plan Appendices include tools and data that supported the development of the Plan or will support the implementation of the plan. Lastly, each participating jurisdiction has its own Jurisdictional Annex that details a jurisdiction-specific profile, capability assessment, and mitigation strategy.

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1 Introduction

1.1 Background

Since 2007, Nassau County has maintained a hazard mitigation plan in order to reduce community vulnerability to natural disasters and meet the requirements of the Stafford Act and Title 44 Code of Federal Regulations (CFR) §201.6. The Nassau County Hazard Mitigation Plan will serve as guidance for implementation of the Mitigation Planning Program for the County and participating jurisdictions, in contrast to directing policy or having direct legal implications. The County and participating jurisdictions last updated the Nassau County Hazard Mitigation Plan in 2014. This update was largely focused on implementing lessons learned from the unprecedented impact of Superstorm Sandy in 2012. The goal for the 2021 update is to leverage current standards, regulations, guidance, and hazard information to ensure the new plan meets and exceeds New York State and FEMA hazard mitigation plan requirements. Funding for this plan update was obtained through a FEMA Pre-Disaster Mitigation Grant in 2017. This plan is tangible evidence of Nassau County’s dedication to identifying and reducing the risks associated with the hazards that exist in the community.

Benefits of Mitigation Planning:

- Creates eligibility for FEMA Hazard Mitigation Assistance (HMA) funding
- Reduces impacts of natural hazards on the community
- Increases resilience of County
- Strengthens partnerships and increases awareness of hazards
- Supports prioritization of limited resources

1.2 Participating Jurisdictions

While the Nassau County Hazard Mitigation Plan applies to all communities in Nassau County, jurisdictions that fully participated in the plan update process may adopt the Plan and remain eligible as direct recipients of HMA funding.

Nassau County’s two cities, three towns, and 64 incorporated villages were invited to participate in the plan update process, as required to be considered participating jurisdictions in a FEMA approved plan. During the planning process, 18 jurisdictions withdrew their participation due to a variety of reasons, including but not limited to differing planning priorities, lack of observed need for mitigation actions, and staff capacity. This planning process coincided with the COVID-19 pandemic, which posed challenges to the County and its jurisdictions as it strained the already thin resources of local communities. This may have been a significant factor for those jurisdictions that decided to withdraw participation from the plan. The County coordinated with each withdrawing jurisdiction to confirm their withdrawal and the repercussions, specifically related to federal funding eligibility, of their withdrawal.

A total of 51 participating jurisdictions are included in the 2021 Nassau County Hazard Mitigation Plan Update, as shown in **Figure 1** and detailed in **Table 1**. **Table 2** summarizes the individuals who comprise of the Planning Committee that was responsible for this plan update.



Figure 1: Planning Area Jurisdictions

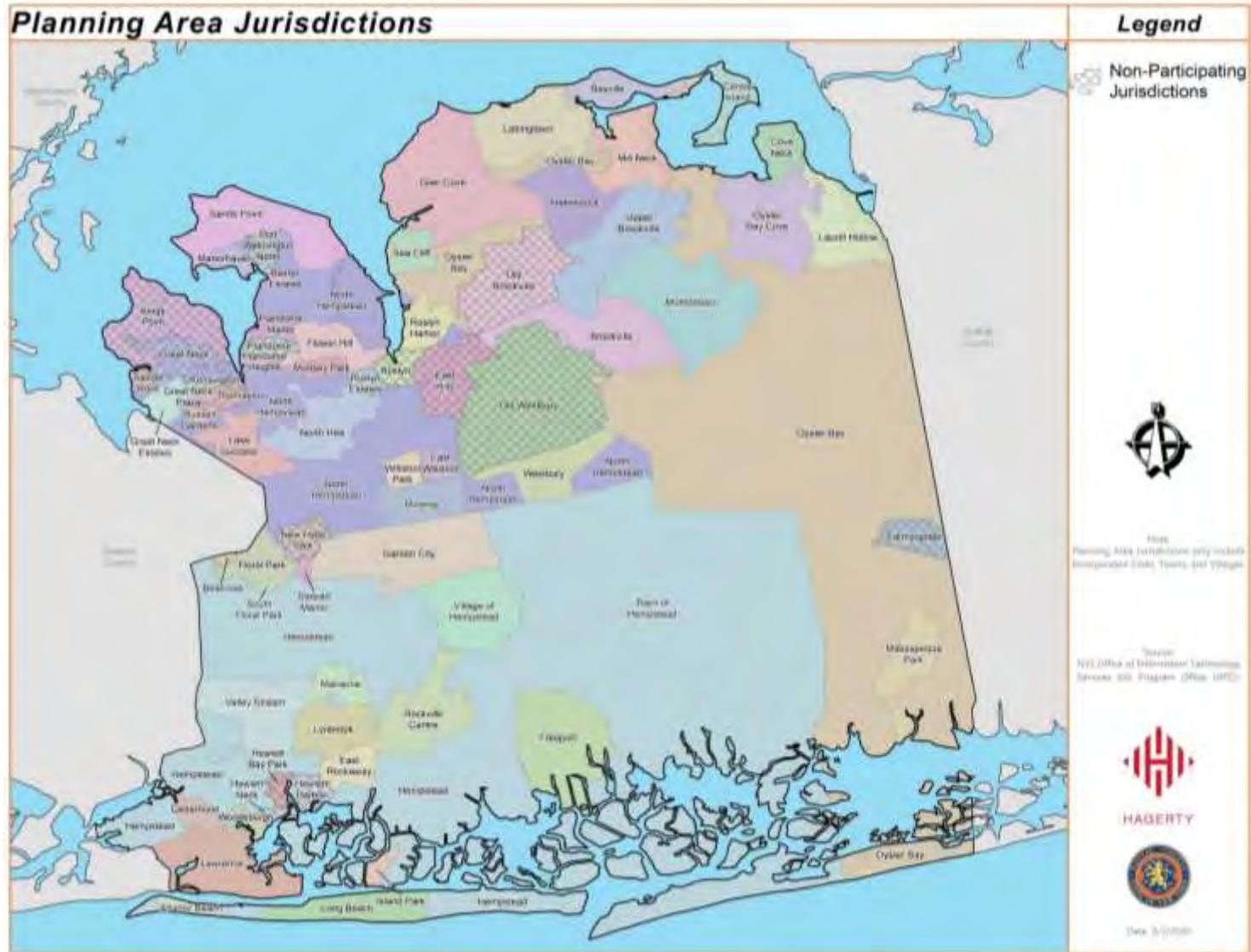


Table 1: Plan Participation Status



Name	Core Planning Group Kickoff	Planning Committee Pre-Workshop Webinar	Planning Committee Workshop	Risk Review and Mitigation Webinar	Jurisdiction Consultation Calls	Planning Committee Mitigation Strategy Webinar	Planning Committee Plan Review Webinar	Status (Adopting, Withdrawn)
Nassau County	X	X	X	X	X	X	X	Adopting
City of Glen Cove	X			X	X		X	Adopting
City of Long Beach	X	X	X		X	X	X	Adopting
Town of Hempstead	X	X	X	X	X	X	X	Adopting
Town of North Hempstead	X		X	X	X	X	X	Adopting
Town of Oyster Bay		X	X		X	X		Adopting
Village of Atlantic Beach								Adopting
Village of Baxter Estates			X	X	X	X	X	Adopting
Village of Bayville		X	X	X	X	X	X	Adopting
Village of Bellerose		X	X	X				Withdrawn
Village of Brookville		X	X	X	X	X	X	Adopting
Village of Cedarhurst			X	X	X	X	X	Adopting
Village of Centre Island			X			X	X	Adopting
Village of Cove Neck		X	X	X	X	X	X	Adopting
Village of East Hills			X					Withdrawn
Village of East Rockaway			X	X	X	X	X	Adopting
Village of East Williston		X	X		X			Adopting
Village of Farmingdale			X					Withdrawn
Village of Floral Park		X	X	X	X	X		Adopting
Village of Flower Hill			X	X	X			Adopting
Village of Freeport		X	X					Adopting
Village of Garden City			X	X	X			Adopting
Village of Great Neck		X	X	X				Withdrawn



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Village of Great Neck Estates			X		X			Adopting
Village of Great Neck Plaza				X	X	X		Adopting
Village of Hempstead		X	X				X	Adopting
Village of Hewlett Bay Park			X	X				Withdrawn
Village of Hewlett Harbor		X						Withdrawn
Village of Hewlett Neck			X	X				Withdrawn
Village of Island Park			X	X				Adopting
Village of Kensington								Withdrawn
Village of Kings Point		X	X					Withdrawn
Village of Lake Success		X	X	X	X	X	X	Adopting
Village of Lattingtown		X			X		X	Adopting
Village of Laurel Hollow			X	X	X	X		Adopting
Village of Lawrence		X		X	X			Adopting
Village of Lynbrook		X	X	X	X	X		Adopting
Village of Malverne		X	X	X	X	X		Adopting
Village of Manorhaven					X		X	Adopting
Village of Massapequa Park		X		X	X			Adopting
Village of Matinecock			X	X	X	X	X	Adopting
Village of Mill Neck		X	X	X	X			Adopting
Village of Mineola			X	X	X		X	Adopting
Village of Munsey Park					X			Adopting
Village of Muttontown		X	X	X	X			Adopting
Village of New Hyde Park			X					Withdrawn



Name	Core Planning Group Kickoff	Planning Committee Pre-Workshop Webinar	Planning Committee Workshop	Risk Review and Mitigation Webinar	Jurisdiction Consultation Calls	Planning Committee Mitigation Strategy Webinar	Planning Committee Plan Review Webinar	Status (Adopting, Withdrawn)
Village of North Hills			X	X	X	X	X	Adopting
Village of Old Brookville			X					Withdrawn
Village of Old Westbury		X	X	X				Withdrawn
Village of Oyster Bay Cove		X	X		X			Adopting
Village of Plandome								Withdrawn
Village of Plandome Heights		X			X		X	Adopting
Village of Plandome Manor		X	X	X	X		X	Adopting
Village of Port Washington North		X						Withdrawn
Village of Rockville Centre		X	X	X	X		X	Adopting
Village of Roslyn	X	X		X				Withdrawn
Village of Roslyn Estates								Withdrawn
Village of Roslyn Harbor		X	X	X	X		X	Adopting
Village of Russell Gardens		X	X	X	X		X	Adopting
Village of Saddle Rock								Withdrawn
Village of Sands Point			X	X	X		X	Adopting
Village of Sea Cliff		X			X	X	X	Adopting
Village of South Floral Park				X	X			Adopting
Village of Stewart Manor			X	X	X	X	X	Adopting
Village of Thomaston				X				Withdrawn
Village of Upper Brookville	X	X	X	X	X	X	X	Adopting
Village of Valley Stream		X	X	X	X	X	X	Adopting
Village of Westbury		X	X	X	X			Adopting
Village of Williston Park		X	X	X	X		X	Adopting



Name	Core Planning Group Kickoff	Planning Committee Pre-Workshop Webinar	Planning Committee Workshop	Risk Review and Mitigation Webinar	Jurisdiction Consultation Calls	Planning Committee Mitigation Strategy Webinar	Planning Committee Plan Review Webinar	Status (Adopting, Withdrawn)
Village of Woodsburgh			X	X	X	X	X	Adopting



Table 2: Planning Committee Members

Organization	First Name	Last Name	Job Title	Core Planning Group?
Village of Atlantic Beach	Steven	Cherson	Superintendent	No
Village of Baxter Estates	Nora	Haagenson	Mayor	No
Village of Baxter Estates	Chrissy	Kiernan	Village Clerk-Treasurer	No
Village of Baxter Estates	Alice	Peckelis	Emergency Manager	No
Village of Bayville	Maria	Alfano-Hardy	Administrator	No
Village of Bayville	Doug	Groth	Building Inspector	No
Village of Bellerose	Emil	Pape	Emergency Manager	No
Village of Brookville	Timothy	Dougherty	Village Administrator and Building Inspector	No
Village of Brookville	Angela	Mannino	Staff	No
Village of Brookville	Daniel	Serota	Mayor	No
Village of Brookville	Robert	Spina	Trustee and Director	No
Village of Cedarhurst	Frank	Parise	Superintendent	No
Village of Centre Island	Lawrence	Schmidlapp	Mayor	No
City of Glen Cove	Christopher	Ortiz	Deputy Chief	Yes
City of Long Beach	Chandra	Akins	Administrator	Yes
City of Long Beach	Richard	Corbett	Deputy Director	Yes
City of Long Beach	Joe	Febrizio	Deputy Commissioner	Yes
City of Long Beach	Scott	Kemins	Director	Yes
City of Long Beach	John	Mirando	Acting City Manager	Yes
Village of Cove Neck	Ted	Gutierrez	Trustee/Deputy Mayor	No
Village of Cove Neck	John	Hubbard	Planning Board Member	No
Village of Cove Neck	Thomas	Zoller	Mayor	No
Village of East Hills	Matt	Angst	Park Director	No
Village of East Hills	Donna	Gooch	Mayor	No
Village of East Hills	John	Salerno	Superintendent	No



Organization	First Name	Last Name	Job Title	Core Planning Group?
Village of East Hills	Charles	Summa	Emergency Manager	No
Village of East Rockaway	James	Carrigan	Emergency Manager	No
Village of East Rockaway	Juan	Garcia	Village Engineer	No
Village of East Rockaway	Thomas	Smith	Superintendent	No
Village of East Williston	Marie	Hausner	Village Clerk	No
Village of East Williston	Bonnie	Parente	Mayor	No
Village of Farmingdale	Andy	Fisch	Superintendent	No
Village of Farmingdale	Brian	Harty	Administrator	No
Federal Emergency Management Agency (FEMA)	Stephanie	Gootman	Community Planner	Yes
FEMA	Gary	Monitz	Mitigation Planner	Yes
Village of Floral Park	Kevin	Ginnane	Superintendent	No
Village of Floral Park	Renee	Marcus	Superintendent	No
Village of Flower Hill	Richard	Falcones	Superintendent	No
Village of Flower Hill	Randall	Rosenbaum	Trustee	No
Village of Flower Hill	Ronnie	Shatzkamer	Village Administrator	No
Village of Freeport	Richard	Holdener	Emergency Manager	No
Village of Freeport	Jonathan	Smith	Code Enforcement Inspector	No
Village of Freeport	Nora	Suders	Grants Technician	No
Village of Garden City	Darcia	Palmer	Deputy Treasurer	No
Village of Garden City	Domenick	Stanco	Deputy Superintendent/ Emergency Manager	No
Village of Great Neck	Louis	Massaro	Superintendent	No
Village of Great Neck	Jim	Neubert	Deputy Superintendent	No
Village of Great Neck Estates	Barbara	Dziorney	Building Inspector	No
Village of Great Neck Estates	Kathleen L	Santelli	Village Administrator	No
Village of Great Neck Estates	Christopher	Russo	Police Sergeant	No
Village of Great Neck Plaza	Jean	Celender	Mayor	No



Organization	First Name	Last Name	Job Title	Core Planning Group?
Village of Great Neck Plaza	Vincent	Ferry	Assistant to the Mayor	No
Hagerty Consulting	Michelle	Bohrson	Managing Associate	Yes
Hagerty Consulting	Jim	DeAngelo	Senior Managing Associate	Yes
Hagerty Consulting	Kris	Ledins	Senior Managing Associate	Yes
Hagerty Consulting	Michael	Levkowitz	Managing Associate	Yes
Hagerty Consulting	Sydney	McKenna	Managing Associate	Yes
Village of Hempstead	Scott	Clark	Supervisor, Water & Sewer Services	No
Village of Hempstead	Frank	Germinaro	Director	No
Village of Hempstead	Waylyn	Hobbs	Trustee	No
Village of Hempstead	Teddy	McLean	Senior Engineering Aide	No
Village of Hempstead	George	Sandas	Director	No
Village of Hewlett Bay Park	Francois	Tenenbaum	Fire Commissioner	No
Village of Hewlett Harbor	Maureen	McCarthy	Deputy Clerk	No
Village of Hewlett Harbor	Michael	Ryder	Village Clerk	No
Village of Hewlett Neck	Francois	Tenenbaum	Fire Commissioner	No
Village of Island Park	John	Isola	Deputy Village Treasurer	No
Village of Island Park	Michael	McGinty	Mayor	No
Village of Kensington	Susan	Lopatkin	Mayor	No
Village of Kensington	Melissa	McComb	Village Clerk	No
Village of Kings Point	George	Banville	Commissioner	No
Village of Kings Point	Michael	Moorehead	Superintendent	No
Village of Kings Point	Gomie	Persaud	Head Village Clerk	No
Village of Lake Success	Patrick	Farrell	Administrator	No
Village of Lake Success	Patrick	McDermott	Superintendent	No
Village of Lattingtown	Dawn	Gresalfi	Clerk Treasurer	No
Village of Lattingtown	Enrico	Lucidi	Street Commissioner	No
Village of Laurel Hollow	Daniel	DeVita	Mayor	No



Organization	First Name	Last Name	Job Title	Core Planning Group?
Village of Laurel Hollow	Elizabeth	Kaye	Village Clerk/Treasurer	No
Village of Laurel Hollow	Jeffrey	Nemshin	Deputy Mayor	No
Village of Lawrence	Geraldo	Castro	Deputy Village Administrator	No
Long Island Regional Planning Council	Elizabeth	Cole	Deputy Director	Yes
Long Island Regional Planning Council	Richard	Guardino	Executive Director	Yes
Village of Lynbrook	Robert	Cribbin	Emergency Manager	No
Village of Lynbrook	John	Giordano	Village Administrator	No
Village of Lynbrook	Valerie	Onoroto	Deputy Administrator	No
Village of Malverne	Anthony	Marino	Director	No
Village of Manorhaven	Sharon	Abramski	Village Clerk-Treasurer	No
Village of Massapequa Park	Robert	Macri	Superintendent	No
Village of Matinecock	Roger	Cocchi	Consultant Engineer	No
Village of Matinecock	Kenneth	Goodman, M.D.	Mayor	No
Village of Matinecock	Albert	Kalimian	Deputy Mayor	No
Village of Matinecock	Peter P.	MacKinnon, Esq.	Village Attorney	No
Village of Matinecock	William	Simonds	Clerk-Treasurer	No
Village of Mill Neck	Donna	Harris	Village Clerk-Treasurer	No
Village of Mill Neck	Josh	Kugler	Emergency Manager	No
Village of Mineola	Lenny	Palumbo	Deputy Superintendent	No
Village of Mineola	Thomas	Rini	Superintendent	No
Village of Munsey Park	Tara	Gibbons	Treasurer	No
Village of Munsey Park	Maureen	McLean	Deputy Clerk	No
Village of Muttontown	Joseph	Russo	Acting Village Clerk	No
Village of Muttontown	Tony	Toscano	Emergency Manager	No
Nassau County	Paul	Broderick	Deputy Commissioner	Yes



Organization	First Name	Last Name	Job Title	Core Planning Group?
Nassau County	Ann	DeSimone	Director, Public Health Emergency Preparedness	Yes
Nassau County	Michael	Golio	Investigator Captain	Yes
Nassau County	Diana	Johnson	Coordinator of Community Mental Health Services	Yes
Nassau County	Nicole	Marks	Director of Planning	Yes
Nassau County	Steven	Morelli	Commissioner	Yes
Nassau County	Joseph	O'Connor	Emergency Management Specialist	Yes
Nassau County	Bohdan	Pilczak	Division Supervising Fire Marshal	Yes
Nassau County	Brian	Schneider	Deputy County Executive	Yes
Nassau County	Karen	Taggart	Special Counsel for Public Safety	Yes
Nassau County	Joseph	Trimarchi	Deputy Commissioner	Yes
Nassau County	Robert	Connolly	Sergeant	Yes
Nassau County	Kevin	Crean	Director	Yes
Nassau County	Timothy	Messner	Deputy Commissioner	Yes
Nassau County	Kenneth	Murray	Officer	Yes
Nassau County	Susan	Park	Director of Recovery	Yes
Nassau County	David	Viana	Planner II	Yes
Nassau County Soil and Water Conservation District	David	Ganim	District Manager	Yes
Nassau County Village Officials Association	Ralph	Kreitzman	Executive Director	Yes
Village of New Hyde Park	Richard	Coppola	Village Trustee	No
Village of New Hyde Park	Thomas	Gannon	Superintendent	No
New York City Emergency Management	Melissa	Umberger	Director	Yes
Village of North Hills	Marianne	Lobaccaro	Village Administrator	No
Village of North Hills	Dennis	Sgambati	Deputy Mayor	No



Organization	First Name	Last Name	Job Title	Core Planning Group?
New York State Department of Homeland Security and Emergency Services (NYS DHSES)	Patrick	Beckley	Regional Director	Yes
NYS DHSES	Shannon	Clarke	DHSES Mitigation Planning Manager	Yes
NYS DHSES	Jillian	Ringhauser	Regional Planner	Yes
New York State Floodplain and Stormwater Managers Association	Brian	Zitani	Region 1 (Long Island) Chapter Chairman	Yes
New York State Department of Environmental Conservation	Bill	Fonda	Public Participation Specialist	Yes
Village of Old Brookville	Bernard	Ryba	Mayor	No
Village of Old Westbury	Gregg	Bencic	Superintendent	No
Village of Old Westbury	Robert	Glaser	Chief of Police	No
Village of Old Westbury	Brian	Ridgway	Village Administrator	No
Village of Oyster Bay Cove	Joanne	Casale	Village Clerk/Treasurer	No
Village of Oyster Bay Cove	Seth	Lublin	Emergency Manager	No
Village of Oyster Bay Cove	Ted	Mergel	Police Sergeant	No
Village of Oyster Bay Cove	Edward F.	von Briesen	Road Commissioner	No
Village of Plandome	Donald	Richardson	Emergency Manager/Trustee	No
Village of Plandome Heights	Arlene	Drucker	Village Clerk	No
Village of Plandome Heights	Kenneth	Riscica	Mayor	No
Village of Plandome Manor	Barbara	Donno	Mayor	No
Village of Plandome Manor	Randi	Malman	Village Clerk	No
Village of Port Washington North	Robert	Barbach	Superintendent	No
Village of Port Washington North	Alex	Moschos	Deputy Emergency Manager	No
Village of Rockville Centre	Kevin	Reilly	Emergency Manager	No
Village of Roslyn	Sam	Daliposki	Superintendent	No
Village of Roslyn	Anita	Frangella	Village Clerk's Office	No
Village of Roslyn Estates	Henry	Krukowski	Emergency Management Officer	No



Organization	First Name	Last Name	Job Title	Core Planning Group?
Village of Roslyn Estates	Michael	Tomicich	Village Clerk/Treasurer	No
Village of Roslyn Harbor	Dina	Kussoff	Emergency Management Coordinator	No
Village of Roslyn Harbor	Marla	Wolfson	Village Clerk	No
Village of Russell Gardens	Christine	Blumberg	Village Clerk Treasurer	No
Village of Russell Gardens	Michael	Jurcsak	Supervisor	No
Village of Saddle Rock	Dan	Levy	Mayor	No
Village of Sands Point	Mike	Ertel	Sands Point Representative to Manhasset Bay Protection Committee	Yes
Village of Sands Point	Peter	Forman	Commissioner	No
Village of Sands Point	Liz	Gaynor	Village Clerk	No
Village of Sands Point	Correne	Martinez	Administrator	No
Village of Sea Cliff	Shane	Dommin	Building Inspector	No
Village of Sea Cliff	Bruce	Kennedy	Village Administrator	No
Village of South Floral Park	Jennifer	Bellamy	Emergency Manager	No
Village of South Floral Park	Mary	Long	Village Clerk	No
Village of Stewart Manor	Barbara	Arciere	Trustee	No
Village of Stewart Manor	Rosemarie	Biehayn	Village Clerk	No
Village of Stewart Manor	Richard	Clifford III	MEO-Sanitation Worker	No
Village of Stewart Manor	Michael	Onorato	Mayor	No
Suffolk County	Kenneth	Kutner	Program Examiner, Office of Emergency Management	Yes
Suffolk County	Jeanne	Lenz	Program Examiner, Office of Emergency Management	Yes
Village of Thomaston	William	Mazurkiewicz	Superintendent	No
Village of Thomaston	Steven	Weinberg	Mayor	No
Town of Hempstead	Edward	Powers	Director	Yes
Town of North Hempstead	Shawn	Brown	Commissioner	Yes
Town of North Hempstead	Tom	Devaney	Grants Manager	Yes



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Town of Oyster Bay	Michael	Gange	Director	Yes
Town of Oyster Bay	Robert	Mangano	Deputy Commissioner	Yes
Town of Oyster Bay	Cathie	McGarry	Public Safety Assistant	Yes
Village of Upper Brookville	Elliot	Conway	Mayor	No
Village of Upper Brookville	Tracy	Lynch	Clerk/Treasurer	No
Village of Upper Brookville	Thomas	Mullen	Deputy Clerk	No
Village of Valley Stream	Steven	Acquavella	Superintendent	No
Village of Valley Stream	Frank	Roca	Emergency Management Coordinator	No
Village of Westbury	Joseph	Brillantino	Building Inspector	No
Village of Westbury	Phil	Fulgieri	Superintendent	No
Village of Westbury	Pasquale	Iannucci	Deputy Superintendent	No
Village of Williston Park	Keith	Bunnell	Superintendent	No
Village of Williston Park	Paul	Ehrbar	Mayor	No
Village of Williston Park	Julie	Kain	Village Clerk/Treasurer	No
Villages of Woodsburgh	Francois	Tenenbaum	Fire Commissioner	No



1.3 Plan Organization

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- **Section 5 Capability Assessment** collates the County's capabilities and assesses how these capabilities can support mitigation programs or be improved to support mitigation.
- **Section 6 Mitigation Strategy** describes the County's mitigation strategy, including the Plan's goals for a mitigation program and County specific actions and provides a road map for the County of how to implement the Plan throughout the planning cycle.

The Base Plan Appendices include tools and data that supported the development of the Plan or will support the implementation of the plan. Lastly, each participating jurisdiction has a Jurisdictional Annex, which includes a jurisdiction-specific profile, capability assessment, and mitigation strategy.



2 Planning Process

The following section details the process used to update the Nassau County Hazard Mitigation Plan. Detailed documentation pertaining to this process, such as records of meeting attendance, presentations, and the outreach strategy can be found in **Appendix A**.

2.1 Stakeholder Organization and Responsibilities

For the Nassau County Hazard Mitigation Plan update, stakeholders were organized into five different groups based on their expected responsibilities and level of participation, as detailed in **Figure 2**. The participation of all groups was instrumental in supporting the update of this plan. Planning Committee members bore the greatest responsibility for providing information relative to the current conditions in their communities, reporting on mitigation progress, and developing new mitigation actions to address changing risk. More details on the responsibilities of each group and their participation in the planning process are included in the subsections below.

Figure 2: Stakeholder Organization and Composition



2.1.1 Steering Committee

The Steering Committee led the County's effort to update the hazard mitigation plan. This group made critical decisions about the structure of the planning process and plan update. The Steering Committee is comprised of the Nassau County Office of Emergency Management (OEM) Director of Recovery, Nassau County OEM Director of Planning, and Hagerty Consulting Project Team.

Expectations:

- Organize and carry out the planning process
- Collect information from the stakeholders to update the Plan
- Develop and finalize drafts of the Plan documents

2.1.2 Core Planning Group

The Core Planning Group (CPG) is made up of the Steering Committee, Nassau County departments, Long Island agencies, representatives from the County's cities and townships, neighboring counties, New York State agencies, and FEMA Region II. For the purposes of hazard mitigation planning, "participating jurisdictions" are the jurisdictions in the County seeking to adopt the final Plan that is approved by NYS DHSES and FEMA. A list of jurisdictions participating in the plan update, including the person's position and agency within the jurisdiction is available in the Introduction. Representatives from neighboring jurisdictions, specifically representatives from Suffolk County and New York City were invited by Nassau County Office of Emergency Management through phone and/or email to be members of the CPG.

Expectations:

- Provide information, consultation, and feedback to support the plan update.
- Consulted to make high level decisions about the purpose and goals of the base plan.
- Reviewed drafts and provided feedback to the Steering Committee.
- Contributed to the development of mitigation strategies at the county government level.



2.1.3 Planning Committee

The Planning Committee consists of the Core Planning Group and the County's 64 incorporated villages. As noted in the introduction, 18 municipalities withdrew their participation during the planning process. For the purposes of Nassau County's Mitigation Program and future Plan updates, these non-participating jurisdictions will continue to be considered part of the Planning Committee. The Planning Committee provided a critical understanding of the local community needs and in order to meet all of the State and federal requirements for hazard mitigation planning for each jurisdiction.

Expectations:

- Provide the Steering Committee with information for their respective jurisdictional annex, specifically NYS DHSES mitigation action worksheets.
- Participate in Plan update workshops and webinars.
- Review and provide comments on drafts of the Plan.

2.1.4 Stakeholder Group

The Stakeholder Group is comprised of special districts (e.g., school and fire), elected officials, nonprofits, businesses, coalitions, hospitals, utility companies, and educational institutions. As needed, the Steering Committee and Planning Committee may consult with individuals in the Stakeholder Group for subject matter expertise on specific topics.

Expectations:

- Maintain awareness of the plan update process
- Provide subject matter expertise
- Participate in public and stakeholder webinars
- Participate in public and stakeholder groups survey in June 2020. Results of this survey can be found in Appendix A.
- Review full draft plan during public review period in October 2020. Results of the public review can be found in Appendix A.



2.1.5 Public

Public engagement during the hazard mitigation planning process was a priority for Nassau County. All Nassau County residents, business owners, and other community groups were encouraged to participate in the planning process. Nassau County directly encouraged the public to participate via social media announcements, and also provided template language for the Planning Committee to use to promote these engagement opportunities locally. Nassau County will continue to make public participation a priority throughout the planning cycle as outlined in the Mitigation Strategy section.

Public Expectations:

- Participate in public and stakeholder groups survey in June 2020. Results of this survey can be found in Appendix A.
- Review full draft plan during public review period in October 2020. Results of the public review can be found in Appendix A.
- Participate in public and stakeholder webinars

2.2 Plan Update Process

Nassau County received a Pre-Disaster grant from FEMA to fund this update of the Nassau County Hazard Mitigation Plan. The County contracted with Hagerty Consulting to support the County in updating the Plan. Together, as the Steering Committee, the County and Hagerty Consulting worked together to lead the plan update process. There were two critical components of updating the Plan. First, the Steering Committee planned and conducted a comprehensive series of meetings and outreach to various stakeholder groups, each described in the subsequent sections of this section. The Steering Committee also reviewed and updated the content of the Plan and integrated feedback received from all stakeholder groups. The plan update spanned most of 2020 and concluded at the end of the year.

The plan update process also involved several other hazard mitigation related programs. Specifically, the plan update process was integrated with the County's participation in the National Flood Insurance Program (NFIP), FEMA's Hazard Mitigation Grant Program (HMGP), and the Community Rating System (CRS). Integration of these programs is discussed more extensively in subsequent sections.

2.2.1 Planning Meetings

The Plan Update process included a series of meetings and webinars to engage all stakeholder groups. The County originally scheduled the majority of the planning meetings to be facilitated by the Steering Committee in person. Due to the restrictions and dangers caused by the Coronavirus Disease 2019 (COVID-19) pandemic, the Steering Committee opted to conduct all planning meetings after the March 5th workshop online. **Table 3** provides an overview of the meetings conducted during the Plan update process and Appendix A includes documentation from these meetings including, agendas, presentations, handouts, notes, and attendance.



Table 3: Review of Planning Meetings

Name	Date	Description	Participation
Core Planning Group Kick-Off Meeting	February 3, 2020	The Nassau County Office of Emergency Management hosted the in-person CPG Kick-Off Meeting on February 3, 2020. The CPG was introduced to the Hagerty consultants working on the project and were presented with the overall goals of the HMP update. This meeting also included a session on mitigation strategies and goal setting for the updated plan, a description of the project approach, and an overview of the project meeting dates and next steps.	Core Planning Group
Planning Committee Pre-Workshop Webinar	February 19 and 20, 2020	The Steering Committee held an informational webinar as part of preparation for the first Planning Committee meeting on February 19 and February 20 of 2020. The webinar covered an introduction to hazard mitigation planning, the expected roles and responsibilities of members of the Planning Committee, and an overview of the Planning Committee workshop.	Planning Committee
Planning Committee Workshop	March 5, 2020	The Steering Committee held an in-person workshop for the Planning Committee on March 5, 2020. The workshop attendees reviewed hazard mitigation planning processes and project approaches, examined the previous plan, discussed changes to countywide hazards and mitigation goals, and reviewed jurisdictional annex documents and how to fill out online forms.	Planning Committee
Risk Review and Mitigation Strategy Webinar	June 11, 2020	The Steering Committee held a webinar for the Planning Committee on June 11, 2020. The webinar allowed for the review of the results of the Risk Assessment and highlighted key problem statements and areas to consider for mitigation projects. Additional ideas for potential mitigation projects and funding opportunities were presented along with guidelines and requirements for reporting on past mitigation projects and developing two mitigation action worksheets.	Planning Committee
Stakeholder Webinar	June 12, 2020	The Steering Committee held a webinar for stakeholders on June 12, 2020. This webinar introduced stakeholders to the HMP Update process and reviewed what had changed since the last plan update. The CPG also reviewed the results of the	Stakeholder Group



Name	Date	Description	Participation
		Risk Assessment with the stakeholders.	
Jurisdictional Consultation Calls	June 25, 2020 – July 16, 2020	Each participating jurisdiction was given the opportunity to schedule a one-hour phone consultation with a Hagerty consultant to review their jurisdictional annex contents, document past mitigation actions, and develop mitigation action worksheets.	Planning Committee
Planning Committee Mitigation Strategy Review Webinar	August 20, 2020	The Steering Committee held a webinar for the Planning Committee on August 20, 2020 to review the draft Mitigation Action Plan. This webinar also allowed the Planning Committee to provide feedback about the planning process and discuss how local jurisdictions would adopt the plan.	Planning Committee
Planning Committee Review Webinar	September 16, 2020	The Steering Committee held the final webinar for the Planning Committee on September 16, 2020 to review the draft Plan, discuss plan maintenance and adoption, and review any submitted comments.	Planning Committee,
Public Meeting/ Webinar	October 8, 2020	The Steering Committee held a public webinar on October 8, 2020 to present the final draft Plan and start the public comment process.	Planning Committee, Stakeholder Group, Public

2.2.2 Outreach

In order to promote participation in the planning process, Nassau County conducted extensive outreach to all stakeholder groups throughout the planning process. This section details some of the different aspects of this outreach. Appendix A includes documentation from this outreach process.

2.2.2.1 Outreach Strategy

At the beginning of the planning process, the Steering Committee developed an outreach strategy to define which stakeholders would be involved in the Plan update and how stakeholders would be invited to participate in the process. The Outreach Strategy is comprised of three goals and six tactics that supported thorough and comprehensive stakeholder engagement throughout the Plan update process.

2.2.2.2 MailChimp Email Platform

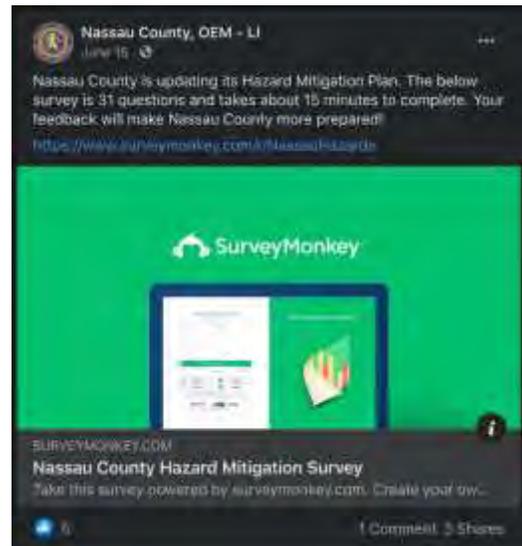
The Steering Committee utilized the MailChimp Email Platform regularly to communicate with stakeholders regarding the planning progress, to distribute meeting invitations and follow up, and to send out periodic newsletters to the Planning Committee. A total of eight newsletters were sent out to the Planning Committee throughout the planning process. These newsletters aimed to continually update the committee on planning progress and remind them of current action items.



2.2.2.3 Social Media

In addition to the aforementioned methods of inviting and engaging with all levels of stakeholders, the Steering Committee utilized social media (e.g., Facebook) as a method of outreach to stakeholders, community groups, and the public. Additionally, the Steering Committee provided social media templates to members of the Planning Committee to utilize on their own social media pages to promote participation. **Figure 3** provides an example of a post from the Nassau County OEM's Facebook account to promote participation in the June 2020 public survey.

Figure 3: Example Social Media Engagement



2.2.2.4 Public Surveys

Two surveys were developed and distributed to Nassau County residents and business owners. The first survey was live from June 12 to July 20, 2020 and received responses from 278 individuals. This survey gathered information about the public's impressions of natural hazards and how they impact Nassau County.

The second public survey was the public comment form that was live from October 1 to October 30, 2020. This form and the draft hazard mitigation plan were posted on the Nassau County OEM website¹ for the 30-day public comment period. Survey summaries can be found in Appendix A.

2.3 Data Sources

The Planning Committee utilized a variety of existing data, new data, plans, and other documents to support the update of the Plan. The Planning Committee conducted an in-depth analysis of this data, including gathering stakeholder feedback and collecting response data to validate findings. These discoveries informed various aspects of the risk assessment and were incorporated into the development and prioritization of mitigation actions. Specific applications of data sources are included within subsequent plan sections. Data sources included, but were not limited to:²

Federal Data:

- NOAA NCEI Storm Events Database
- United States Geological Survey (USGS) Data
- United States Census Data

State Data:

- HAZNY Profile

Local Data:

- Nassau County GIS data
- Jurisdictional Survey responses
- Public Survey Responses

¹ Nassau County OEM website: <https://www.nassaucountyny.gov/2813/Hazmit-Plan>

² A complete listing of the references used for this HMP Update can be found in the Bibliography.



3 County Profile

The County Profile describes the characteristics of Nassau County that are relevant for consideration when developing mitigation actions to address natural hazard risk. The information presented in this section is countywide. Specifics for each jurisdiction are available in each of the Jurisdictional Annexes.

3.1 Location

Nassau County is one of the four counties of Long Island, New York. The other three counties that make up Long Island are: Kings County, Queens County, and Suffolk County. Long Island is the longest island in the United States, extending east from New York City approximately 118 miles in length and approximately 20 miles across at its widest point. Nassau County is bounded by Queens County to the west, Suffolk County to the east, and is bordered by the Atlantic Ocean to the south and the Long Island Sound to the north.

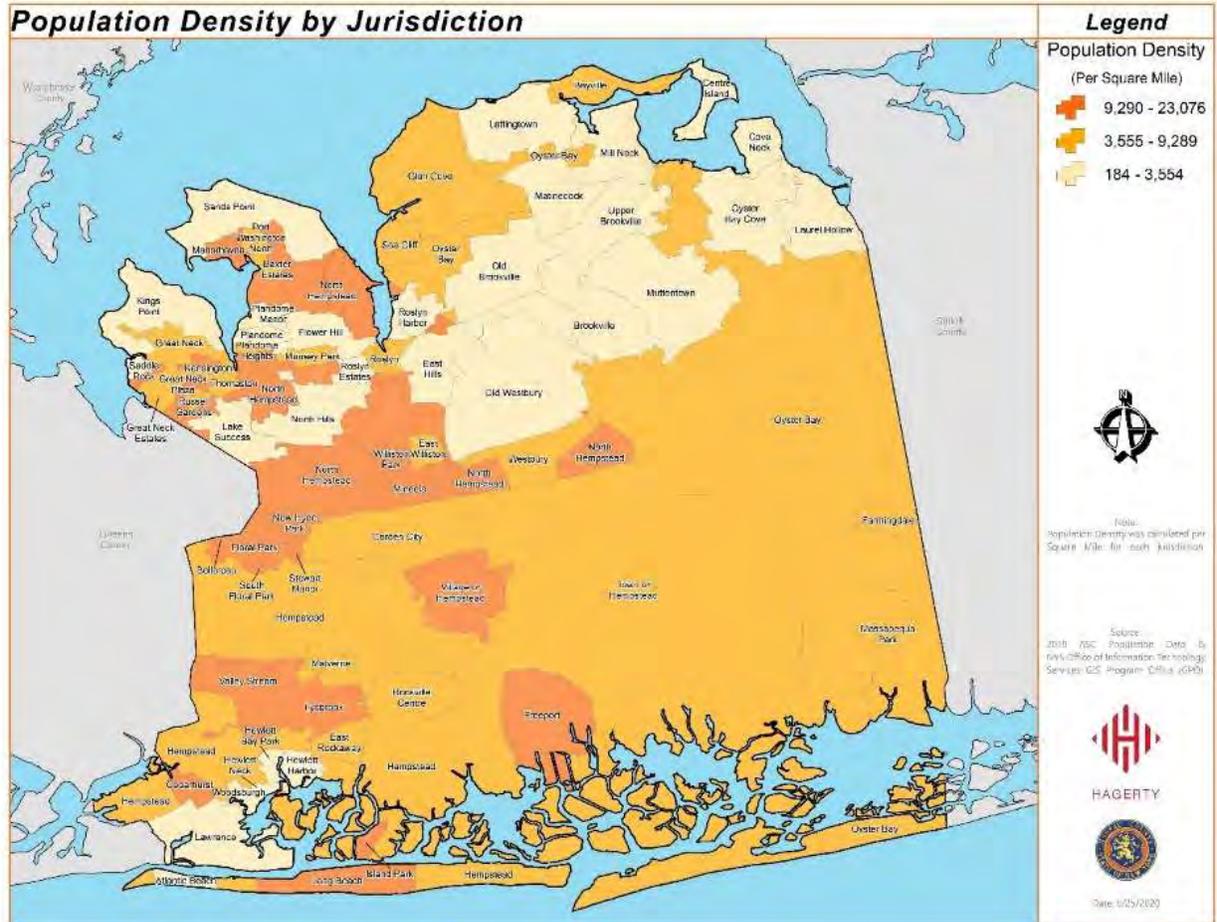
Nassau County has a total area of 453.08 square miles, including 286.69 square miles (183,680 acres) of landmass and 166.39 square miles of water. Nassau County is comprised of two cities, three towns, and sixty-four incorporated villages.



3.2 Population Density

Nassau County has a population of 1,358,343 people (United States Census Bureau 2018) and a population density of 4,738.02 people per square mile. **Figure 4** provides a visual representation of the population density of the County. According to the 2018 American Community Survey 1-Year estimate, the population of Nassau County had grown approximately 1.4% since the Decennial Census was conducted in 2010, when the population was 1,339,532 (U.S. Decennial Census).

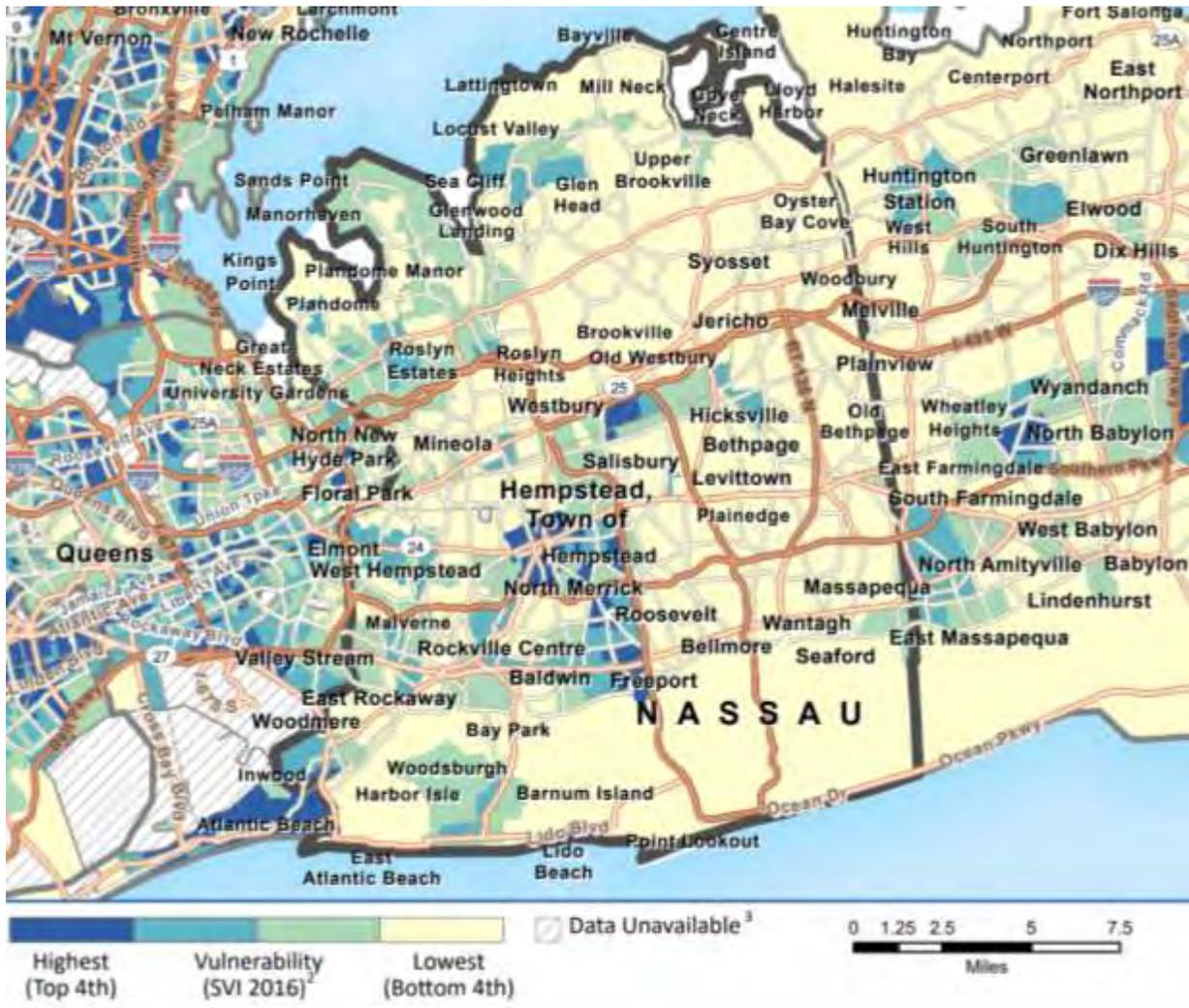
Figure 4: Population Density by Jurisdiction



3.3 Social Vulnerability

Social vulnerability provides valuable insight for the Nassau County Mitigation Program. Understanding the vulnerability of the Nassau County population allows the County to implement appropriate and effective mitigation strategies given the assets and availability of resources and considerations related to access and functional needs. **Figure 5** provides a visual representation of the areas of higher and lower social vulnerability in Nassau County. This map was developed by the Centers for Disease Control and Prevention, as part of the 2016 Social Vulnerability Index. The index considers factors like socioeconomic status, household composition/disability, race/ethnicity/language, and housing/transportation.

Figure 5: Social Vulnerability Index for Nassau County



3.3.1 Individual Assets and Availability of Resources

Individual assets and availability of resources is critical for mitigation planning and implementation, because it indicates the ability for individuals to invest in personal preparedness and mitigation practices, and also shows where the County may need to provide additional support.

- **The average median household income is approximately \$116,304** (United States Census Bureau 2018). This is higher than both the average United States' and New York's median household income, suggesting that populations in the County may be capable in investing in personal preparedness and mitigation actions.
- **An estimated 5.6% of Nassau County residents are below the federal poverty level** (United States Census Bureau 2018). Preparing for disasters can often be costly for those with few resources and illustrate that there may be an increased need.
- **Nassau County has a high level of homeownership, with only 20.2% of the total population consisting of renters.** Homeowners are less mobile and often indicate increased resilience through assets and resources.

3.3.2 Disabilities, Access, and Functional Needs

Understanding and addressing social vulnerability through hazard mitigation planning also involves accounting for individuals with disabilities or access and functional needs. Access and functional needs can refer to a wide range of scenarios, but may include individuals with disabilities, older adults, younger children, individuals that have English as their second language, and individuals with limited internet access. Mitigation actions should account for the needs of everyone and include considerations that ensure accessibility of things like communication and transportation. These populations are critical to consider and integrate into planning in order to produce a plan that serves the entire community.

- **Approximately 17.8% of the population in Nassau County is over the age of 65 and approximately 5.5% of the population is under the age of 5** (United States Census Bureau 2018). Both populations can be largely dependent on caregivers and can experience difficulties that makes them vulnerable in the event of a disaster.
- **An estimated 8.0% of the Nassau County population are individuals with a disability, compared to the 12.6% of the United States' population, and 11.5% of the New York State Population.** Disasters are inherently high-risk events for those with disabilities. Understanding the size and concentration of populations with disabilities can ensure that Nassau County is prepared to serve those populations before, during, and after a disaster.
- An estimated 29.3% of Nassau County that primarily speaks a language other than English at home (United States Census Bureau 2018). Individuals that have language barriers can be a major challenge when communicating with the community.
- **Approximately 11.1% Of the Nassau County population does not have access to a broadband internet subscription.** Lack of communication can be detrimental before, during, and after a disaster. It is imperative that Nassau County has methods in place to reach all its residents and visitors in the event of an emergency (United States Census Bureau 2018)



In order to better address the needs of individuals with access and functional needs related to a disaster, Nassau County has developed a [Disaster Checklist For Nassau County Residents With Access And Functional Needs Preparing At Home](#) available on the County's website to better support disaster preparedness.

3.4 Natural Environment

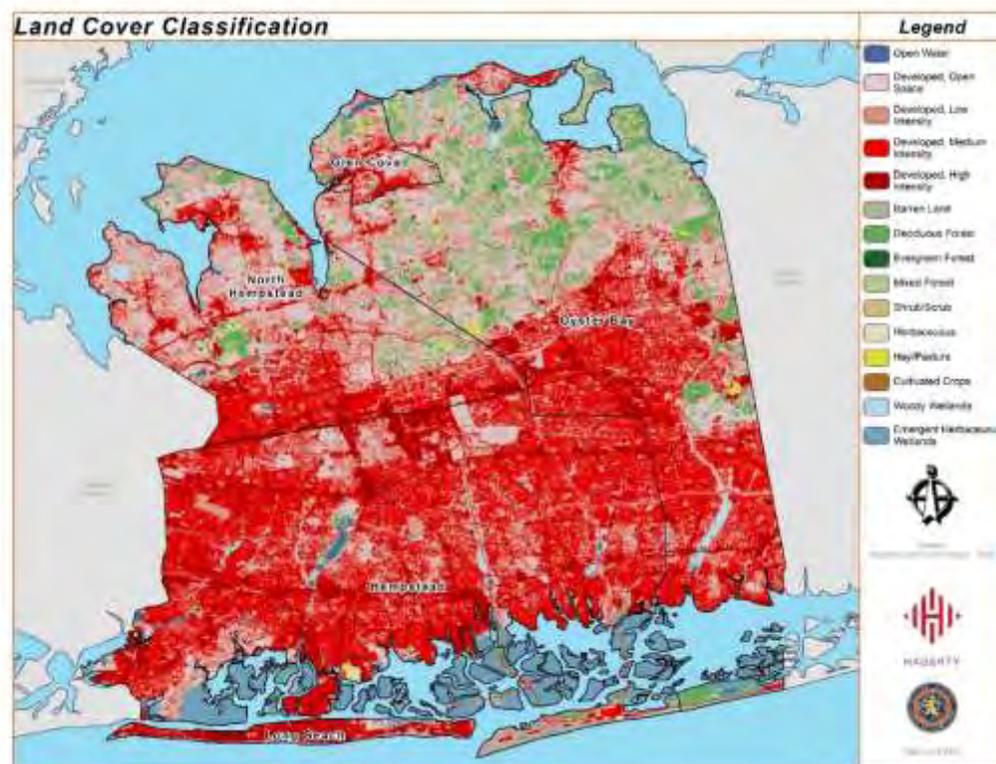
3.4.1 Climate

New York State's climate is primarily classified as 'Humid Continental,' like much of the northeastern United States. The average annual temperature is approximately 55°F in the New York City metropolitan area that Nassau County is a part of. The average precipitation totals in the Nassau County area are around 50 inches a year. Snow totals are kept below 36 inches a year in Long Island due to the warming influence of the Atlantic Ocean. The County also experiences the damaging effects of coastal storms like nor'easters and tropical cyclones (Rosenzweig, et al. 2011).

3.4.2 Land Cover

In Nassau County, medium intensity developed land covers the largest percent of land (33.62%) and developed land in totality represents 80.52% of Nassau County, as shown in **Figure 6**. The northeastern part of Nassau County encompasses the largest portion of undeveloped land, most of it being deciduous forest. A significant portion of Nassau County's southern coastline bordering the back bays is covered with herbaceous wetlands.

Figure 6: Nassau County Landcover Classification



3.4.3 Hydrology and Hydrography

Nassau County is a coastal county. All of Nassau County is in the Atlantic Ocean/Long Island Sound Watershed, which encompasses all of Long Island, New York City, and areas north to White Plains. (New York State Department of Environmental Conservation 2020). This watershed consists of several smaller HUC 10 watersheds, four of which can be found in Nassau County as shown in **Figure 7**.

Figure 7: Nassau County Watersheds and Rivers



3.4.4 Climate Projections

The 2014 Supplement to the New York State report on responding to climate change, ClimAID, places Nassau County in Region 4 in their division of the state. This region, compared to the baseline temperature of 54.6°F from 1971-2000, is expected to have a temperature increase between 2.0°F-2.9°F (25th to 75th Percentile) in the 2020s. The 2014 Supplement also predicts an increase in precipitation in Region 4 to be between 1 and 8% (25th to 75th Percentile). Sea level is projected to rise by four to eight inches (25th to 75th percentile). The findings of the 2014 Supplement are in line with the findings of the original report in 2011 (Horton, Bader, et al., Climate Change in New York State: Updating the 2011 ClimAID Climate Risk Information 2014).



3.5 Economy

The civilian employed population of Nassau County is estimated to be 694,792. The largest employing sectors include:

- health care and social assistance (113,444),
- educational services (86,979),
- professional, scientific, and technical services (68,257),
- retail trade (62,638), and
- finance and insurance (55,922) (ACS 1-Year, 2018).

The Long Island Regional Economic Development Council (LIREDC) supports economic development in the Long Island region. This region is inclusive of Nassau and Suffolk Counties. The top 10 employers in the region include: Broadridge Financial Solutions, Good Samaritan Hospital Medical Center, Hofstra University, Home Depot, King Kullen, Northwell Health, Prestige Employee Administrators, ProHEALTH Care, Stop & Shop Supermarkets, and Winthrop-University Hospital.

3.6 Housing

There are an estimated 473,454 housing units in Nassau County. The majority are single unit detached (76.1%); buildings with 20 or more units account for only 8.5% of the total housing units. Of the total housing stock, 69.0% were built prior to 1959 and 94.4% (447,123) are currently occupied (2018 ACS 1-Year).

3.7 Critical Facilities

Critical facilities provide essential services to communities. If these facilities are damaged from a natural disaster, their services may be interrupted. As a result, a community's safety, economy, and livelihood may be temporarily disrupted.

An overview of these facilities is outlined below.

- **Police:** Nassau County has eight police precincts and one police headquarters. There are 21 village police departments.
- **Fire:** Nassau County has 71 fire departments that are broken down into nine battalions
- **Healthcare:** Twelve hospitals, 21 dialysis centers, and 35 nursing facilities located throughout the County. There are additionally six volunteer ambulance corps that have a total of 16 ambulances.
- **Roadways:** There are 23 major roadways and two major bridges that support traffic in and around communities within Nassau County. The Long Island Expressway runs through the entire County. There are five major State thoroughfares that run through Nassau County that include six bridges on three of them.
- **Rail:** Nassau County is served by the Long Island Rail Road (LIRR) with all trains from the nine branches of the railroad passing through Nassau County.



- **Bus Transit:** network of bus lines that links 96 communities through 51 routes in Nassau County, western Queens, and eastern Suffolk Counties.
- **Utilities:** Nassau County's electric and gas utility service from PSEG-Long Island and National Grid Corporation. The Villages of Freeport and Rockville Centre own and operate their own electric systems and use either their generated power or purchased power to serve their residents.

Nassau County has a variety of critical facilities potentially vulnerable to natural hazards. The vulnerability of these facilities and mitigation actions to address the risk are outlined primarily in the Risk Assessment section, where the impact of particular hazards on critical facilities was analyzed using the FEMA Hazus analysis. Additional planning efforts may consider the compilation and consolidation of local data to have a comprehensive database for critical facilities in the County.



4 Risk Assessment

The Risk Assessment profiles the natural hazards³ that impact Nassau County most frequently and cause the greatest impacts to people, infrastructure, and property. The information presented in the Risk Assessment will inform the development of mitigation projects (or actions) that address the risks identified, as presented in the **Mitigation Strategy**. This section of the Plan is organized into two sections. First, the **Methodology, Data, and Tools** section describes the data and analysis techniques used to identify and assess risk. The rest of the Risk Assessment contains profiles for each hazard that describe its characteristics, location and extent, recent occurrences, and probability of occurrence. Each profile also estimates the impact of the hazard on the County, should it occur, and discusses the vulnerability of people, property, and the environment to the hazard.

4.1 Methodology, Data, and Tools

4.1.1 Methodology

The Risk Assessment process identifies and profiles hazards that concern the community, and then assesses the vulnerability of community assets (population, structures, critical facilities, and the economy) at risk. A Risk Assessment provides the foundation for a community's decision makers to evaluate mitigation measures that reduce the impacts of a hazard (**Mitigation Strategy** section of this Plan).

4.1.1.1 Hazard Identification

The first step of the Risk Assessment for Nassau County identified the hazards of concern. Hazards of concern are defined by the County based on State and Federal guidance and history of hazard occurrences. This update to the Nassau County Hazard Mitigation Plan identifies 11 natural hazards of concern:

- Coastal Hazards
- Drought
- Extreme Temperatures
- Flooding
- Ground Failure Hazards
- Hail
- Hurricanes and Tropical Storms
- Lightning
- Tornados
- Severe Winter Weather
- Straight-line Wind

None of the participating jurisdictions identified other natural hazards that uniquely impacted the community. Since the previous plan update, the categories of risk were modified and expanded. **Table 4** provides a justification for the identification of these 11 hazards and how they connect to the hazards identified in the 2014 plan.

³ FEMA's current regulations require an evaluation of only natural hazards; however, it is possible to include additional hazards in future updates of the Nassau County Hazard Mitigation Plan.



Table 4: Hazard Identification

Hazard	Reason for Identification	Connection to 2014 Plan
Coastal Hazards	<ul style="list-style-type: none"> Review of State Plan Planning Committee and County Department of Public Works Input Data collected as a result of DR 1899, 1957 4020, 4085 	<ul style="list-style-type: none"> Coastal Erosion Wave Action
Drought	<ul style="list-style-type: none"> Review of State Plan Planning Committee and County Department of Public Works Input 	Drought
Extreme Temperatures	<ul style="list-style-type: none"> Review of data on the NOAA National Climatic Data Center website Planning Committee and County Department of Public Works Input 	New Hazard
Flooding	<ul style="list-style-type: none"> Review of State Plan Planning Committee and County Department of Public Works Input 	New Hazard
Ground Failure Hazards	<ul style="list-style-type: none"> Review of State Plan Planning Committee and County Department of Public Works Input 	<ul style="list-style-type: none"> Earthquakes Expansive Soils Land Slides Land Subsidence
Hail	<ul style="list-style-type: none"> Review of State Plan 	New Hazard
Hurricane and Tropical Storms	<ul style="list-style-type: none"> Planning Committee and County Department of Public Works Input Data from DR-4020 and 4085 	Hurricane and Tropical Storm
Lightning	<ul style="list-style-type: none"> Review of State Plan 	New Hazard
Tornados	<ul style="list-style-type: none"> Review of State Plan Review of NOAA website Planning Committee and County Department of Public Works Input 	Tornados
Severe Winter Weather	<ul style="list-style-type: none"> Review of State Plan Review of NOAA website Planning Committee and County Department of Public Works Input 	Severe Winter Weather
Straight-line Wind	<ul style="list-style-type: none"> Review of State Plan Planning Committee and County Department of Public Works Input 	Extreme Winds



The following natural hazards are not included in this Plan based on State and Federal guidance and history of hazard occurrences that indicate these hazards are unlikely to occur or cause damage:

- Avalanches
- Geomagnetism
- Ice Jams
- Tsunamis
- Volcanoes
- Wildfires

Climate change, the change in global climate patterns over a long period of time (NASA 2020), is not explicitly profiled as a hazard in this Plan. Observable local and regional impacts of climate change, including an increase in average daily temperatures and sea-level rise, influence the location, frequency, and extent of hazards in Nassau County (Horton, Bader, et al., Climate Change in New York State: Updating the 2011 ClimAid Climate Risk Information Supplement to NYSERDA Report 11-18 2014). Each hazard profile provides a discussion of the expected potential impacts of climate change for the specified hazard. In summary, by 2050 Nassau County is expected to experience:

- An increase in average temperatures between 3.1°F and 6.6°F;
- An increase in probability of precipitation between 1% and 13%;
- An increase in sea level between 8 and 30 inches; and
- An increase in days over 90°F between 14 to 39 days.

4.1.1.2 Hazard Profile Preparation

After hazard identification, the next step in the Risk Assessment process is hazard profile preparation. This profile is designed to support evaluation of hazard risk for the jurisdictions participating in this Plan update. Each hazard profile identifies the potential variation in hazard extent and location. Furthermore, each hazard profile calculates the probability of occurrence for that hazard (see **Probability**).

The probability of occurrence is a key consideration for determining and understanding the risks associated with each hazard. In the context of the Nassau County Hazard Mitigation Plan Update, the probability is an estimate of how often a hazard event will occur and was calculated using the number of historical occurrences for a given time period. Based on this calculation, each hazard was categorized into three probability groups defined for this Plan:

- **Highly Likely:** a hazard that occurs one or more times every year
- **Likely:** a hazard that occurs at least once every five years
- **Unlikely:** a hazard that occurs less than every five years

For example, if four hazard events occurred over the course of 10 years, then it is estimated that 0.4 events occur in one year, or two events occurs every five years. This would be considered a likely event, since it occurs at least once every five years, but does not occur more than once in one year. In addition to the calculating probability based on historical occurrences, projections for future hazard events, especially due to climate change, were included in applicable hazard profiles to further contextualize apparent risk. The probabilities of each profiled hazard in the Risk Assessment are summarized in **Table 5** below.



Table 5: Summary of Hazard Probabilities

Probability Category	Hazards
Highly Likely	Coastal Hazards, Flooding, Severe Winter Weather, Straight-line Wind,
Likely	Drought, Extreme Temperatures, Hail, Hurricanes and Tropical Storms, Lightning
Unlikely	Ground Failure Hazards, Tornados

4.1.1.3 Understanding Risk

Understanding the risk posed by each hazard is the last step in the Risk Assessment process. Each hazard will have a different impact on each jurisdiction in Nassau County due to their unique geography, local development, population distribution, building stock, and existing mitigation measures. Data regarding population, demographics, general building stock, and critical facilities at risk informed the identification of the County’s vulnerabilities. This analysis informed the development of the **Mitigation Strategy**.

The results of the Hazards New York (HAZNY) analysis is one methodology for understanding risk. This proprietary analysis from the State of New York uses a variety of factors to assign a numerical value to each hazard’s risk and impact, including scope, frequency, impact, onset, and duration. The numerical values are categorized according to the following risk scale:

- 321 to 400: High Hazard
- 241 to 320: Moderately High Hazard
- 161 to 240: Moderately Low Hazard
- 44 to 160: Low Hazard

Table 6 outlines the results of the HAZNY analysis for the hazards as they relate to the Nassau County Hazard Mitigation Plan.⁴ Details from the HAZNY results specific to each hazard are provided in the **Impacts and Vulnerability** sections of each hazard profile.

⁴ Note, the HAZNY analysis analyzes 34 hazards, not all of which are considered in the Nassau County Hazard Mitigation Plan.



Table 6: HAZNY Hazard Ranking⁵

Rank	Hazard	Hazard Rank	Rank	Hazard	Hazard Rank
1	Hurricane/ Coastal Storm	High Hazard	T-10	Tornado	Moderately Low Hazard
3	Coastal Flooding/Wave Action	Moderately High Hazard	T-18	Earthquake	Moderately Low Hazard
4	Flooding /Inland	Moderately High Hazard	T-18	Extreme Temperatures	Moderately Low Hazard
6	Severe Storm	Moderately High Hazard	29	Landslide	Low Hazard
T-7	Winter Storm (Severe)	Moderately High Hazard	32	Drought	Low Hazard

4.1.2 Data and Tools

4.1.2.1 Storm Event Database

Past occurrences data for several of the hazards profiled in this Risk Assessment was obtained from the National Oceanic and Atmospheric Administration (NOAA) Storm Events Database, as maintained by the National Centers for Environmental Information (NCEI) (NCEI 2020). The database documents the occurrence of storms and other significant weather phenomena that caused loss of life or property, injuries, and disruptions to commerce. While the database has varying years of record for the different hazards, the hazards identified in this Plan have consistent data since 1996.

4.1.2.2 Disaster Declarations

Major disaster declarations are made by the President when natural hazards cause damage that is so severe that it is beyond the capacity of the local and state governments to respond.⁶ Since 2010, Nassau County has had six major disaster declarations, described in **Table 7** (FEMA, OpenFEMA Dataset: Disaster Declarations Summaries - V2 2019).

⁵ The use of "T" indicates that two or more hazard were tied for the same ranking in the analysis.

⁶ Major disaster declarations can be made by the President of the United States, as authorized by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5207.



Table 7: Major Disaster Declarations in Nassau County

Declaration Year	Event Title	Declaration Number
2010	Severe Storms and Flooding Associated with Tropical Depression Ida and Nor'easter	DR-1869
2010	Severe Storms and Flooding	DR-1899
2011	Severe Winter Storm and Snowstorm	DR-1957
2011	Hurricane Irene	DR-4020
2012	Hurricane Sandy	DR-4085
2020	COVID-19 Pandemic	DR-4480

In addition to the major disaster declarations outlined in **Table 7**, some jurisdictions on the eastern border of Nassau County may have been impacted by hazard events that had major disaster declarations in Suffolk County. Events where this is known to be the case include:

- Severe Winter Storm and Snowstorm (DR-4111) in 2013
- Severe Winter Storm and Snowstorm (DR-4322) in 2017

4.1.2.3 Geographic Information Systems Database

ArcGIS is a geographic information system (GIS) software from the Environmental Systems Research Institute (Esri) that was used to visualize data, perform geospatial analysis, and develop maps for this Plan.

4.1.2.4 Hazus

FEMA’s loss estimation software, Hazus-MH 4.2 (Hazus), was used to model the damages and estimate the losses associated with **Flooding**, earthquakes (**Ground Failure Hazards**), and wind (**Hurricanes and Tropical Storms**). All estimated losses from this Hazus analysis are derived from default national databases and may contain inaccuracies. Therefore, all loss and damage estimates from this analysis should be used for planning applications only. The damaged building counts generated are susceptible to rounding errors because they are based off 2010 census block data. This error, as well as additional potential errors associated with hydrologic and hydraulic modeling within Hazus, are detailed below.

Flood Analysis

The flood analysis performed was a Level 1+. The analysis used custom depth grids that provide an estimated depth of flooding at a given location within Nassau County. The depth-damage function of Hazus then generated damage estimates, directly related to flood depth, and the estimated monetary cost of those losses. Information from this analysis can be found in the **Flooding** profile.

The custom depth grids used in this analysis were derived from the FEMA 100 year and 500 year floodplains and were used in place of those created by the Hazus system. These depth grids were developed by the State of New York and the Center for International Earth Science Information



Network (CIESIN), with support from the New York State Energy Research and Development Authority (NYSERDA).

One limitation of the Hazus software is that it assumes an even distribution of population and buildings over a census block. Although flooding may occur in a small section of the area where no building or people are located, the model assumes damage to the entire census block. Potential discrepancies may exist in the extent and/or depth of the generated floodplains due to the cell size of terrain used in the analysis. In addition, the only losses calculated here are those where the custom 100 year and 500 year depth grid is present, which incorrectly assumes that flood losses are not present in other areas of the County. Despite these limitations, the results from the Hazus Level 1+ flood analysis adequately describe the impacts and vulnerabilities associated with flooding hazards. However, a full Hazus Level II analyses based on local building inventory, higher resolution terrain data, and additional digital floodplain data could be used in the future to refine and improve the accuracy of the results and losses discussed in this Plan.

Earthquake Analysis (Ground Failure)

The earthquake analysis conducted was a standard Level 1 analysis to estimate the losses associated with 250 year and 1000 year earthquake events with a magnitude of 7.0. This analysis used default hazard, inventory, and damage information. Direct economic and social losses associated with the general building stock and essential facilities were computed.

Limitations related to the assumptions of the model include that one average soil condition is assumed for the entire study region, and the effects of liquefaction and landslide hazards are not incorporated. In general, uncertainty is large with these results. As described previously, these damage and loss estimates can be imprecise and inaccurate when limited to the baseline data. This type of Level 1 analysis is suitable for comparisons and preliminary estimates to help assess potential mitigation actions in Nassau County. Information from this analysis can be found in the **Ground Failure Hazards** profile.

Wind Analysis (Hurricane and Tropical Storms)

The wind analysis performed was a standard Level 1 to calculate losses associated with a 100 year and 500 year wind event. The analysis primarily used data provided within the software (e.g., census information and broad regional patterns of foundation distributions). The results from a Level 1 analysis are general and appropriate as initial loss estimates to determine where more detailed analyses are appropriate.

The wind analysis uses the general building stock and essential facility databases provided by the model. These databases are derived from national-level data sources for building square footage, building value, population characteristics, costs of building repair, and economic data. Similar to the earthquake and flooding analyses, the use of default data sources contributes to large levels of uncertainties with these estimates.

Information from this analysis will be used to inform the **Hurricanes and Tropical Storms** profile. However, it is important to note that the Hazus model separates the flooding and wind impacts of hurricanes into two separate analyses. Therefore, while the wind analysis does capture losses associated with hurricane and tropical storms, it does not fully represent flooding impacts those



events may have on Nassau County. The various impacts of these complex storm events span multiple hazard profiles.



HAGERTY

4.2 Coastal Hazards

4.2.1 Characteristics

Coastal hazards impact Nassau County's coastline and damage buildings and infrastructure near the water. Coastal hazards include coastal erosion, strong wave action, sea level rise, rip tides, and coastal flooding.

Coastal erosion occurs when ocean waves wear down and wash away sand and rocks from the beach. The high winds and low atmospheric pressure associated with a coastal storm (e.g., tropical storms, hurricanes, and nor'easters) cause a rise in sea level, or "storm surge," as the storm approaches the shoreline. When the storm reaches land, it can cause coastal flooding, high waves, and strong currents that accelerate erosion (Miller 2019).

Ocean tides can also pose risks to coastal areas. Tides are caused by the gravitational pull of the sun and moon. A full moon has the greatest gravitational pull and will cause the most extreme high tides, which can contribute to coastal flooding and increased erosion rates. Rip tides, or undertow, are common along beaches and can transport significant amounts of sediment offshore, similarly contributing to altering shorelines (Miller 2019).

Finally, global sea level rise associated with climate change can interact with other coastal hazards, increasing the frequency and severity of their impacts. As a result, coastal communities may experience more frequent and extreme coastal flooding, storms, high tides, and erosion rates (Coasts 2019).

4.2.2 Location and Extent

Coastal hazards have the potential to impact any community along Nassau County's 188 miles of coastline (Fallon 2018). The County's southern shoreline is greatly exposed to the effects of coastal erosion, wave action, currents, and sea level rise from the Atlantic Ocean. Most of Nassau County's south shore is offered some degree of protection by its barrier islands and tidal wetlands in the back-bay areas; however, erosion and wave action historically have been problems on the south shore. Along the south shore, waves and wind often come from the southeast, resulting in a current that moves sand from east to west, typically at a rate of up to 500,000 cubic yards each year (Fallon 2018). Mid-to-long-term sea level rise projections show significant inundation of Nassau County's south shore, as shown in **Figure 8**. This specific projection assumes roughly three degree Celsius of warming over the next 100 years, if carbon emission-levels remain consistent with current levels. In this scenario, sea-level globally is expected to rise by 4 feet 9 inches, with the US levels exceeding those found globally (Climate Central 2020). **Figure 8** below depicts localized projected sea level rise levels under this "extreme" scenario.



Figure 8: Nassau County South Shore Sea Level Rise Map



Nassau County's north shore is also exposed to coastal erosion and wave action, but from the Long Island Sound. This shoreline is irregular, with sandy beaches backed by high bluffs, in addition to many inlets, bays, and harbors. The irregularity of the north shore results in a slower rate of sediment movement of approximately 100,000 cubic yards each year (Fallon 2018).

The extent of coastal hazards cannot be measured by a single scale. Rather, the factors that combine to cause coastal hazards can be measured separately. For example, coastal erosion is measured by the rate of linear retreat (feet of recession per year) or volumetric loss (cubic yards of sediment eroded per year) (FEMA, *Understanding Your Risks: Identifying Hazards and Estimating Losses* 2001). NOAA has established three coastal flood thresholds based on the amount of water rise above normal tide in a particular area: minor (more disruptive than damaging), moderate (damaging), and major (destructive). These thresholds can be used to issue a flood advisory (for minor) or warning (for moderate or major) (N. O. Services 2018). The *2019 New York State Hazard Mitigation Plan* describes what the impacts of these three coastal flooding levels would look like:

- Minor flooding is nuisance coastal flooding of locations adjacent to the shore. Minor beach erosion can occur. Minor coastal flooding is not expected to close roads or do cause any major structural damage to homes and other buildings.
- Moderate flooding is more substantial coastal flooding, threatening life and property. Some roads may become impassable due to flooding. Moderate beach erosion will occur along with damage to some homes, businesses, and other facilities.
- Major flooding is a serious threat to both life and property. Numerous roads will likely become flooded. Many homes and businesses along the coast will receive major damage.



People should review safety precautions and prepare to evacuate if necessary. Major beach erosion is also expected.

4.2.3 Recent Occurrences

Over the last 10 years, Nassau County has been impacted by several coastal storms that have caused significant erosion, flooding, and degradation along its coastlines. A summary of major recent coastal storms is detailed in **Table 19** in the **Hurricanes and Tropical Storms** section.

According to the NOAA Storm Events Database, strong rip currents in southern Nassau County led to four fatalities between 2015 – 2018 (NCEI 2020). Also, between 2010 and 2020, coastal communities in Nassau County reported two incidents of storm surge. One of the incidents occurred during Hurricane Sandy. Maximum water levels were well above the National Weather Service threshold for major coastal flooding, resulting in widespread flooding along Nassau County's north and south coastlines.

In addition, there have been reports of significant storm surge associated with the following historic hurricanes and tropical storms:

- The New England Hurricane (also known as the Long Island Express) hit Long Island on September 21, 1938 as a Category 3 (winds 111-130 mph) and devastated the coast of Long Island with storm surges of 10 to 12 feet.
- Hurricane Donna of 1960 started as a Category 4 and hit Nassau County as a Category 3 (winds 111-130 mph). Maximum tides in Nassau County were below 8.6 feet. High tides and roadway flooding were widespread.

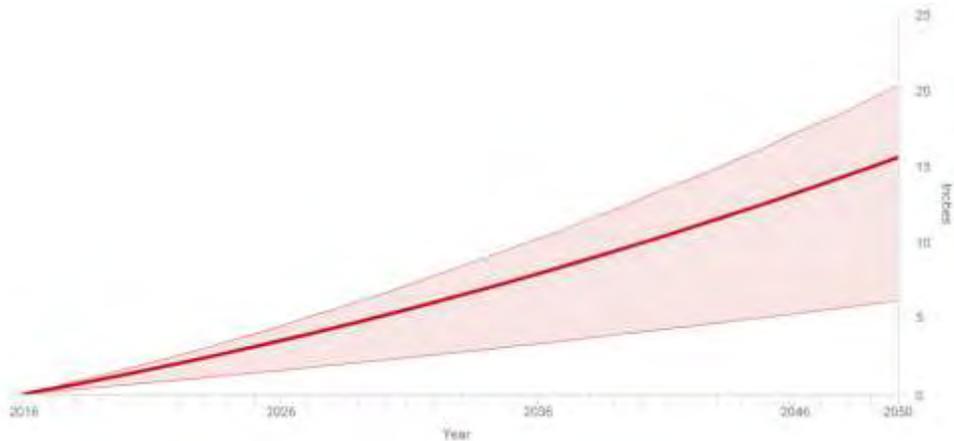
Measurements from a tide gauge in Battery, New York show that sea levels in the area have risen by nearly nine inches since 1950. The rate of sea level rise has accelerated in recent years, with sea levels now rising by one inch in just seven-to-eight years (SeaLevelRise.org 2016).

4.2.4 Probability

The probability of occurrence for coastal hazards in Nassau County is **highly likely**, with more than one event expected on average each year based on historic occurrences of coastal floods, storm surge, and tidal events. As **Figure 9** shows, the sea level rise forecast for Village of Kings Point is nearly a 15-inch increase between 2016 and 2050 (SeaLevelRise.org 2016). This increase in sea level will increase the probability of coastal hazards negatively impacting Nassau County's coastal areas. Coastal flooding will become more frequent, storm surges will bring water farther inland, and coastal erosion will occur at a higher rate.



Figure 9: Sea Level Rise Forecast for Village of Kings Point, Nassau County, New York



4.2.5 Impacts and Vulnerability

According to the HAZNY risk assessment, coastal hazards, including coastal flooding and wave action, are ranked a moderately high hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

Coastal Flooding/Wave Action	
Rank	Moderately High Hazard
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Highly Likely
Frequency	A Frequent Event
Onset	Several Days Warning
Hazard Duration	Two to Three Days
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Severe Damage to Private Property • Severe Damage to Public Facilities

Surrounded by two major water bodies to the north and south, Nassau County is particularly vulnerable to coastal hazards that can threaten the life and safety of people, damage property and the natural environment, and cause significant disruptions to economies. Southern Nassau County consists of densely developed beach and waterfront communities (e.g., City of Long Beach, Village of Atlantic Beach, Village of Island Park) that are vulnerable to coastal flooding caused by storm surge and high-tides, as well as sea level rise. Storm surge can have particularly devastating effects in this area of Nassau County, especially for communities located along the back bays that lie between the barrier islands and mainland. When storm surge from the Atlantic Ocean enters the back bays through the Village of East Rockaway, Jones, and Fire Island Inlets, water can inundate these highly developed and low-lying areas. Back bay flooding also occurs when high winds move over the back bays and cause water to “pile up”.



The northern communities of Nassau County are also susceptible to coastal flooding from storm surge and high-tides, though to a lesser degree compared to the southern part of the County. Coastal erosion causes significant impacts to the landscape of northern Nassau County, though. Many homes and businesses located along the coastline are threatened by erosion and may need to consider relocation and other mitigation measures in the future.

Coastal storms, including tropical cyclones and nor'easters, can have devastating impacts on the natural environment. For example, Hurricane Sandy catalyzed coastal dune loss and erosion in parts of Long Island that historically would have taken approximately 30 years to occur according to the United States Geological Survey (USGS) estimates (Connors 2012). This and other increasingly common and intense coastal hazards will have cascading impacts on the County's economy, infrastructure, and residents (NOAA 2020, Coasts 2019).

Efforts by local, state, and federal entities are underway to reduce the impacts of coastal hazards in Nassau County. In April 2019, the United States Army Corps of Engineers (USACE) announced that the official completion of a multi-year project designed to reduce risk to coastal storms in the City of Long Beach (Miller 2019). The federally-funded project involved constructing and rehabilitating groins, installing nearly 300,000 tons of rock, widening the beach, and reinforcing sand dunes with over 3 million cubic yards of sand (Miller 2019). The USACE is also currently conducting the Nassau County Back Bays coastal storm risk management study, in coordination with Nassau County and the New York State Department of Environmental Conservation. Hurricane Sandy's devastating storm surge inundation in Nassau County, as well as other parts of New York and New Jersey, was the impetus behind this risk management study. This study is currently examining the feasibility of different measures to mitigate the future impacts of storm surge on back bay communities. Some of the measures being examined include flood walls, bulkheads, storm surge barriers, non-structural measures, and natural and nature-based features (US Army Corps of Engineers n.d.).

The coastal regions of Nassau County are also expected to be adversely impacted by climate change. Climate change is expected to exacerbate the impacts of coastal hazards by increasing the frequency and intensity of coastal storms and raising the strength and intensity of wave action. Individual storms, strengthened by elevated sea levels and sustained by increasingly warm water temperature, will have devastating impacts.

One secondary impact of coastal hazards is saltwater intrusion, a process by which saline water moves into freshwater aquifers, contaminating drinking water. In general, saltwater intrusion can occur when too much fresh groundwater is pumped out of an aquifer, allowing the saltwater to migrate landward. Coastal hazards like sea level rise can increase the likelihood of saltwater intrusion happening. If the level of the sea is higher than the fresh groundwater level, the higher gradient water will flow towards the lower fresh groundwater. Storm surges may also push salt water inland and over the marshes on the south shore (e.g., Long Beach) and north shore (e.g., Port Washington, Kings Point, etc.) of Nassau County, contaminating drinking water wells. Continued monitoring of wells for contamination and digging deeper wells will help mitigate the future impacts of saltwater intrusion.



4.3 Drought

4.3.1 Characteristics

Droughts are typically defined as prolonged periods of dryness caused by consistently dry weather and result in deficiencies in water supply. In New York State, periods of drought are determined by comparing current precipitation levels to expected trends. Precipitation levels are calculated by monitoring precipitation depth, stream flows, and water levels in aquifers, lakes, and other water bodies (Management n.d.). There are four different kinds of droughts that communities can experience: (Planning 2019)

- **Meteorological drought** occurs when an area experiences less precipitation than expected over a certain time period, unprecedented dry conditions. The length of this period depends on the region. For example, areas characterized by year-round precipitation may identify meteorological droughts based on the number of days with precipitation below a certain threshold.
- **Hydrological drought** is the product of reduced precipitation and is characterized by changes in surface and subsurface water levels. The impacts of this type of drought can last for years beyond the initial onset of the drought. Potential impacts of this type of drought include reduced stream flow rates, decreased snowpack, and depleted aquifers.
- **Agricultural drought** is characterized by soil moisture deficits, lack of precipitation, and depleted water resources needed for irrigation, including groundwater aquifers and reservoirs. This type of drought is defined by its impact on agriculture; including crops, livestock, and forestry.
- **Socioeconomic Drought** is characterized by when the supply of goods is unable to meet the demand due to a meteorological, hydrological, or agricultural drought. An example of this type of drought is if a hydroelectric dam is unable to meet the demand of power from a community due to a drought that decreased the flow rate of its associated water source.

In New York, the Department of Environmental Conservation (DEC) monitors droughts. Management of droughts is outlined by the *New York State Comprehensive Emergency Management Plan* and its associated *Drought Management Coordination Annex*. The DEC has 13 drought regions that are roughly delineated by the state's watersheds; Nassau County is in Drought Region I. These drought regions help the DEC monitor precipitation in relation to the water levels of lakes, reservoirs, streams, and groundwater to actively assess the drought. To further drought monitoring, the USGS operates a groundwater-monitoring network on Long Island that includes Nassau County. Because groundwater is a primary source of water for Long Island's three million people, this monitoring network is critical for assessing short and long-term changes within Long Island's aquifer system (N. Y. Center 2018).

4.3.2 Location and Extent

Droughts can occur in any part of Nassau County. When droughts occur, they can impact regions and even multiple states simultaneously. The NYS DEC regularly publishes a drought monitoring report to show areas that are under a drought watch, warning, or emergency, according to the State Drought Index. The State Drought Index compares four parameters to "normal" or historic values to evaluate drought conditions: stream flows, precipitation, lake and reservoir storage



levels, and groundwater levels (N. Y. Center 2018). This index helps to assess the impact of drought on human welfare and the regional economy.

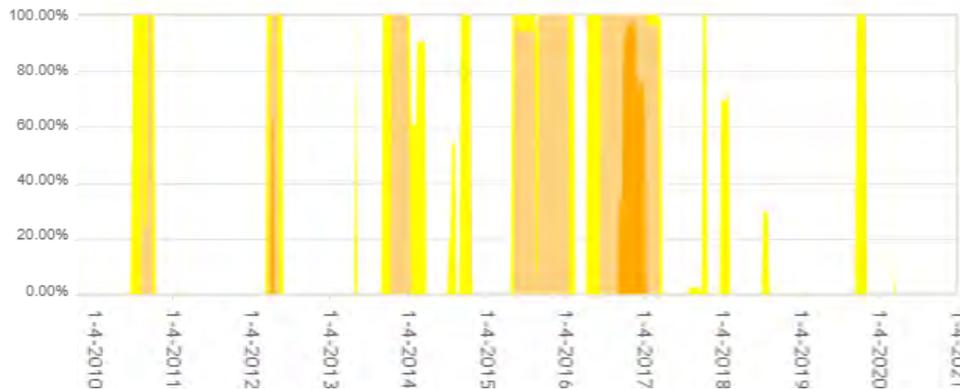
4.3.3 Recent Occurrences

Nassau County has experienced several periods of drought between 2010 and 2020, as shown in **Figure 10** (T. N. Center 2020). This graphic is was generated by the U.S. Drought Monitor and shows the percent area of Nassau County experiencing different categories of drought severity (D0 – D4) over time. The drought severity index is outlined in **Table 8**. From mid-2001 to late 2002, Nassau County went through a period of severe to extreme drought. Beginning in early 2015, Nassau County was in a period of moderate drought that lasted nearly continuously through early 2017, including a period of severe drought.

Table 8: Drought Severity Index

Category	Description
D0	Abnormally Dry
D1	Moderate Drought
D2	Severe Drought
D3	Extreme Drought
D4	Exceptional Drought

Figure 10: U.S. Drought Monitor for Nassau County, 2000 - 2020



4.3.4 Probability

Using historical occurrence rates as a baseline, the probability of occurrence for drought in Nassau County is **likely**, meaning droughts are expected to occur on average at least once every five years. However, in the future, droughts will likely increase in frequency, severity, and length due to climate change. Increasing temperatures and more variable periods of precipitation will result in longer and more severe periods of drought. The average annual temperature in Nassau County has increased steadily since 1895, as shown in **Figure 11**, while annual precipitation has stayed relatively flat, by comparison (**Figure 12**).



Figure 11: Average Annual Temperature in Nassau County, 1895 to 2020 (Climate at a Glance 2020)

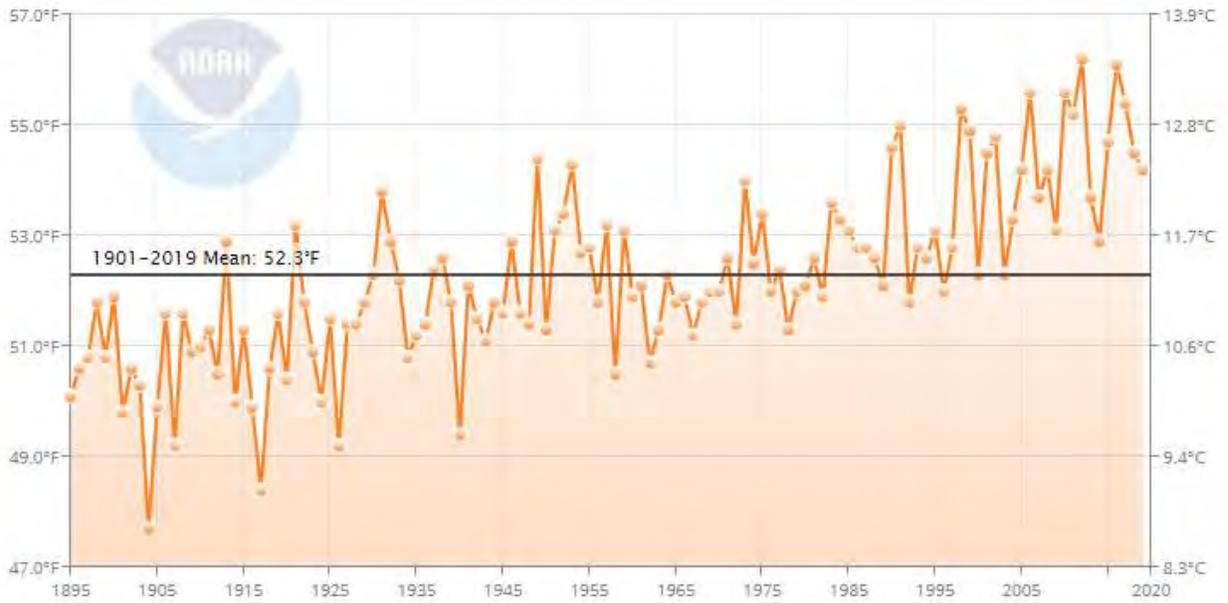
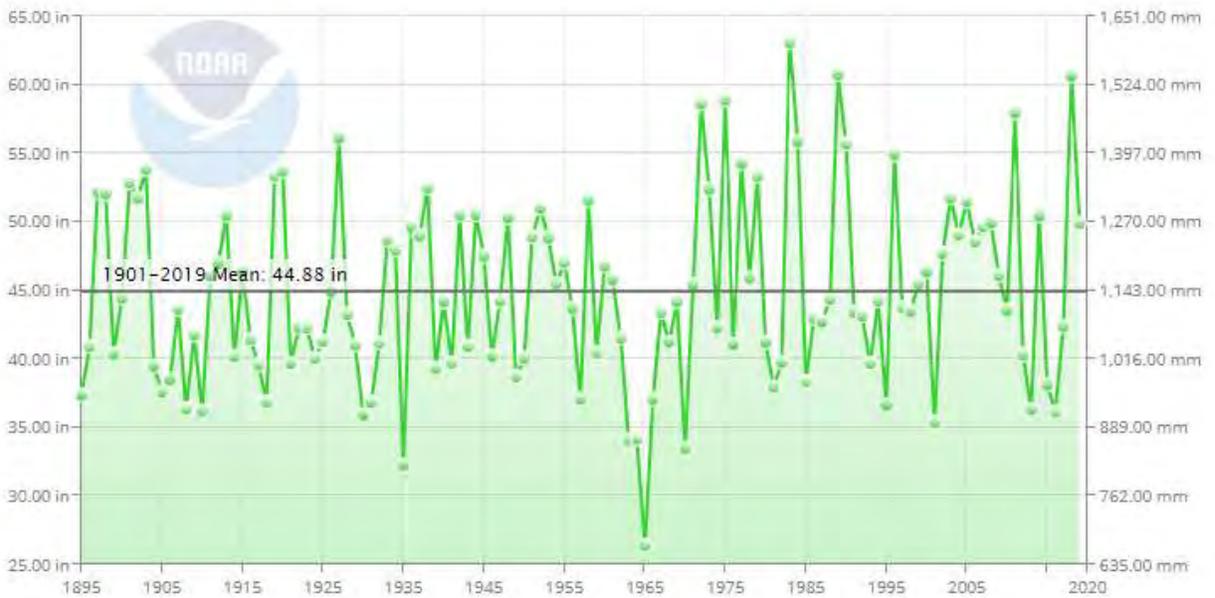


Figure 12. Average Annual Precipitation in Nassau County, 1895 to 2020 (Climate at a Glance 2020)



4.3.5 Impacts and Vulnerability

According to the HAZNY risk assessment, drought is ranked a low hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

Drought	
Rank	Low
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Some Potential
Frequency	A Rare Event
Onset	A Week or More
Hazard Duration	More than One Week
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Unlikely • Little or No Damage to Private Property • Little or No Damage to Public Facilities

The National Drought Mitigation Center (NDMC) records drought impacts around the United States. NDMC defines an impact as “an observable loss or change that occurred at a specific place and time because of drought.” These impacts can include agriculture; energy; plants and wildlife; society and public health; water supply and quality; business and industry; fire, relief, response, and restrictions; and tourism and recreation (Drought Impact Reporter 2020).

Figure 13: Drought Impacts Recorded from April 2010 to April 2020

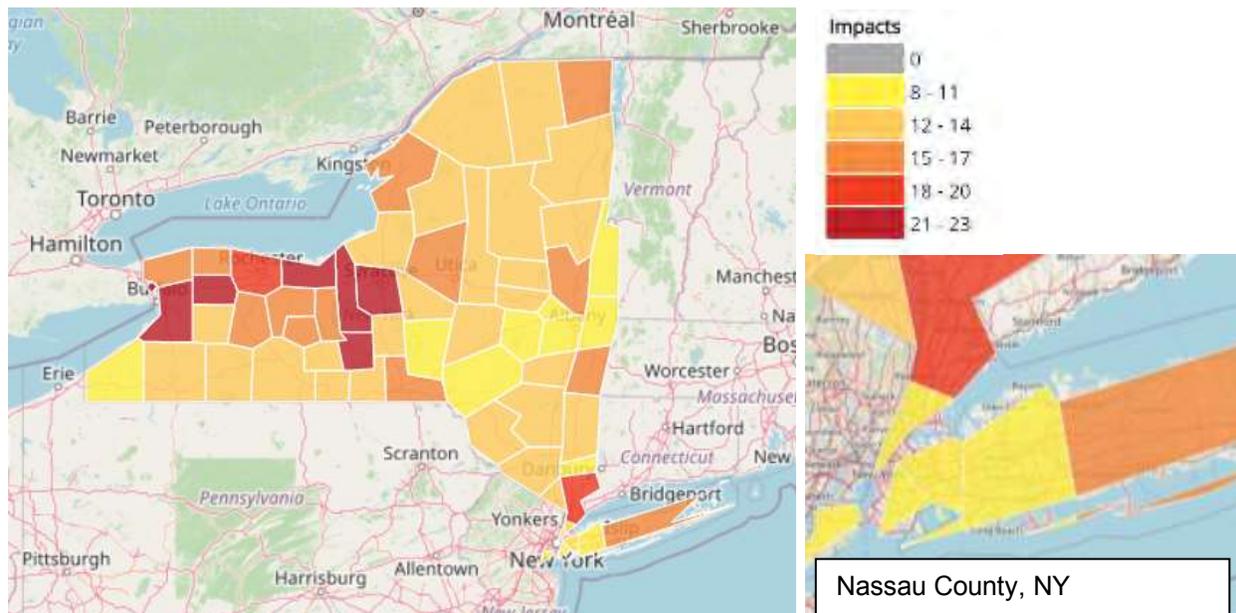


Figure 13 summarizes drought impacts in New York State from April 2010 to April 2020, according to the National Drought Mitigation Center. Nassau County has had ten recorded drought impacts during this period, many of these impacts being part of state-wide drought



watches and warnings. Some localized impacts included observations of shallow wells going dry in 2016, and shallow water in marshes affecting duck and goose hunting in the winter of 2016.

In Nassau County, droughts can negatively affect recreational resources, wildlife, and municipal water supplies, directly and indirectly impacting the local and regional economy. In general, Nassau County has a relatively low vulnerability to droughts for the following reasons:

- Crop failure is one of the main repercussions of drought. According to the 2014, Hazard Mitigation Plan, Nassau County had a very negligible 0.75 square miles of crop land usage; as of 2017, Nassau County no longer reports crop land usage, according to the 2017 Census of Agriculture, New York State and County Data report (Agriculture 2019). Therefore, drought impacts on agriculture would not directly affect Nassau County's economy.
- Water supply shortages are another effect of drought and Nassau County gets most of its water from underground aquifers that are resistant to the impacts of short-term droughts, which is the most likely type of drought to occur in Nassau County. This makes the expected likelihood of future losses associated with reductions in water supply low.
- An additional concern related to droughts is the impact they have on wildfire creation. Wildfires are not likely to occur in Nassau County; however small bushfires are possible. Even so, the expected likelihood of future losses during a drought as a result of bushfires is low across the county.

As the population and development of Nassau County expands in the future, continued monitoring of the aquifer withdrawal/recharge will be necessary during drought periods to ensure continuous supply of water the residents.



4.4 Extreme Temperatures

4.4.1 Characteristics

Extreme heat occurs when abnormally high temperatures combine with high humidity, which often happens during the summer months in Nassau County. According to the *New York State Hazard Mitigation Plan*, extreme heat is defined as an event in which the heat index reaches 105°F for at least three hours on two consecutive days and night time air temperatures do not drop below 75°F (N. Y. Services, Heat Wave 2019).

Extreme cold occurs when temperatures fall far below average and combine with high winds, which often happens during the autumn and winter months in Nassau County (Prevention 2012). The NOAA Storm Events Database defines extreme cold/wind chill as a period of extremely low temperatures that exceed locally defined warning criteria, often a temperature of -35°F or colder (NCEI 2020). While wind chill temperatures of -35°F have not been recorded in Nassau County, according to this database, the County has experienced damaging wind chills of -10 to -20°F that are hazardous to human and animal health.

4.4.2 Location and Extent

Given the nature of the hazard, all jurisdictions in Nassau County are equally likely to experience extreme temperatures. Nassau County's location places it in the path of global weather patterns that often contribute to extremely hot or cold temperatures.

NOAA uses a Heat Index (**Figure 14**) to quantify how hot it feels when relative humidity is factored in with actual air temperature (NOAA, Heat Index 2020). The wind chill index (**Figure 15**) quantifies the cooling effect that wind has when combined with outside air temperature. Wind chill temperature represents how cold people and animals feel based on the rate of heat lost from exposed skin.



Figure 14: National Weather Service Heat Index

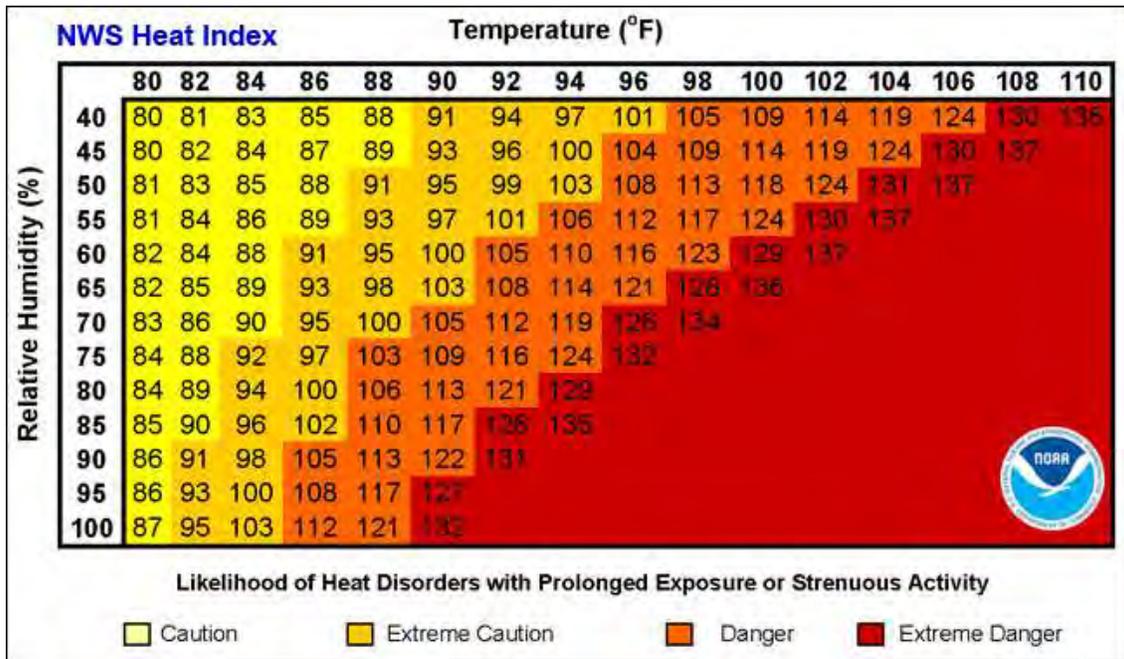
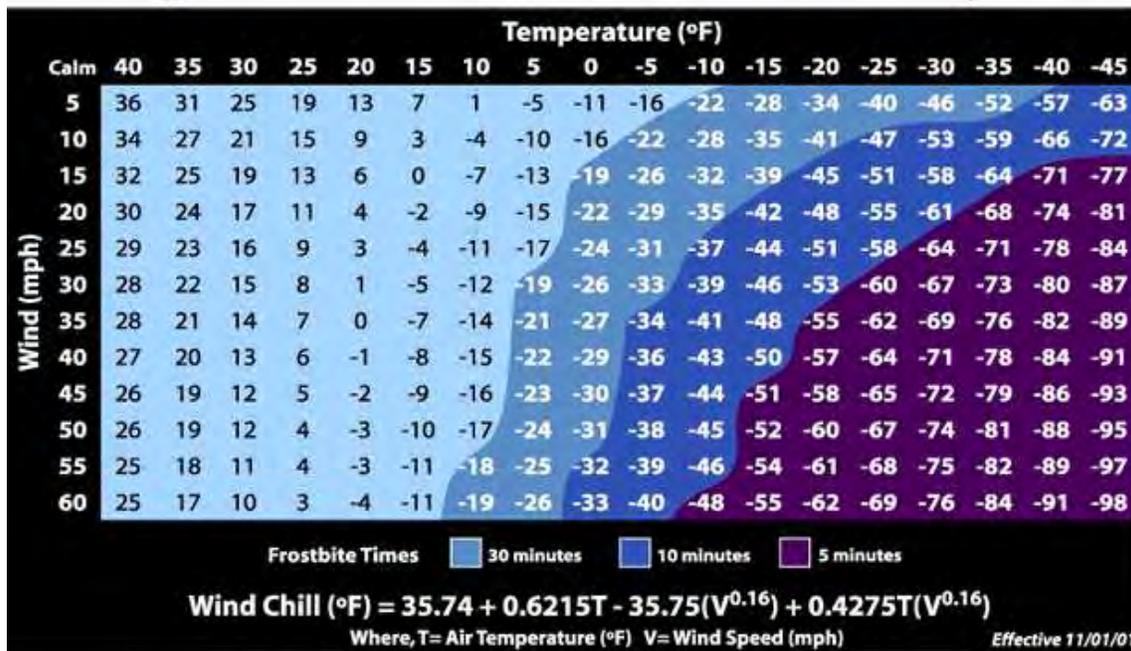


Figure 15: National Weather Service Windchill Chart



4.4.3 Recent Occurrences

According to the NOAA Storm Events Database, there were five reported days of extreme heat in Nassau County in the last 10 years (**Table 9**). There were no reports of extreme cold and wind chill events for Nassau County in the NOAA Storm Events Database.



Table 9: Extreme Temperature Events, 2010 - 2019

Date	Event Narrative
7/22/2011	Excessive heat between 95 and 105 degrees, along with heat indices more than 105 degrees occurred for a couple of days. The heat index was as high as 112 degrees at noon at Farmingdale Airport (KFRG) on July 22nd.
7/19/2013	The combination of high heat and humidity resulted in a heat index of 107 degrees at Farmingdale Airport during the afternoon hours.
8/20/2013	A 7-month-old boy died of heat exposure. He was left in a car. The outside air temperature was 85 degrees at the time at Farmingdale airport, but the car temperature was around 119 degrees.
8/12/2016	The combination of hot temperatures in the 90s, and high humidity resulted in a heat index up to 106 degrees at Republic Airport.
8/13/2016	The combination of hot temperatures in the 90s, and high humidity resulted in a heat index up to 109 degrees at Farmingdale Airport.

4.4.4 Probability

Using historical occurrence rates as a baseline, the probability of occurrence for extreme temperatures in Nassau County is **likely**, meaning extreme temperatures are expected to occur on average at least once every five years. Increased development combined with the effects of climate change may increase probability of extreme heat to highly likely, occurring at least once annually. The probability of extreme cold will remain unlikely, occurring less than once every five years.

As more development occurs, urban areas like Nassau County will grow hotter due to the “urban heat island effect.” This effect occurs because hard surfaces and pavement reflect less light and absorb more heat from the sun, warming up the surrounding area (EPA and CDC 2016). According to the New York State Department of Health “Heat and Health Profile Report” for Nassau County, temperatures during summer months (June-August) are projected to increase over the next century (Health 2019). Overall, average temperatures in Nassau County have steadily increased since 1895 (Climate at a Glance 2020). Summer temperature anomalies (a departure from a long-term average) have also been positive the last 10 years, meaning the observed temperatures were warmer than average (Health 2019).



4.4.5 Impacts and Vulnerability

According to the HAZNY risk assessment, extreme temperatures are ranked as a moderately low hazard. Additional details about the result of that assessment are summarized in the table below.

Extreme Temperatures	
Rank	Moderately Low
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Some Potential
Frequency	An Infrequent Event
Onset	Several Days Warning
Hazard Duration	Four Days to a Week
Recovery Time	Three Days to One Week
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Little or No Damage to Private Property • Moderate Damage to Public Facilities

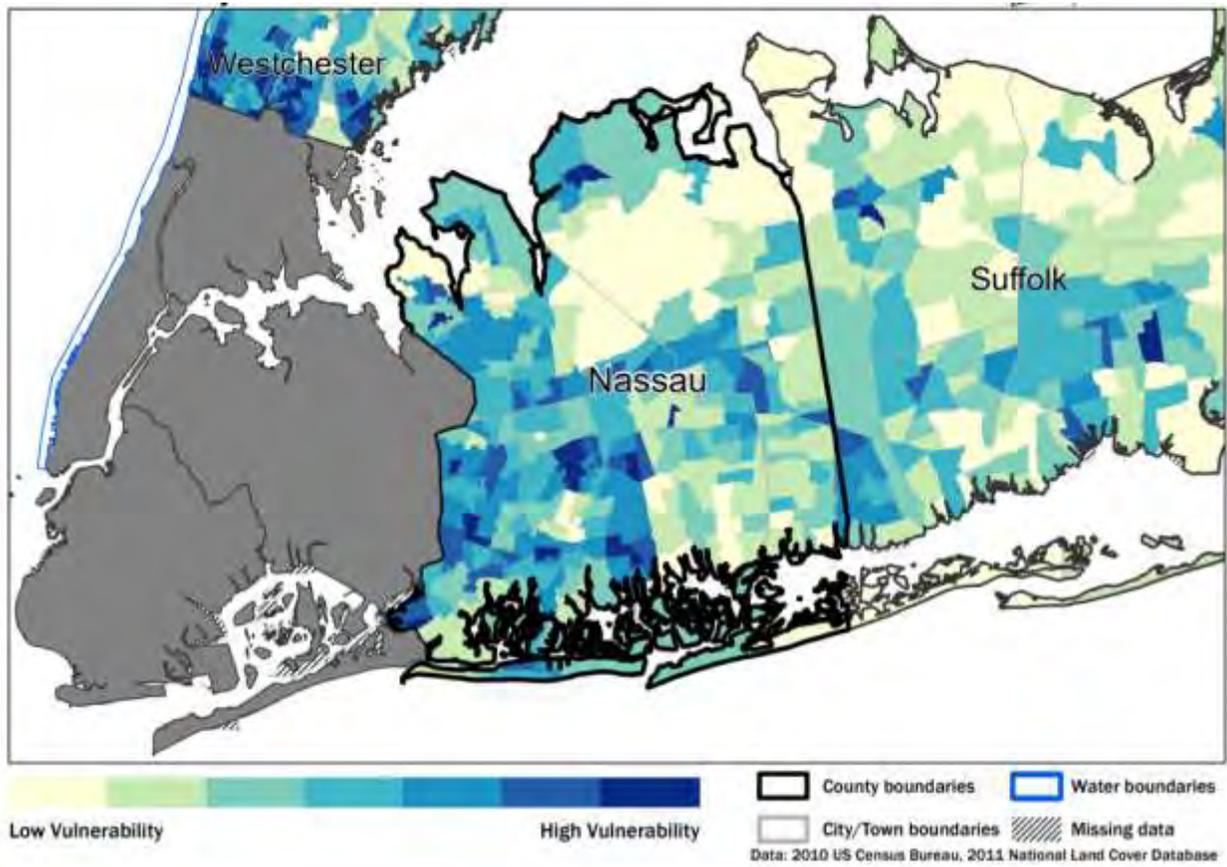
Extreme heat might be exacerbating health outcomes including heart disease, mental illness, and sunburn. In certain cases, exposure to heat has led to death. Individuals at risk of developing health outcomes due to extreme heat include older adults, young children, and people with mental illness and chronic diseases (Prevention 2012). In Nassau County, 316,163 people are under the age of five (5.5% of the population) or older than 65 years (17.8%) (U.S. Census Bureau 2019).

NYS Department of Health (DOH) developed a Heat Vulnerability Index (HVI) that combines several indicators (e.g., underlying health conditions, socio-demographics, environment) to identify areas with populations that may be more vulnerable to the effects of heat. In Nassau County, areas with higher vulnerability tend to be in the western parts of the County (**Figure 16**). To help cool down urban areas, communities should consider greenery and vegetation. Shaded areas help diminish the impact of extreme heat (EPA and CDC 2016).

Extreme cold temperatures can lead to numerous health concerns including frostbite, hyperthermia, and other life-threatening health outcomes are possible (Prevention 2012). Cold temperatures can also cause property damage, including freezing pipes that may burst and cause water damage inside homes and businesses.



Figure 16: Heat Vulnerability Index, Nassau County



4.5 Flooding

4.5.1 Characteristics

Flooding occurs when land that is typically dry is inundated with water (Definitions n.d., CDC 2017). Different types of flooding are categorized by the cause and location of the flooding. Nassau County experiences riverine flooding, flash flooding, and coastal flooding. Riverine flooding occurs when excess runoff from a precipitation event or snowmelt causes water levels to rise in rivers or streams (USGS, What are the two types of floods? n.d.). Flash flooding most commonly occurs when runoff from an extreme rainfall event causes the rapid increase in water levels in a dry riverbed or stream (USGS, What are the two types of floods? n.d., NOAA, Flash Flooding Definition n.d.). Coastal flooding occurs when coastal processes (e.g., waves, tides, storm surge) cause flooding of coastal land (CDC 2017). In Nassau County, coastal flooding caused by hurricanes, tropical storms, and nor'easters cause the most significant damage, and flash flooding occurs most frequently with smaller and more localized impacts.

4.5.2 Location and Extent

Floodplains, or any area that can be inundated by floodwater, are used to indicate flood hazard locations and extents (Definitions n.d.). FEMA classifies floodplains by the annual percent chance of inundation to indicate the likely location and extent of flooding. These floodplains include the one percent annual chance floodplain (also known as the 100 year floodplain) and the 0.2% annual chance floodplain (or 500 year floodplain) FEMA develops Flood Insurance Rate Maps (FIRMs) to show the location of these floodplains. FIRMs display different areas of flood risk that correlate to flood insurance premiums (**Figure 17**). **Table 10** lists the jurisdictions in Nassau County that are in the 100 and 500 year floodplains. While flooding can occur in areas outside of the 1% and 0.2% floodplains, these hazard areas serve as the baseline for understanding flood risk in the County.

Flooding extent is defined by the impact of the flooding event on the community. In this way, flood events can be classified into minor, moderate, and major flooding, where:

- Minor flooding is when there is minimal or no public or private property damage, mild soil erosion, but possibly some public threat or inconvenience;
- Moderate flooding is when there is some inundation of structures and roads and some evacuation of people and property is necessary; and
- Major flooding is when there is extensive inundation of structures and roads, causing life threatening conditions requiring significant evacuation of people and property (NCEI 2020, NOAA, High Level Water Terminology n.d.).

This classification can be used to compare the impacts between flood events on a community but does not represent the height of flood waters during the event (flood stage).



Figure 17: FEMA 100 and 500 Year Floodplains in Nassau County

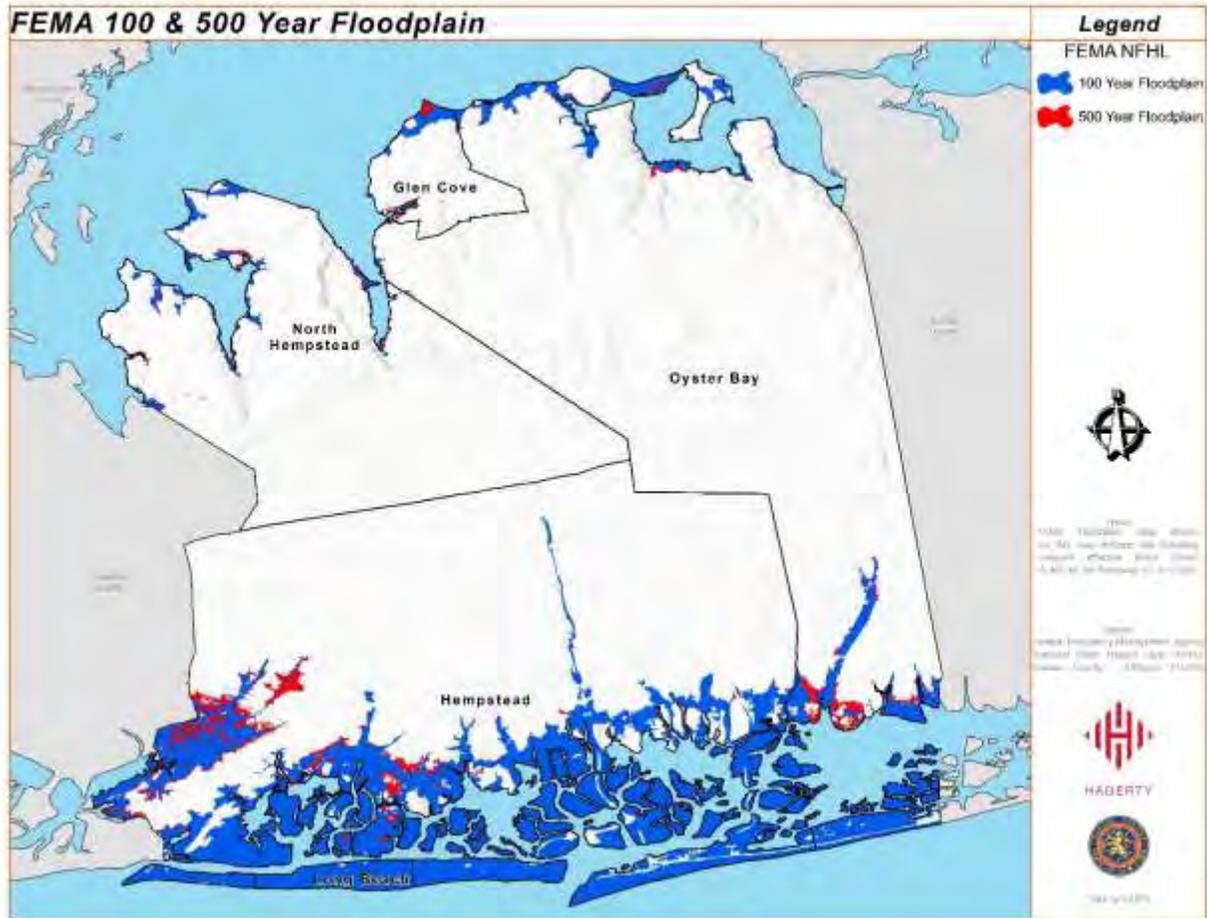


Table 10: Jurisdictions in the 100 and 500 Year Floodplains

Jurisdiction	100 Year	500 Year	Jurisdiction	100 Year	500 Year
Atlantic Beach, Village of	X	X	Manorhaven, Village of	X	X
Baxter Estates, Village of	X	X	Massapequa Park, Village of	X	X
Bayville, Village of	X	X	Matinecock, Village of		
Bellerose, Village of			Mill Neck, Village of	X	X
Brookville, Village of			Mineola, Village of		
Cedarhurst, Village of	X	X	Munsey Park, Village of		
Centre Island, Village of	X	X	Muttontown, Village of		
Cove Neck, Village of	X	X	New Hyde Park, Village of		
East Hills, Village of			North Hempstead, Town of	X	X
East Rockaway, Village of	X	X	North Hills, Village of		
East Williston, Village of			Old Brookville, Village of		
Farmingdale, Village of			Old Westbury, Village of		
Floral Park, Village of			Oyster Bay Cove, Village of	X	X
Flower Hill, Village of	X		Oyster Bay, Town of	X	X
Freeport, Village of	X	X	Plandome Heights, Village of	X	X
Garden City, Village of			Plandome Manor, Village of	X	X
Glen Cove, City of	X	X	Plandome, Village of	X	X
Great Neck Estates, Village of	X	X	Port Washington North, Village of	X	X
Great Neck Plaza, Village of	X	X	Rockville Centre, Village of	X	X
Great Neck, Village of	X	X	Roslyn Estates, Village of	X	X
Hempstead, Town of	X	X	Roslyn Harbor, Village of		
Hempstead, Village of			Roslyn, Village of	X	X
Hewlett Bay Park, Village of	X	X	Russell Gardens, Village of	X	X
Hewlett Harbor, Village of	X	X	Saddle Rock, Village of	X	X
Hewlett Neck, Village of	X	X	Sands Point, Village of	X	X
Island Park, Village of	X	X	Sea Cliff, Village of	X	X
Kensington, Village of	X	X	South Floral Park, Village of		
Kings Point, Village of	X	X	Stewart Manor, Village of		
Lake Success, Village of			Thomaston, Village of	X	X
Lattingtown, Village of	X	X	Upper Brookville, Village of		
Laurel Hollow, Village of	X	X	Valley Stream, Village of	X	X
Lawrence, Village of	X	X	Westbury, Village of		
Long Beach, City of	X	X	Williston Park, Village of		
Lynbrook, Village of	X	X	Woodsburgh, Village of	X	X
Malverne, Village of	X	X			



4.5.3 Recent Occurrences

In the last ten years, there have been 73 total flooding events reported in the County. This includes 21 flash flooding events and 45 coastal flooding events. Information regarding specific flooding events is available in **Appendix B**.

4.5.4 Probability

The probability of occurrence for flooding in Nassau County is **highly likely**. Based on historical data, flooding events are expected approximately eight times each year (NCEI 2020). Each type of flooding discussed in Nassau County’s flood profile is individually highly likely to occur, with one riverine flooding event, five flash flooding events, and two coastal flooding events expected on an annual basis (NCEI 2020). Given current climate predictions, by 2050 the New York City region is expected to have a regional precipitation increase between four and eleven percent (Horton, Bader, et al., Climate Change in New York State: Updating the 2011 ClimAid Climate Risk Information Supplement to NYSERDA Report 11-18 2014). This will likely impact the frequency of flooding events in the County, with an expectation of an increase in heavy downpours throughout New York State (Horton, Bader, et al., Climate Change in New York State: Updating the 2011 ClimAid Climate Risk Information Supplement to NYSERDA Report 11-18 2014).

4.5.5 Impacts and Vulnerability

According to the HAZNY risk assessment, inland flooding is ranked as a moderately high hazard. Coastal flooding/wave action is addressed in the **Coastal Hazards** section. Additional details about the result of that assessment are summarized in the table below.

Flooding/Inland	
Rank	Moderately high
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Some Potential
Frequency	A Frequent Event
Onset	No Warning
Hazard Duration	One Day
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Moderate Damage to Private Property • Moderate Damage to Public Facilities

To estimate the potential impacts that the 100 year and 500 year flood events could have in Nassau County, different scenarios were run using the loss estimation program, Hazus. Hazus estimated the following countywide impacts from the 100 and 500 year events:

- About 1,100 buildings will be at least moderately damaged by the 100 year event, which is over 50 percent of the buildings in the Hazus database for this scenario. For the 500 year event, 1,487 buildings will be at least moderately damaged. Zero buildings will be completely damaged by either flood event.



- Between 129,027 (100 year) and 154,771 (500 year) people will be displaced and between 8,288 and 9,962 individuals will seek shelter. Refer to **Appendix B** for a detailed breakdown of the number of people displaced and seeking shelter, by jurisdiction, for the different flood events.
- At least moderate damage will be sustained by 28 schools, two police stations, and 12 fire stations and emergency medical services (EMS) facilities, totaling approximately \$28,180,000 in losses to these essential facilities. With the 500 year flood, an additional six schools and two fire stations and EMS facilities medical services facilities will be impacted, totaling \$36,102,000 in losses. **Appendix B** contains tables detailing the total losses sustained by each essential facility.

The total losses from the 100 and 500 year flood events are summarized in **Table 11** for the largest jurisdictions and the County. “Total losses” includes damage to buildings and its contents, as well as the cost of business interruptions such as relocation and wage losses. **Appendix B** contains tables summarizing the total losses by sector (e.g., residential, commercial, government, etc.) for each jurisdiction in Nassau County.

Table 11: Total Losses from 100 year and 500 year Flood Events

Jurisdiction	Population (Hanus)	Total Exposure	Total Losses 100 year	Total Losses 500 year
Nassau County	1,339,532	\$239,082,476,000	\$3,109,662,000	\$3,887,914,000
City of Glen Cove	29,314	\$5,042,084,000	\$14,627,000	\$18,709,000
Town of Hempstead	513,170	\$86,016,460,000	\$1,717,218,000	\$2,128,041,000
City of Long Beach	33,980	\$5,768,806,000	\$466,391,000	\$444,748,000
Town of North Hempstead	120,320	\$26,354,892,000	\$27,773,000	\$35,066,000
Town of Oyster Bay	253,188	\$49,340,000,000	\$193,316,000	\$288,556,000



Figure 18 shows the areas in the County most likely to experience losses due to the 100 year scenario within Nassau County. Of the nearly \$3.2 billion of total estimated damages associated with the 100 year event, it is estimated that nearly \$2.4 billion dollars are a direct result of business interruptions, mostly within the commercial industry.

Figure 18: Total losses due to the 100 year event

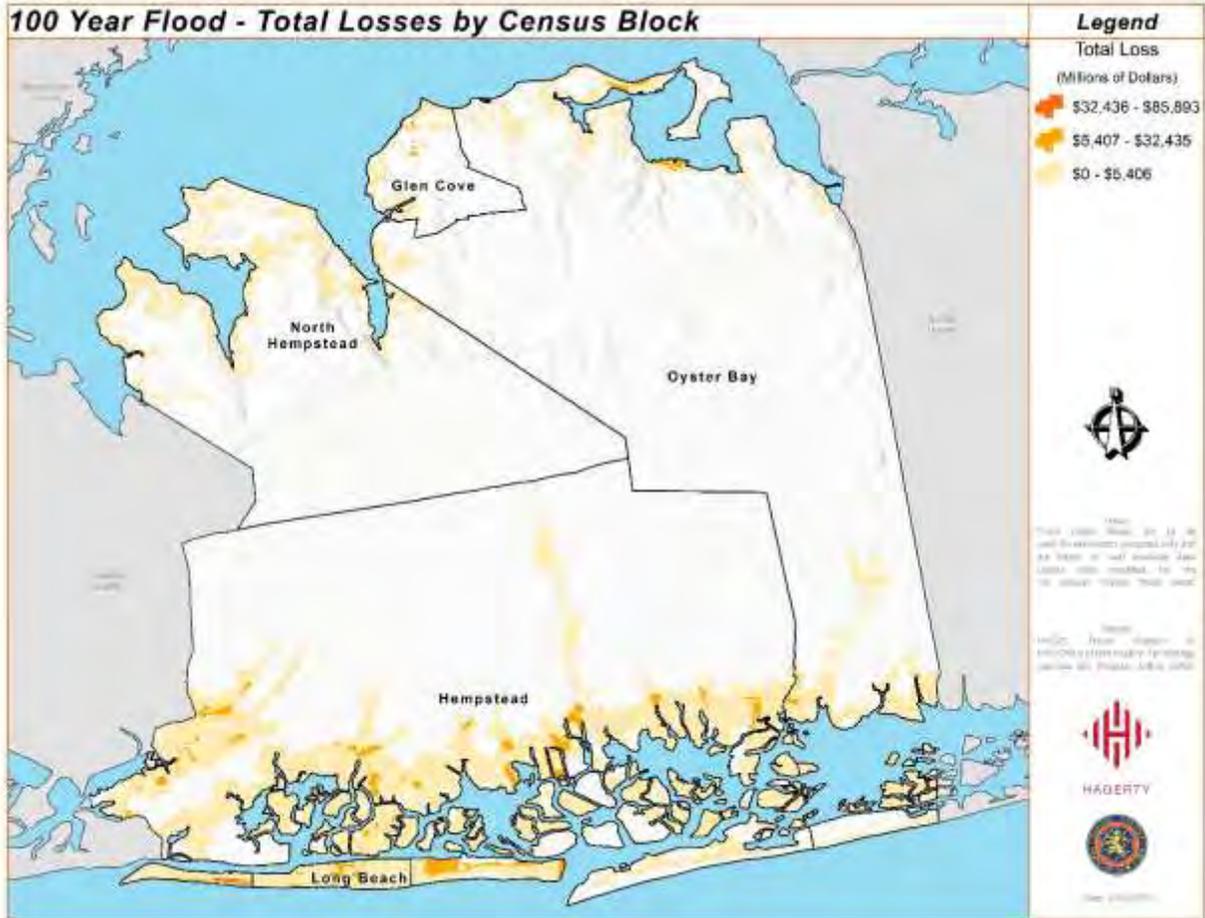
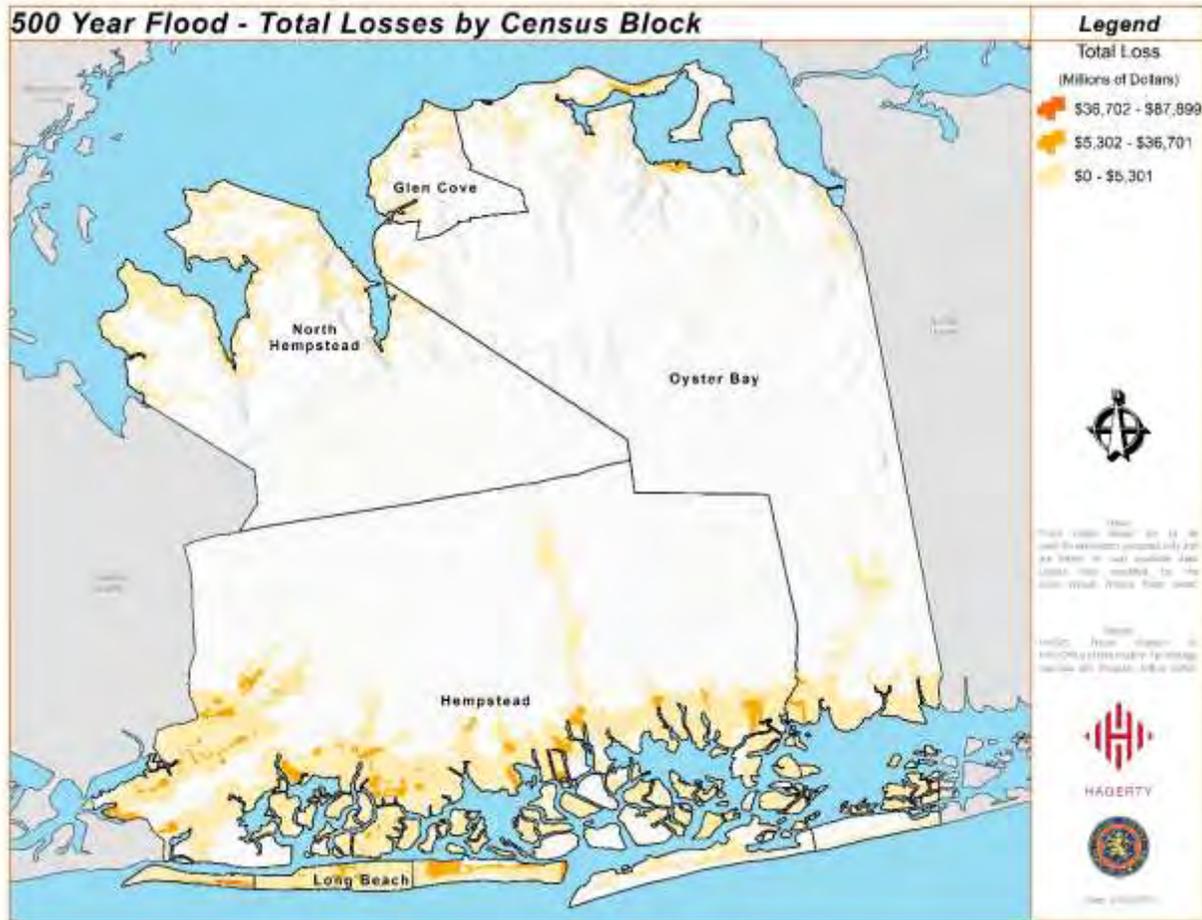


Figure 19 shows the areas in the County most likely to experience losses due to the 500 year flood event in Nassau County. Of the nearly \$3.9 billion of estimated building-related damage associated with the 500 year event, it is estimated that nearly \$3 billion dollars are a direct result of business interruptions, nearly half within the commercial industry.

Figure 19: Total Losses due to the 500 year event



4.5.6 National Flood Insurance Program

The National Flood Insurance Program (NFIP) was established by Congress with the passage of the National Flood Insurance Reform Act of 1968. Through this program, Federally-backed flood insurance is made available to homeowners, renters, and businesses in a community if that community adopts and enforces a floodplain management ordinance to reduce future flood damages within its floodplains. This includes not only preventative measures for new development, but also corrective measures for existing development. In addition to providing flood insurance, the NFIP also studies and maps the nation’s floodplains, preparing its findings in Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FISs).

There are 45,499 NFIP policies in Nassau County. Since 1978, the NFIP has paid \$2.2 billion to 49,224 claims. Some communities in Nassau County have high number of properties that have recurrent losses. “Repetitive loss properties” are any insurable buildings that have incurred at least two flood losses of greater than \$1,000 each in any rolling ten-year period since 1978. In total, these repetitive loss properties have experienced 19,700 repetitive losses. “Severe repetitive loss properties” are single family properties insured through the NFIP that have received:

- Four or more (separate) flood-related insurance claim payments through their NFIP coverage, with the amount of each claim payment exceeding \$5,000 and with cumulative amount of such claim payments exceeding \$20,000; or
- Two or more separate claim payments with the cumulative amount exceeding the reported value of the property (FEMA, Flood Insurance Terminology List 2020).

The information summarized in **Table 12** was obtained through NYS DHSES from FEMA Region II and represents the most specific repetitive loss information available at the time that this plan was updated. Specific information related to the types (e.g., residential, commercial, institutional, etc.) of NFIP insured structures that have been repetitively damaged by floods was requested from the towns and villages in Nassau County. The City of Glen Cove noted that there are 12 residential repetitive loss properties and no severe repetitive loss properties in their jurisdiction.

Table 12: National Flood Insurance Program Policies and Claims

Jurisdiction	Number of Policies	Total Claims Since 1978	Total Paid Since 1978	Number of Repetitive Losses ¹	Number of BCX Claims ²
Atlantic Beach, Village Of	641	297	\$11,575,264.00	N/A	N/A
Baxter Estates, Village Of	15	4	\$427,227.00	0	0
Bayville, Village Of	731	1306	\$22,574,058.00	654	32
Bellerose, Village of	NP	NP	NP	NP	NP



Jurisdiction	Number of Policies	Total Claims Since 1978	Total Paid Since 1978	Number of Repetitive Losses ¹	Number of BCX Claims ²
Brookville, Village of	NP	NP	NP	NP	NP
Cedarhurst, Village Of	362	341	\$16,336,210.00	72	22
Centre Island, Village Of	28	48	\$1,159,291.00	11	9
Cove Neck, Village Of	11	7	\$609,406.00	1	0
East Hills, Village Of	78	16	\$137,869.00	2	2
East Rockaway, Village Of	941	1121	\$45,894,198.00	506	100
East Williston, Village of	NP	NP	NP	NP	NP
Farmingdale, Village Of	1	0	\$0.00	N/A	N/A
Flower Hill, Village Of	31	2	\$6,036.00	N/A	N/A
Floral Park, Village Of	31	2	\$3,923.00	0	0
Freeport, Village Of	3225	6140	\$244,433,170.00	3738	174
Garden City, Village Of	56	6	\$4,849.00	N/A	N/A
Glen Cove, City Of	134	164	\$2,764,312.00	71	17
Great Neck Estates, Village Of	53	31	\$343,956.00	8	8
Great Neck Plaza, Village Of	5	2	\$333,604.00	2	2
Great Neck, Village Of	69	124	\$1,158,354.00	43	26
Hempstead, Town Of	21798	21374	\$964,709,056.00	7364	2040
Hempstead, Village Of	43	13	\$222,195.00	N/A	N/A
Hewlett Bay Park, Village Of	60	29	\$1,744,461.00	9	6
Hewlett Harbor, Village Of	264	235	\$18,140,774.00	71	45
Hewlett Neck, Village Of	73	67	\$5,900,637.00	9	3
Island Park, Village Of	973	1928	\$110,886,894.00	1161	189
Kensington, Village of	NP	NP	NP	NP	NP



Jurisdiction	Number of Policies	Total Claims Since 1978	Total Paid Since 1978	Number of Repetitive Losses ¹	Number of BCX Claims ²
Kings Point, Village Of	155	137	\$1,512,466.00	34	9
Lake Success, Village Of	15	17	\$267,532.00	3	3
Lattingtown, Village Of	45	38	\$1,061,047.00	7	2
Laurel Hollow, Village Of	17	8	\$21,797.00	0	0
Lawrence, Village Of	816	442	\$29,273,906.00	94	65
Long Beach, City Of	7735	8440	\$431,963,010.00	3006	1092
Lynbrook, Village Of	201	6	\$74,225.00	5	5
Malverne, Village Of	59	3	\$9,651.00	0	0
Manorhaven, Village Of	163	84	\$601,005.00	3	0
Massapequa Park, Village Of	411	557	\$14,562,449.00	226	67
Matinecock, Village of	NP	NP	NP	NP	NP
Mill Neck, Village Of	16	8	\$7,565.00	0	0
Mineola, Village Of	18	14	\$204,483.00	N/A	N/A
Munsey Park, Village Of	17	3	\$12,070.00	N/A	N/A
Muttontown, Village of	NP	NP	NP	NP	NP
New Hyde Park, Village Of	17	2	\$17,455.00	N/A	N/A
North Hempstead, Town Of	408	238	\$2,419,800.00	54	50
North Hills, Village Of	42	12	\$41,566.00	0	0
Old Brookville, Village Of	16	0	\$0.00	N/A	N/A
Old Westbury, Village Of	1	0	\$0.00	N/A	N/A
Oyster Bay Cove, Village Of	30	18	\$345,724.00	2	0
Oyster Bay, Town Of	4431	5322	\$287,872,063.00	2409	294
Plandome Heights, Village Of	13	7	\$12,145.00	3	0



Jurisdiction	Number of Policies	Total Claims Since 1978	Total Paid Since 1978	Number of Repetitive Losses ¹	Number of BCX Claims ²
Plandome Manor, Village Of	22	20	\$222,286.00	7	0
Plandome, Village Of	16	15	\$17,598.00	4	4
Port Washington, Village of	NP	NP	NP	NP	NP
Rockville Centre, Village of	NP	NP	NP	NP	NP
Roslyn Estates, Village Of	13	1	\$14,665.00	0	0
Roslyn Harbor, Village Of	19	20	\$492,405.00	0	0
Roslyn, Village Of	24	44	\$228,986.00	5	0
Russell Gardens, Village Of	8	2	\$1,555.00	0	0
Saddle Rock, Village Of	21	21	\$313,085.00	5	5
Sands Point, Village Of	140	99	\$1,230,781.00	18	5
Sea Cliff, Village Of	26	32	\$208,675.00	10	0
South Floral Park, Village of	NP	NP	NP	NP	NP
Stewart Manor, Village Of	2	0	\$0.00	0	0
Thomaston, Village Of	8	12	\$23,730.00	1	1
Upper Brookville, Village of	NP	NP	NP	NP	NP
Valley Stream, Village Of	850	294	\$3,658,238.00	70	26
Westbury, Village Of	14	1	\$0.00	N/A	N/A
Willison Park, Village of	NP	NP	NP	NP	NP
Woodsburgh, Village Of	87	50	\$4,631,643.00	12	9
Total:	45,499	49,224	\$2,230,689,350.00	19,700	4312

¹ Nassau County worked with its jurisdictions to gather as much data as possible. However, because many jurisdictions do not have full-time, dedicated floodplain administrators, in several cases, the effort to collect this information was not successful.

²“BCX claims” are those made on houses located outside of the special flood hazard area, in flood zones designated as “B”, “C”, or “X”.
NP = Not Participating (in the NFIP)



The NFIP's Community Rating System (CRS), first implemented nationwide in 1990, provides discounts on flood insurance premiums in those communities that establish floodplain management programs that go beyond NFIP minimum requirements. Communities participating in the CRS program receive 'points' for various activities and initiatives they undertake. As more points are accrued, the community's CRS Class increases. There are 10 CRS classes: Class 1 requires the most credit points and gives the largest premium reduction, while Class 10 requires not credit points and gives no premium reduction. CRS premium discounts on flood insurance range from 5 percent for Class 9 communities up to 45 percent for Class 1 communities. A total of four communities in Nassau County participate in the CRS, summarized in **Table 13**, achieving benefits in the form of premium discounts for their efforts to exceed the minimum requirements of the NFIP as depicted in the following table.

Table 13: Nassau County Communities Participating in the Community Rating System, effective October 1, 2019

Community Name	CRS Entry Date	Current Effective Date	Current Class	% Discount for SFHA	% Discount for non-SFHA	Status ¹
Bayville, Village of	10/1/1992	10/1/2003	8	10	5	C
East Rockaway, Village of	10/1/1992	10/1/1992	9	5	5	C
Freeport, Village of	10/1/1992	10/1/2009	7	15	5	C
Long Beach, City of	10/1/2009	5/1/2016	7	15	5	C

¹ Status: C = Current, R = Rescinded



4.6 Ground Failure Hazards

4.6.1 Characteristics

Ground failure hazards occur when there is ground instability due to seismic activity (USGS, Earthquake Glossary n.d.). For the purposes of the Nassau County Hazard Mitigation Plan, the Ground Failure Hazards Profile will discuss the earthquakes, landslides, and land subsidence, which are the three most common types of ground failure in Nassau County.

Earthquakes are caused by the shifting of tectonic plates below the earth's surface. When the plates suddenly slip on a fault line, the border between two plates, they create energy waves that ripple through the earth's crust and cause shaking on the surface (FEMA, Earthquake 2020). Landslides are categorized as the mass movement of rock, debris, or earth down a slope. This type of ground failure occurs when the force of gravity exceeds the forces holding the material in place. Landslides can be caused by earthquakes, rainfall, snowmelt, and coastal erosion (USGS, What is a landslide and what causes one? n.d.). Land subsidence is caused by excessive groundwater withdrawal, which also removes significant fine sediment and causes the rock to collapse and compact. Land subsidence can occur over large regions or in more acute areas, creating events such as sinkholes. Increased urbanization, higher water demands, and issues with water scarcity may increase the rate of land subsidence (USGS, Land Subsidence n.d.).

4.6.2 Location and Extent

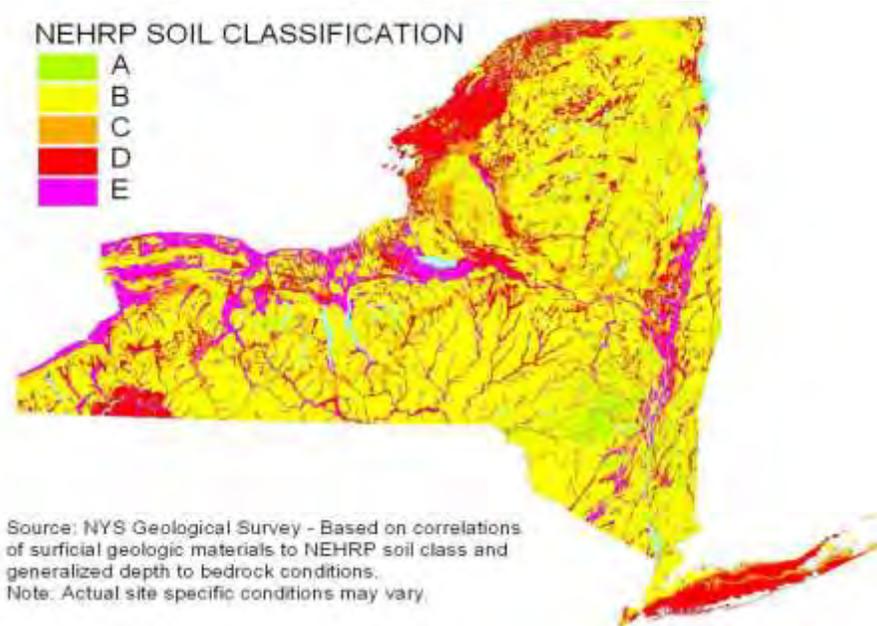
4.6.2.1 Earthquakes

Earthquake risk exists across Nassau County. The location and extent of earthquake risk can be contextualized by understanding the fault lines in New York State, the soil classifications of the area, and the map of previous earthquake epicenters.

Figure 20 illustrates the soil classification for Nassau County (N. Y. Services 2019). Harder Class A and B soils, shown in green in, tend to reduce ground motions, while soft Class D and E soils, shown in red, tend to further amplify and magnify seismic waves. The majority of Nassau County has soil type D; therefore, the County is susceptible to experiencing an amplification of ground motion during an earthquake.



Figure 20: NEHRP Soil Classification for New York State (N. Y. Services 2019)



Earthquake magnitude is a function of amplitude of the seismic waves caused by the ground's motion. Instruments called seismographs measure the amplitude, or extent, of these waves caused by earthquakes. Charles F. Richter developed the Richter magnitude scale (or "Richter Scale") in 1935 to compare the size of earthquakes (USGS, Earthquake Glossary n.d.). The scale ranges from 1.0, an earthquake that is unfelt, to 8.0 or greater, a catastrophic earthquake. The Richter Scale is effective for comparing earthquake magnitudes, but not for expressing potential damage.

The Modified Mercalli Intensity Scale (**Table 14**), provides a subjective measurement of earthquake extent based on a person's observations of the resulting damage to people, buildings, and natural features (USGS, The Modified Mercalli Intensity Scale n.d.). While this scale does not have a mathematical basis, it provides an easily comprehensible description of earthquake intensity at the observation location.

Table 14: Modified Mercalli Intensity Scale (USGS, The Modified Mercalli Intensity Scale n.d.)

Intensity	Shaking	Total Exposure
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeable by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.



Intensity	Shaking	Total Exposure
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very Strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

4.6.2.2 Landslides

The high cliffs on Nassau County’s north shore are more susceptible to landslides in the future, though these events have a low probability of occurrence (DHSES 2008). According to the Landslide Susceptibility map included in previous iterations of the State Hazard Mitigation Plan, sourced from the USGS National Landslides Hazards Program, portions of northern Nassau County are considered highly susceptible to landslides, while southern portions of the County are in the lowest incidence category. Using the State Plan’s weighted ranking system, Nassau County has the fifteenth highest landslide susceptibility ranking out of the 62 counties in the State (DHSES 2008).

4.6.2.3 Land Subsidence

There are two types of sink holes: cover-subsidence and cover-collapse. While cover-collapse is more widely discussed in news media, Nassau County is significantly more prone to cover-subsidence because of the soil classification associated with different types of sink holes. The majority of Nassau County is a barrier island comprised of sand and dunes. Cover-collapse sinkholes occur in clay-like soils, whereas cover-subsidence occurs in sandy soils, and therefore would be more prevalent in the County (N. Y. Services 2019).

4.6.3 Recent Occurrences

4.6.3.1 Earthquakes

The epicenter of an earthquake has never been recorded in Nassau County; however, several earthquakes have occurred in New York State and Connecticut that have caused ground shaking in Nassau County. Since 1884, Nassau County has been impacted by approximately 10 nearby earthquakes, with three of the 10 earthquake epicenters located on Long Island (Blasey 2019).



4.6.3.2 Landslides

On May 1, 2014, heavy rains caused multiple landslides in Nassau County. In Port Washington, a landslide buried multiple cars with mud. Another landslide occurred in the Village of Sea Cliff and washed away a home's backyard, creating a 100-foot drop to the Long Island Sound (Heavy rain causes 2 landslides in Port Washington and Sea Cliff 2014, DHSES 2008). However, according to the 2008 State Hazard Mitigation Plan, there were only approximately 11 landslide events between 1837 and 2007 (DHSES 2008).

4.6.3.3 Land Subsidence

A single database does not currently exist to capture previous occurrences of land subsidence in Nassau County, New York. However, online research of local news sources revealed that land subsidence has been reported in localized areas across Nassau County as well as the greater Long Island. For example, in Seaford, New York, at least a dozen homeowners have observed significant land subsidence occurring over the last 20 years, causing driveways to crack, backyards to sink, and garages to slide off their foundations (McLogan 2019). As of April 2019, USGS will begin collecting data from homeowners to understand the causes of this land subsidence (McLogan 2019).

In 2011, snow and freezing temperatures lead to the formation of a 12 foot sinkhole in North Merrick that caused a partial road collapse (Long Island News 12 2011). In the Village of Rockville Centre, a sinkhole swallowed a woman in her car while she was parked in her driveway (abc7NY 2014). Neighboring Suffolk County has also had reports of sinkholes, including reports of a public transit bus swallowed by a sink hole in 2019 as it traveled through flooded roads (Kim 2019).

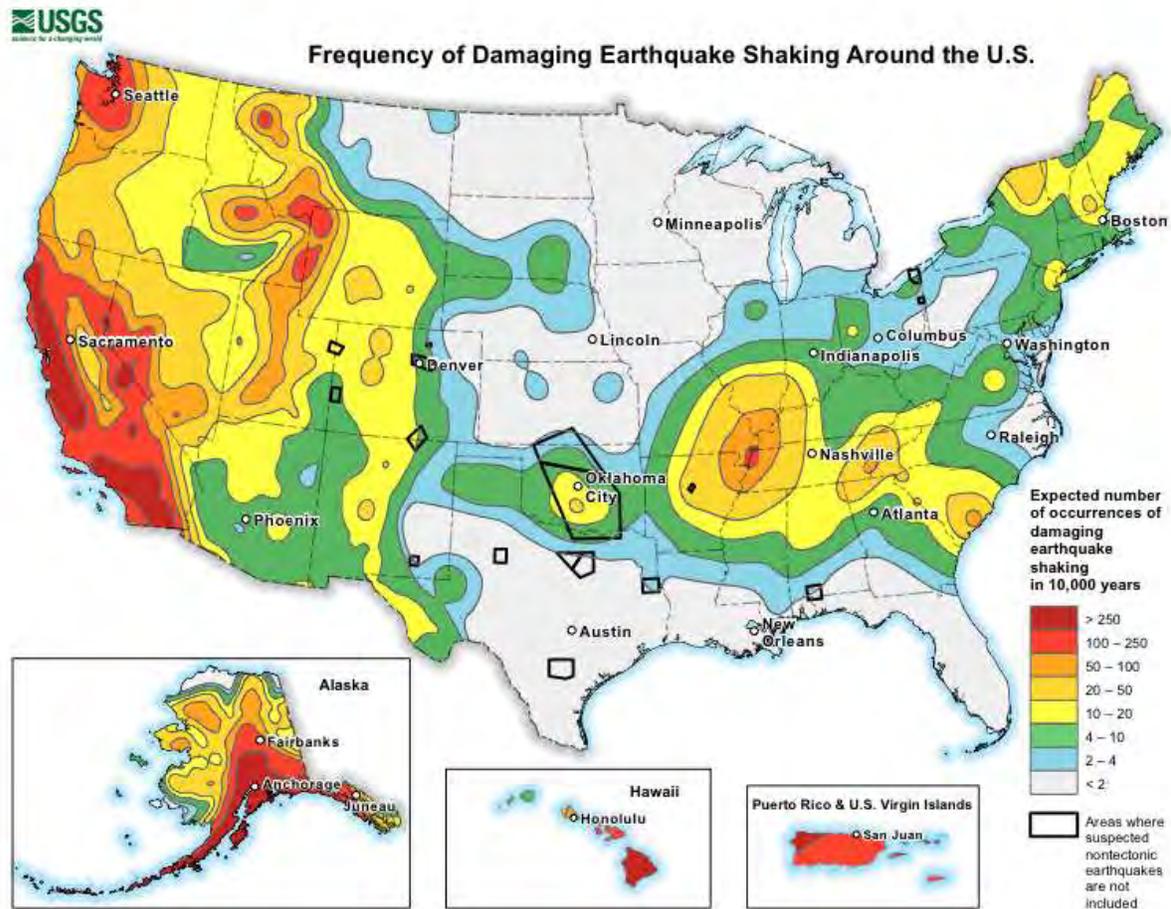
4.6.4 Probability

4.6.4.1 Earthquakes

The probability of occurrence for earthquakes in Nassau County is **unlikely**. As shown in **Figure 21**, Nassau County could experience up to 10 instances of damaging earthquake shaking in the span of 10,000 years, with the western side of the county facing higher proportional risk than the eastern side.



Figure 21: Frequency of Damaging Earthquake Shaking around the U.S.



4.6.4.2 Landslides

Looking back at estimated historic occurrences, future landslide events in Nassau County are considered **unlikely**, with events expected to occur less than once every five years.

4.6.4.3 Land subsidence

Given the iterative and ongoing land subsidence issues occurring over the last two decades, and continuing today, in Seaford, the future probability of land subsidence occurring is considered **highly likely**.



4.6.5 Impacts and Vulnerability

According to the HAZNY risk assessment, earthquake is ranked as a moderately low hazard. Additional details about the result of that assessment are summarized in the table below.

Earthquake	
Rank	Moderately Low
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Some Potential
Frequency	A Rare Event
Onset	No Warning
Hazard Duration	Less Than One Day
Recovery Time	Three Days to One Week
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Little or No Damage to Private Property • Moderate Damage to Public Facilities

According to the HAZNY risk assessment, landslide is ranked as a low hazard.

Landslide	
Rank	Low
Potential Impact	Throughout a Small Region
Cascade Effects	Yes, Some Potential
Frequency	A Rare Event
Onset	No Warning
Hazard Duration	Less Than One Day
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Little or No Damage to Private Property • Little or No Damage to Public Facilities

Ground failure hazards can heavily impact the built environment, causing damage or destruction to buildings, disrupt utilities (e.g., gas, electric, phone, water), and triggering fires. Depending on the severity of each incident these impacts could be limited and isolated or contribute to significant destruction. Landslides are more likely to cause limited damage to infrastructure and individual properties, while earthquakes may cause damage across the County.

To estimate the potential impacts that an earthquake could have on Nassau County, Hazus models were run for 250 year and 1000 year probabilistic earthquakes. Some key takeaways of this analysis include:

- Of the nearly \$120 million of estimated damage associated with the 250 year event, it is estimated that more than 75% of that damage is a direct result of actual property damage, mostly to single family residential dwellings.



- The Hazus model estimated that about 1,000 buildings will be at least moderately damaged, and eight buildings will be damaged beyond repair from the 250 year event. Additionally, Hazus also estimated that the 1000 year event will at least moderately damage about 8,329 buildings and damage 116 buildings beyond repair.
- The 250 year and 1000 year earthquake events estimated no significant long-term damage to essential facilities.
- In the worst case scenario of a 1000 year event, up to 576 households may be displaced, and 370 individuals may seek shelter. For the 250 year event, 28 households may be displaced, and 31 people may seek temporary shelter.

Table 15 summarizes the total building-related losses from the 250 year and 1000 year events. “Total losses” includes damage to buildings and its contents, as well as the cost of business interruptions such as relocation and wage losses. Total economic loss estimated for the 250 year earthquake is about \$123.73 (millions of dollars), which includes building and lifeline related losses based on the region’s available inventory. By comparison, total economic loss for the 1000 year earthquake is about \$1,968.66 (millions of dollars). **Appendix B** contains tables summarizing the total losses by sector (e.g., residential, commercial, government, etc.) for each jurisdiction in Nassau County.

Table 15: Total Building-Related Losses Associated with 250 Year and 1000 Year Earthquake Events

Jurisdiction	Population (Hazus)	Total Exposure	Total Losses 250-YR	Total Losses 1000-YR
Nassau County	1,339,532	\$239,082,476,000	\$118,990,000	\$1,760,499,627
City of Glen Cove	29,314	\$5,042,084,000	\$2,466,629	\$38,813,001
Town of Hempstead	513,170	\$86,016,460,000	\$71,628,706	\$1,058,017,641
City of Long Beach	33,980	\$5,768,806,000	\$6,469,081	\$90,714,182
Town of North Hempstead	120,320	\$26,354,892,000	\$27,335,212	\$418,916,026
Town of Oyster Bay	253,188	\$49,340,000,000	\$31,431,561	\$452,859,925



Hazus models impacts to utility systems as a result of earthquakes. The chart below summarizes the utility system pipeline damage that could result from a 250 year or 1000 year earthquake.

Table 16: Expected Utility System Pipeline Damage

System	Total Pipelines Length (Miles)	Number of Leaks (250 year)	Number of Breaks (250 year)	Number of Leaks (1000 year)	Number of Breaks (1000 year)
Potable Water	7324	6	2	42	11
Wastewater	4394	3	1	21	5
Natural Gas	64	0	0	0	0
Oil	0	0	0	0	0

Figure 22 shows the areas in the County most likely to experience building-related losses if a 250 year earthquake occurred.

Figure 22: Estimated Building Related Losses due to a 250 year Earthquake Event

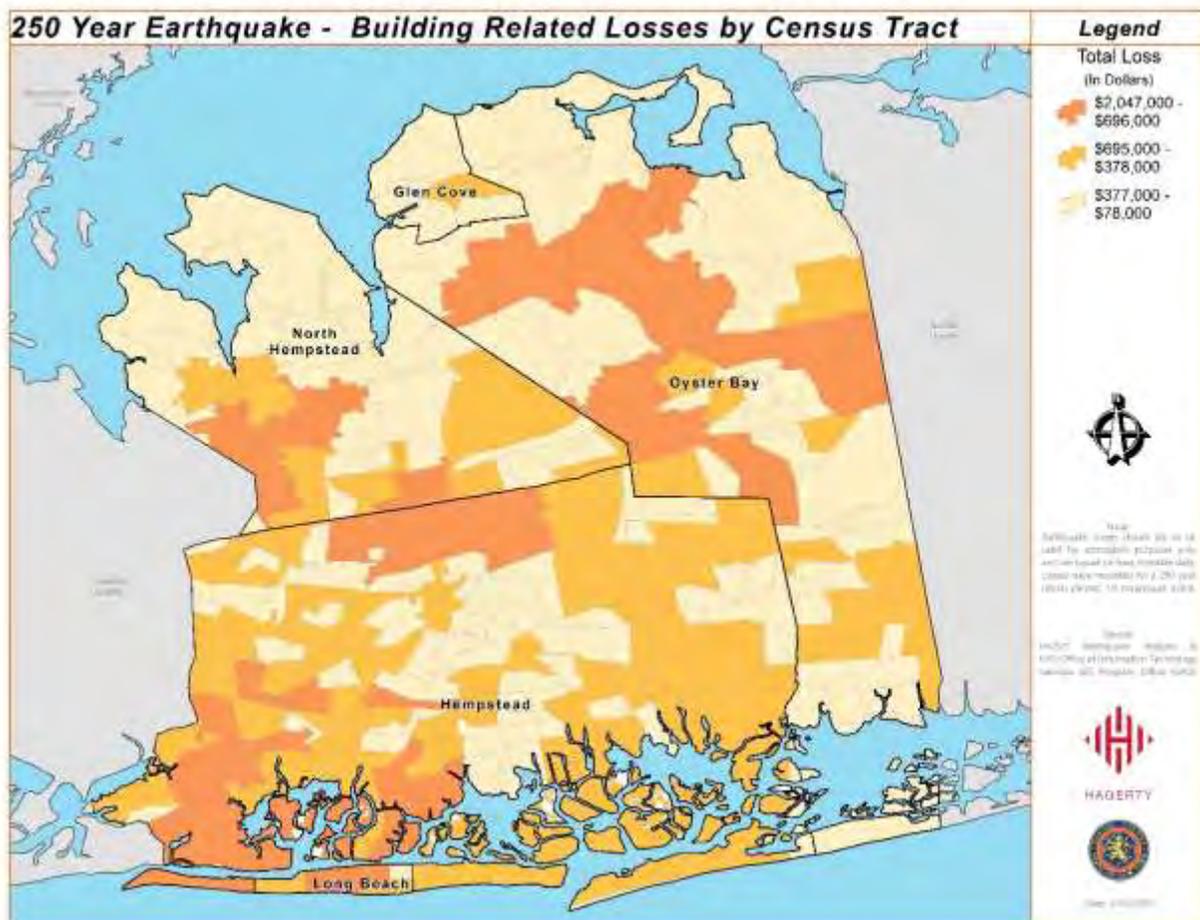
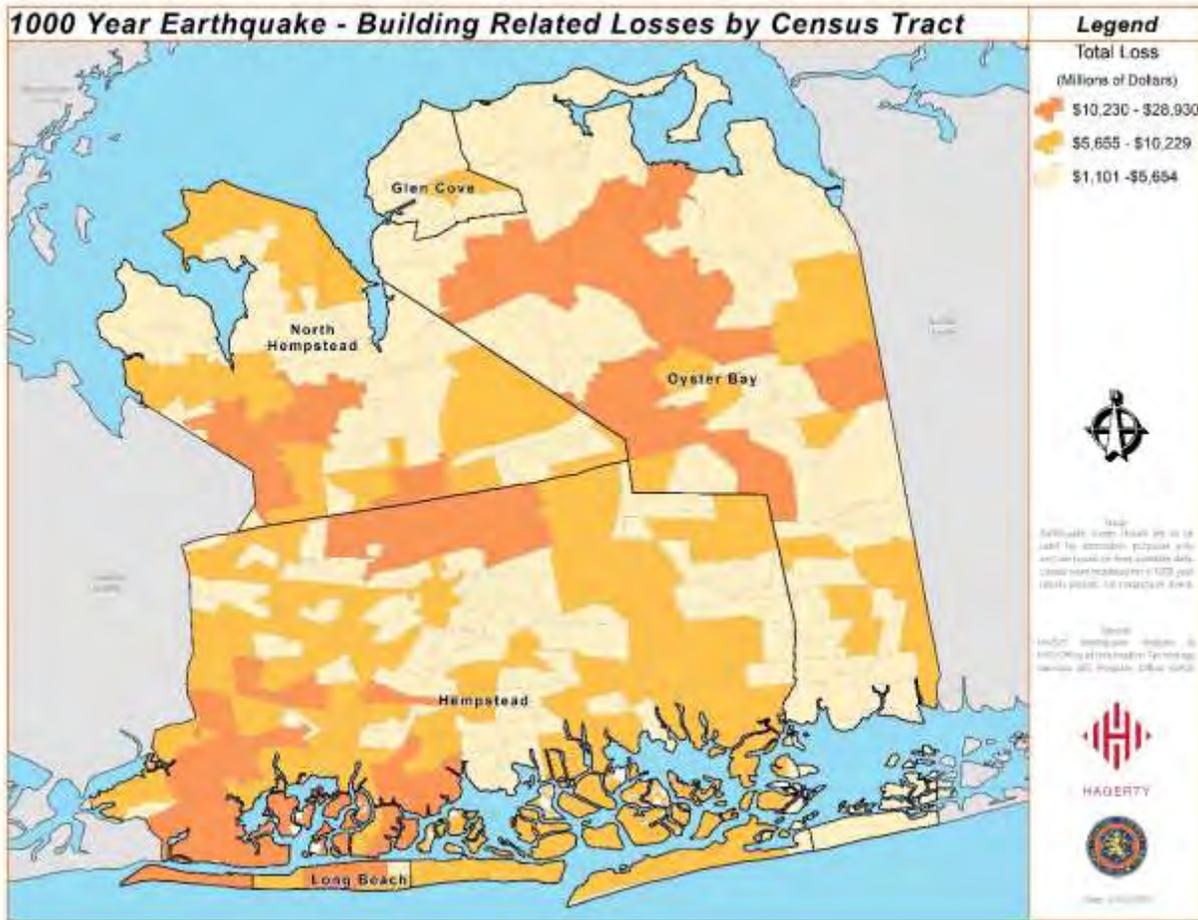


Figure 23 shows the areas in the County most likely to experience losses due to the 1000 year scenario within Nassau County.

Figure 23: Estimated Building Related Losses due to a 1000 year Earthquake Event



4.7 Hail

4.7.1 Characteristics

Hail is a form of precipitation consisting of solid ice that forms when liquid raindrops are carried by thunderstorm updrafts into extremely cold layers of the atmosphere and freeze (NOAA, Severe Weather 101: Hail Basics n.d.). Hail particles form from two processes: wet and dry growth. Wet growth is characterized by the slow freezing of water particles to the original hail piece, creating clear layers of ice. Dry growth is characterized by the rapid freezing of additional water particles (N. Y. Services 2019).

When the weight of the hail particles exceeds the force of the thunderstorm updraft, the particles fall to the ground. Additionally, larger hail typically falls closer to the updraft than smaller hail because smaller hailstones can be blown away from the updraft by horizontal winds (NOAA, Severe Weather 101: Hail Basics n.d.).

4.7.2 Location and Extent

Hail events are usually localized in nature and are equally likely to occur anywhere in Nassau County. The extent of hail is generally determined by measuring the diameter of the ice pellet, and through comparison to common objects, as outlined in **Table 17**. Hail the size of a quarter, one inch in diameter, or larger are considered severe.

Table 17: Hail Size Extent Scale (NOAA, Severe Weather 101: Hail Basics n.d.)

Description	Diameter (in.)	Description	Diameter (in.)	Description	Diameter (in.)
Pea	0.25	Quarter	1.00	Teacup	3.00
Mothball	0.50	Golf Ball	1.75	Softball	4.00
Penny	0.75	Tennis Ball	2.50	Grapefruit	4.50
Nickel	0.88	Baseball	2.75		

4.7.3 Recent Occurrences

Between January 2010 and January 2020, Nassau County experienced nine hail events, of which five were severe. Combined, these nine occurrences resulted in \$115,000 in property damage, 87 percent of which occurred during the August 2011 hail event in the Village of East Williston. Throughout the past ten years there have been no recorded losses in life or damage to crops within the County. Details about hail events between 210 and 2020 can be found in **Appendix B**.

4.7.4 Probability

The probability of occurrence for hail in Nassau County is **likely**, with more than one event expected every five years on average, based on historic occurrences. Looking forward, climate change is expected to increase the frequency and severity of hail, causing more significant impacts to property and people (Douglas 2019). Although fewer days with hail events are expected over most areas in the future, an increase in the mean hail size is projected (NCEI 2020). Since the previous update, hail has been classified as highly likely to occur and is now a significant hazard to be addressed in this Plan.



4.7.5 Impacts and Vulnerability

According to the HAZNY risk assessment, hail was not evaluated as a separate hazard. Hail is a component of “Severe Storms” (i.e., thunderstorms), which were ranked a moderately high hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

Severe Storm	
Rank	Moderately High
Potential Impact	Throughout a Small Region
Cascade Effects	Yes, Some Potential
Frequency	A Frequent Event
Onset	Several Hours Warning
Hazard Duration	Less Than One Day
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Severe Damage to Private Property • Severe Damage to Public Facilities

Hail hazards threaten **life, safety, and health** of the community and the **built environment**. Nassau County’s built environment is vulnerable to hail events. Larger hail may damage automobiles, aircrafts, and machinery. Hail can cause notable damage to aircrafts when it enters engines, crushes the nose cone, or damages the cockpit windscreen (NOAA n.d.). Smaller and more typical hail events in Nassau County can result in property damage to automobiles and landscaping (NCEI 2020). Nassau County is expected to experience at least one hail event each year causing an average of \$5,000 in damage (N. Y. Services, Hail 2019). In recent history, hail events in Nassau County have not resulted in any injuries, deaths, or crop damage (N. Y. Services, Hail 2019).



4.8 Hurricanes and Tropical Storms

4.8.1 Characteristics

Hurricanes and tropical storms bring heavy rainfall and strong winds and may cause other hazards such as floods, tornados, and coastal erosion. A tropical cyclone is an overarching term that encompasses all storm systems that are “non-frontal synoptic scale low-pressure system[s] over tropical or sub-tropical waters with organized convection (i.e. thunderstorm activity) and definite cyclonic surface wind circulation” (NOAA n.d.). There are four types of tropical cyclones, outlined below: (Machos n.d.)

- **Tropical Waves** are the most common of type of tropical disturbance with an average of 100 forming each season across the nation. They lack closed circulation, instead producing winds in all directions. Wind speeds are less than 25 mph.
- **Tropical Depressions** create sustained winds of 25 mph, presenting a disorganized system which has the presence of a closed circulation.
- **Tropical Storms** occur when shower and thunderstorm activity become organized with the closed circulation, and sustained winds reach at least 39 mph.
- **Hurricanes:** have sustained winds of at least 74 mph and the closed circulation becomes an eye, the center of the storm.

Tropical storms and hurricanes can be extremely destructive, delivering massive downpours of rain and winds that can push a wall of water, called a storm surge, in front of it. These storms can also spawn tornadoes that cause acute, localized damage.

4.8.2 Location and Extent

Given the large size of hurricanes and tropical storms, all jurisdictions in Nassau County are equally likely to experience the effects of a hurricane and tropical storm event. The coastal areas of the County are more likely to experience coastal erosion and storm surge associated while the entire County is susceptible to the high winds and heavy rains associated with hurricanes and tropical storms.

According to NOAA’s Historical Hurricane Tracks online tool, 21 tropical storms and 8 hurricanes have passed within a 50 mile radius of the County, including 11 tropical storms that have made direct landfall, as displayed in **Figure 24**. The extent of hurricanes and tropical storms is measured based on windspeed using the Saffir-Simpson Hurricane Wind Scale, summarized in **Table 18** (NOAA 2012). Category 3 hurricanes and greater are considered major hurricanes capable of devastating damage.



Figure 24: Hurricane and Tropical Storm Tracks within 50 Miles of Nassau County (1861 – 2020)

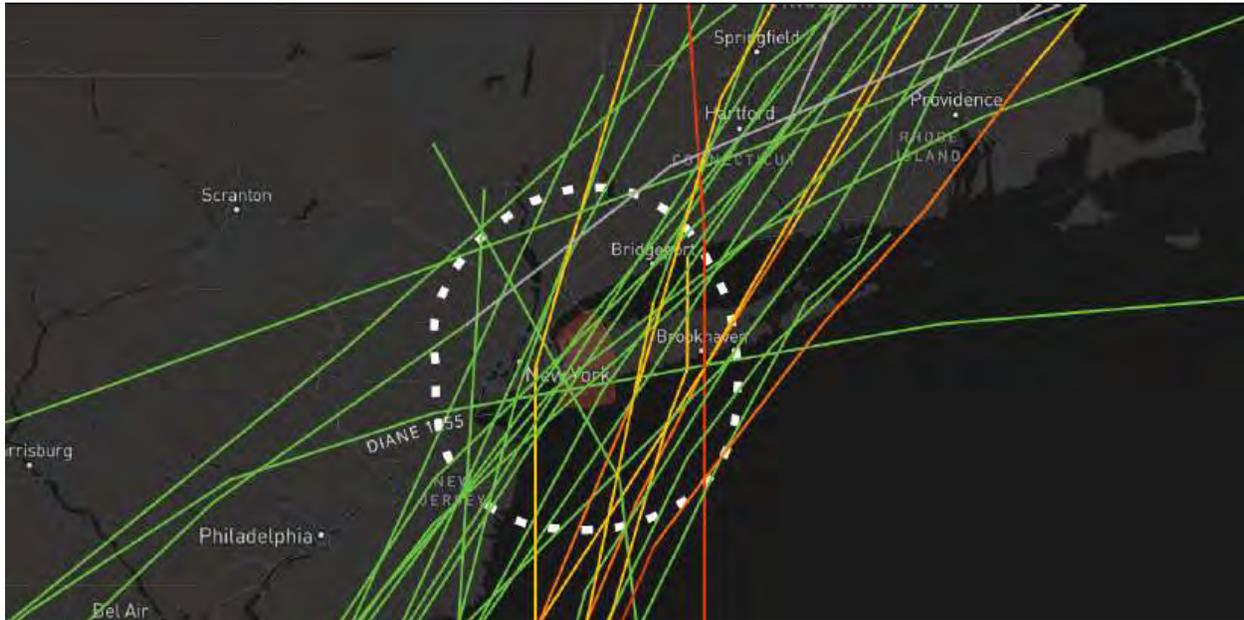


Table 18: Saffir-Simpson Hurricane Wind Scale

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap, and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3	111-129 mph	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4	130-156 mph	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted, and power poles downed. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 mph or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.



4.8.3 Recent Occurrences

Nassau County may go years without experiencing a severe hurricane or tropical storm event, however when major storms do occur, they prove to be extremely impactful. The strongest storm to affect New York State, specifically Long Island, was the Category 3 1938 New England Hurricane. This hurricane made landfall at a speed of 47 mph, causing 700 deaths, leaving 63,000 people homeless after destroying 8,900 homes and buildings, damaging two billion trees, and costing \$620 million in total damage (NOAA 2018).

In the last 20 years, Nassau County was greatly impacted by Hurricanes Isabel (2003), Frances (2004), Bill (2009), Irene (2011), Super Storm Sandy (2012), and Tropical Storm Isais (2020). **Table 19** summarizes details about storms that occurred most recently between 2010 and 2020 (Newsday 2017).

Table 19: Notable Hurricanes and Tropical Storms to Impact Nassau County, 2010 – 2020

Storm	Month and Year	Description
Tropical Storm Isaias	August 2020	Tropical Storm Isaias brought 50 mph winds the Nassau County, causing widespread damage and power outages to the area. Nearly one third of PSEG-Long Island 1.1 million customers in Nassau and Suffolk counties lost power during the storm.
Hurricane Jose	September 2017	While Hurricane Jose dropped to a tropical storm by the time it reached New York State, largely sparing Long Island, it still flooded Jones Beach State Park. Some minor flooding was reported in Lindenhurst, Bay Shore, Mastic Beach, and Islip. Power outages were reported. Dune erosion, dangerous riptides, and high surf occurred.
Hurricane Arthur	July 2014	The hurricane tracked east of Long Island, no direct hit, but produced larger waves, higher surf, higher rip current activity, and downpours of rain throughout the day.
Hurricane Sandy	October 2012	Hurricane Sandy evolved into a superstorm by the time it reached New York State and impacted Nassau County with life-threatening storm surges and high winds. This historic and record-setting storm destroyed 117 structures in Nassau County, with a total of 38,189 structures damaged by more than 50 percent of their value across Long Island. Multiple deaths and injuries were also reported in Nassau County as a result of the storm. Storm surge from Hurricane Sandy was so powerful it breached Fire Island in three different locations.
Hurricane Irene	August 2011	Hurricane Irene dropped to tropical storm status as it hit Long Island. However, it caused severe flooding and widespread power outages across the state of New York, suspension of Long Island Railroad, mass school closures and a statewide state of emergency declaration (Long Island Hurricane History n.d.).

4.8.4 Probability

The expansive geography of hurricanes complicates the determining their probability of impacting Nassau County. Hurricanes and tropical storms that make landfall outside of the County can still severely impact Nassau County, causing coastal flooding, erosion, wind, and other related hazards. However, these impacts that result from hurricanes and tropical storms do not register



in the NOAA Storm Events database as such, but instead are recorded as “coastal floods,” “flash floods,” “high wind,” or other interrelated event types. Therefore, other sources of historical information must be referenced to determine probability.

Looking at the historic frequency of hurricanes and tropical storms that touched Long Island, the probability of future impacts from hurricanes and tropical storms impacting Nassau County is **likely**, meaning these events should be expected at least once every five years (Newsday 2017). The historic rate of occurrence serves as a starting point for estimating future probability but does not account for anticipated changes resulting from climate change. Rising sea temperatures will increase the intensity of these storm systems and sea level rise will worsen the coastal flooding caused by storm surge.

4.8.5 Impacts and Vulnerability

According to the HAZNY risk assessment, Hurricanes/Coastal Storms are ranked as the greatest hazard to Nassau County. Additional details about the result of that assessment are summarized in the table below.

Hurricanes and Tropical Storms	
Rank	High
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Highly Likely
Frequency	A Frequent Event
Onset	Several Days Warning
Hazard Duration	Two to Three Days
Recovery Time	More Than Two Weeks
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, in Extremely Large Numbers • Severe Damage to Private Property • Severe Damage to Public Facilities

Nassau County is uniquely vulnerable to hurricanes and tropical storms due to its population and zoning density. Nassau County is considered to have the greatest risk within the State of New York (NYS DHSES 2019). As a coastal county, Nassau County was impacted by almost twice as much damage (in dollars) from tropical storms and hurricanes between 1996 and 2017 as the next most-damaged County (Queens). These events in Nassau County contribute to numerous associated hazards (high winds, flooding, tornadoes, etc.) that threaten the livelihood of people, damage property, and interrupt critical community lifelines. The potential impacts and county vulnerability to these other hazards are discussed in depth in their respective sections of this Plan.

Between 1996 and 2017, Nassau County reported \$1.5 billion in losses due to tropical storms and hurricanes (NYS DHSES 2019). The annualized damage during that period was \$64.7 million, with an average of five severe events (defined as events that caused more than \$1 million in damage) occurring per year (NYS DHSES 2019).

To estimate the potential impacts that winds associated with hurricane and tropical storm events could have in Nassau County, different scenarios were run for the 100 year and 500 year wind



events using the loss estimation program, Hazus. Hazus estimated the following countywide impacts from the 100 and 500 year events:

- About 875 buildings will be at least moderately damaged and two buildings will be completely damaged as a result of the 100 year wind event. A 500 year wind event will cause considerably more building damage, with 20,838 buildings sustaining at least moderate damage and approximately five percent of the buildings in the Hazus database for this scenario (972 buildings) destroyed.
- The 100 year wind event will cause no moderate or long-term damage to essential facilities. In the 500 year wind event, four schools will sustain at least moderate damage. **Appendix B** contains tables detailing the total losses sustained by each essential facility.
- Approximately 145 households will be displaced and approximately 91 individuals will seek shelter as a result of a 100 year wind event. The 500 year wind event could displace 3,162 people and cause 1,988 individuals to seek shelter. Refer to **Appendix B** for a detailed breakdown of the number of people displaced and seeking shelter, by jurisdiction, for the different flood events.
- The model estimates 79,760 tons of debris will be generated from the 100 year wind event. This figure quadruples for a 500 year wind event, which is estimated to generate a total of 458,529 tons of debris.

After Hurricane Sandy, shelter needs were much greater due to evacuation orders and the combined impacts of wind and flooding that damaged homes and displaced residents. These additional factors are considered when conducting shelter planning.



The total losses from the 100 and 500 year wind events are summarized in **Table 20** for the largest jurisdictions and the County. “Total losses” includes damage to buildings and its contents, as well as the cost of business interruptions such as relocation and wage losses. **Appendix B** contains tables summarizing the total losses by sector (e.g., residential, commercial, government, etc.) for each jurisdiction in Nassau County.

Table 20: Total Losses from 100 year and 500 year Wind (Hurricane) Events

Jurisdiction	Population (Hanus)	Total Exposure	Total Losses 100 year
Nassau County	1,339,532	\$239,082,476,000	\$749,532,900
City of Glen Cove	29,314	\$5,042,084,000	\$21,794,842
Town of Hempstead	513,170	\$86,016,460,000	\$419,606,026
City of Long Beach	33,980	\$5,768,806,000	\$46,482,904
Town of North Hempstead	120,320	\$26,354,892,000	\$152,875,752
Town of Oyster Bay	253,188	\$49,340,000,000	\$237,171,336



Figure 25 shows the areas in the County most likely to experience losses due to the 100 year scenario within Nassau County. Of the nearly \$750 million of estimated damage associated with the 100 year event, it is estimated that more than 95% of the damage are a direct result of actual property damage, mostly to residential dwellings.

Figure 25: Total Economic Losses from 100 year Hurricane Event Wind

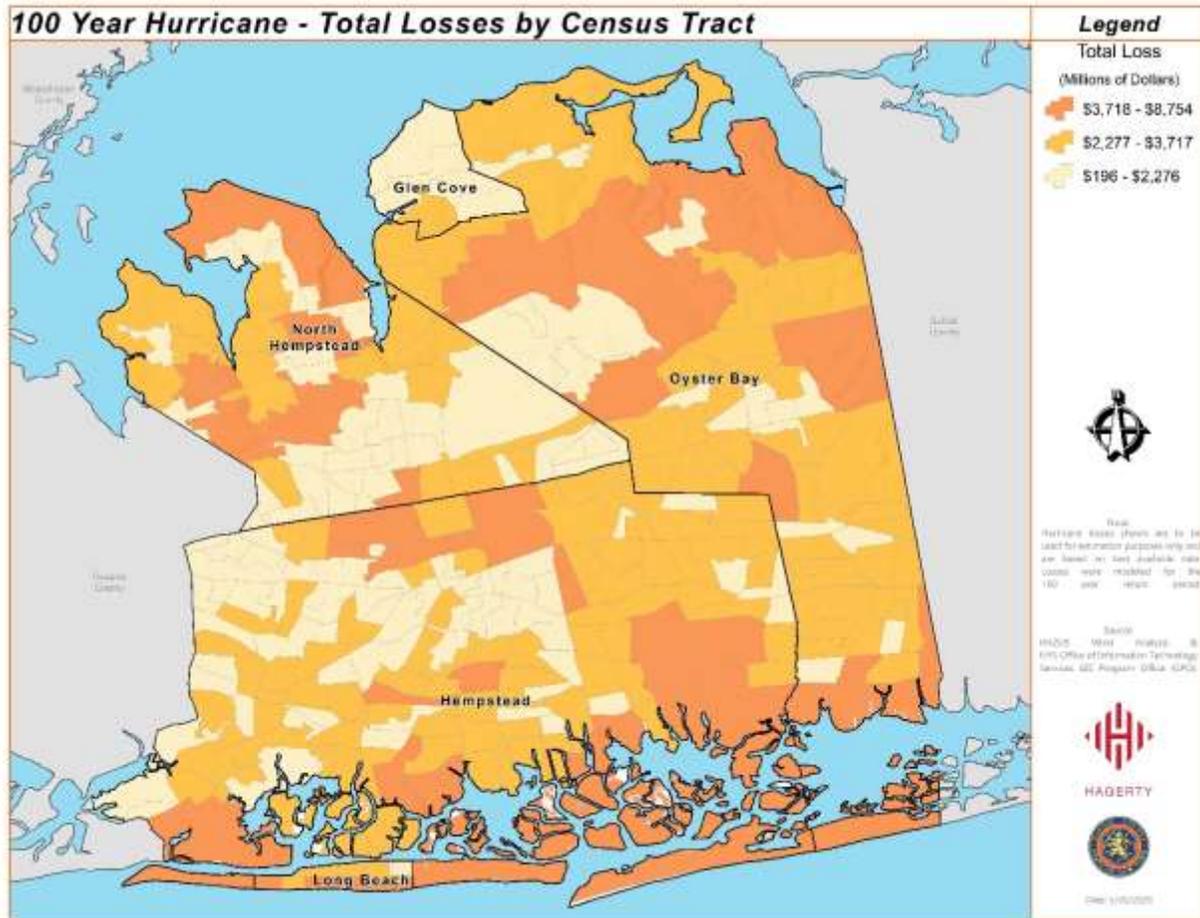
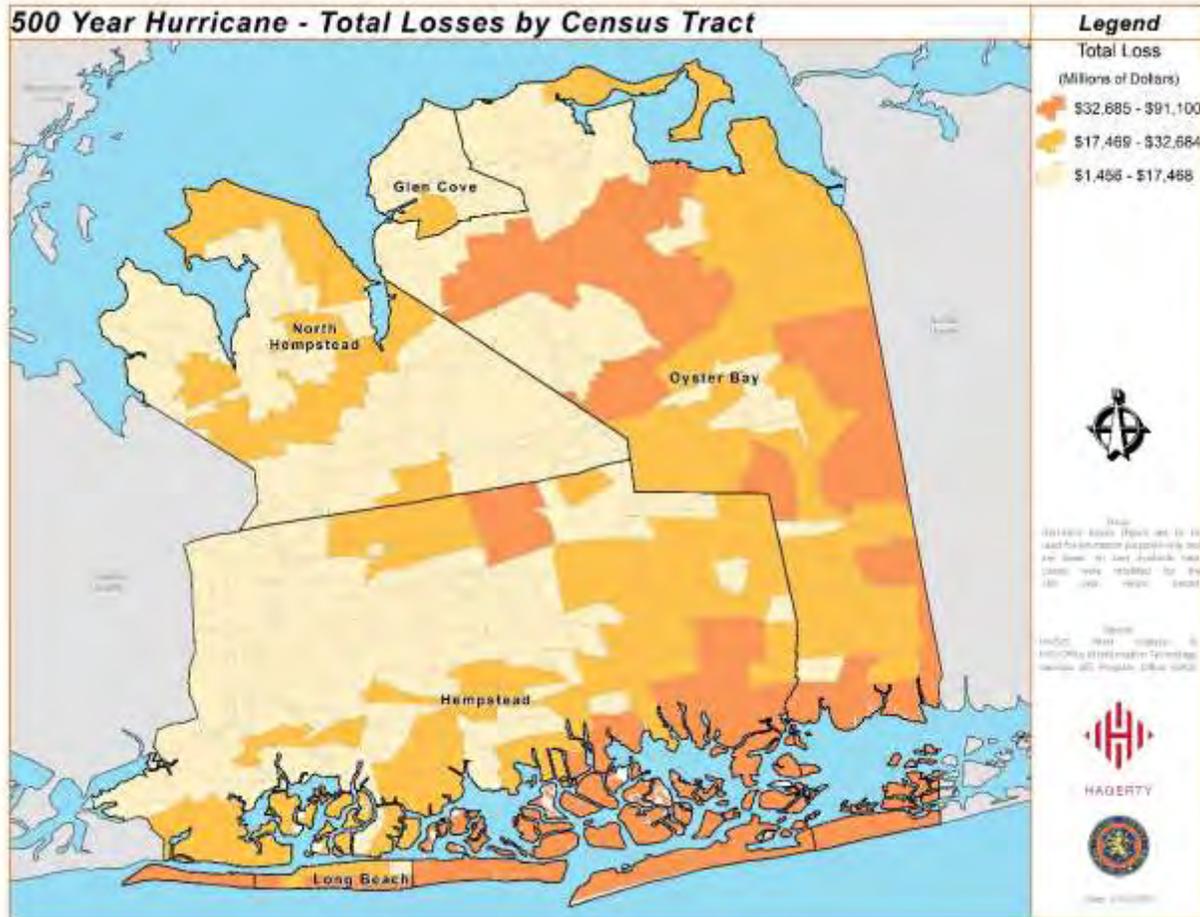


Figure 26 shows the areas in the County most likely to experience losses due to the 500 year scenario within Nassau County. Of the \$5 billion in estimated damages associated with the 500 year event, it is estimated that nearly \$4.7 billion dollars are a direct result of property damage, of which nearly 85% is related to residential dwellings.

Figure 26: Total Economic Losses from 500 year Hurricane Wind



4.9 Lightning

4.9.1 Characteristics

Lightning strikes occur when strong negative charges build up within a thunderstorm cloud and strong positive charges on the ground move up tall objects, such as buildings, trees, and telephone poles. A “stepped leader” (a negative charge descending from a thunderstorm cloud) then makes its way towards the ground, where it connects with the positive charge. That is when a bright flash of lightning (the “return stroke”) occurs (N. Y. Services 2019).

A lightning bolt can reach temperatures of approximately 50,000°F (NOAA n.d.). This extreme temperature causes the air surrounding the bolt to rapidly heat and expand, resulting in an explosive shockwave that we hear as thunder. Thunderstorms are dangerous storms that include lightning and can include powerful winds over 50 mph, create hail, and cause flash flooding and tornadoes (N. Y. Services 2019). There are four different types of lightning that can occur:

- **Cloud to Sky lightning** is a discharge jumping from a cloud into the surrounding sky.
- **Intra-Cloud lightning** occurs when oppositely charged centers within the same cloud ignite and cause a bright flash. This is the most common type of lightning.
- **Inter-Cloud lightning** occurs between oppositely charged areas of different clouds.
- **Cloud to Ground lightning** occurs when the negative charge of the bottom of a cloud travels to the positively charged ground below. It is the most dangerous to people and therefore the most researched.

4.9.2 Location and Extent

Given the nature of the hazards, all jurisdictions in Nassau County are equally likely to experience lightning. The extent of lightning events can be measured by the lightning activity level (LAL) outlined in **Table 21** (NOAA, Lightning Activity Level n.d.).

Table 21: Lightning Activity Level Extent Scale

Lightning Activity Level	Description
1	No thunderstorms
2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent. One to five cloud to ground strikes in a five-minute period.
3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, six to ten cloud to ground strikes in a five-minute period.
4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent. 11 to 15 cloud to ground strikes in a five-minute period.
5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a five-minute period.
6	Dry lightning (LAL 3 without rain). Lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.



4.9.3 Recent Occurrences

Between January 2010 and January 2020, Nassau County experienced nine significant⁷ lightning events across 12 different jurisdictions in the County (NCEI 2020). These recent occurrences caused injury to five individuals and property damage totaling \$73,5000 (NCEI 2020). **Appendix B** provides additional details on these hazard events.

4.9.4 Probability of Occurrence

The probability of occurrence for lightning in Nassau County is **likely**. Based on historic records, lightning events are expected more than once every five years (NCEI 2020). While research is inconclusive about how climate change will specifically impact lightning hazards. Research does suggest that thunderstorms will occur with greater frequency and severity which may have implications on the frequency of significant lightning.

4.9.5 Impacts and Vulnerability

According to the HAZNY risk assessment, lightning was not evaluated as a separate hazard. Lightning is a component of “Severe Storms” (i.e., thunderstorms), which were ranked a moderately high hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

Severe Storm	
Rank	Moderately High
Potential Impact	Throughout a Small Region
Cascade Effects	Yes, Some Potential
Frequency	A Frequent Event
Onset	Several Hours Warning
Hazard Duration	Less Than One Day
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none">• Serious Injury or Death is Likely, but Not in Large Numbers• Severe Damage to Private Property• Severe Damage to Public Facilities

Nassau County is vulnerable to the impacts of lightning hazards primarily in terms of impact on **life, safety, and health** of the community and the **built environment**. The vulnerability of the community’s life, safety, and health increases as population density increases (N. Y. Services, Lightning 2019). While it has been reported only an average of 10% of people who are struck by lightning are killed, the other 90% are generally left with various degrees of disability). During the ten year period of analysis, Nassau County experienced five injuries related to lightning.

⁷ As defined by the NOAA Storm Events database.



The vulnerability of the built environment increases as the building density and the cost of the assets of the built environment increases. Lightning can strike and damage buildings and equipment. Lightning can therefore cause significant damage to infrastructure, critical facilities, and private property by igniting fires (N. Y. Services, Lightning 2019). Damage to the built environment can also impact communications and emergency response capabilities. During the ten year period of analysis, the County had about \$7,350 in annual loss per year. However, an individual incident in the County during this period caused as much as \$15,000 in damage (N. Y. Services, Lightning 2019).



4.10 Tornadoes

4.10.1 Characteristics

A tornado is a violently rotating column of air with winds ranging from 65 mph to more than 300 mph, usually attached to the base of a thunderstorm (NOAA, Tornado Definition n.d.). Typically, short-lived, these storms begin when high winds at ground level are slowed down by the friction of the earth's surface. A clear funnel begins to form when there is a change in wind speed or direction. As they pick up debris and dust, they acquire their grayish coloration (NOAA, Severe Weather 101: Types of Tornadoes n.d.). Due to typical weather patterns in Nassau County, most tornadoes advance west-to-east at an average speed of 30 mph (NOAA, Severe Weather 101: Tornado Basics n.d.).

4.10.2 Location and Extent

Given the nature of tornado hazards, all jurisdictions in Nassau County are equally likely to experience a tornado. The extent of a tornado is measured using the Enhanced Fujita Scale (EF Scale), shown in **Table 22**. The EF Scale is used to evaluate damage from a suspected tornado based on a set of 28 damage indicators and estimates wind speed based on this damage assessment (NOAA, The Enhanced Fujita Scale (EF Scale) n.d.). Tornadoes are typically considered “significant” when categorized as an EF2 or EF3 on the Enhanced Fujita Scale, and “violent” when categorized as EF4 and EF5.

Table 22: Enhanced Fujita Scale

EF Rating	Wind Speed (mph)	Damage
0	65 – 85	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
1	86 – 110	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
2	111 – 135	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off the ground.
3	136 – 165	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
4	166 – 200	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown; small missiles generated.
5	Over 200	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly in excess of 109 yards; high-rise buildings have significant structural deformation; catastrophic impacts should be expected.



4.10.3 Recent Occurrences

In the past ten years, Nassau County has not recorded a tornado occurrence. Since 1950, eight tornados have been recorded in Nassau County, all of which have been EF0 and EF1 (Bansen 2019).

4.10.4 Probability

The probability of occurrence for tornados in Nassau County is **unlikely**. Based on historic records, tornadoes are expected to occur less than once every five years in the county (NCEI 2020). Current research is inconclusive about the potential influence of climate change on the frequency and severity of tornados in New York State. However, since the 2014 risk management assessment Nassau County is no longer considered among the highest risk counties in New York State (N. Y. Services, Tornado 2019).

4.10.5 Impacts and Vulnerability

According to the HAZNY risk assessment, tornados are ranked as a moderately low hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

Tornados	
Rank	Moderately Low
Potential Impact	Several Individual Locations
Cascade Effects	Yes, Some Potential
Frequency	A Regular Event
Onset	Several Hours Warning
Hazard Duration	Less Than One Day
Recovery Time	Three Days to One Week
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Severe Damage to Private Property • Severe Damage to Public Facilities

Nassau County is vulnerable to the impacts of tornados primarily in terms of impact on **life, safety, and health** of the community and the **built environment**. This vulnerability is highly dependent on the location of tornado incident. In areas with increased development and population damage, there is a much higher likelihood of impacts to the County. Tornados can damage public and private property, placing a financial and operational burden not only on the state at large, but also on local government and resources. Losses can extend from infrastructure damage to the interruption of services and the general economy, including critical infrastructure (N. Y. Services, Tornado 2019). Based on projections provided in the New York State Hazard Mitigation Plan based on historic occurrences, tornados are estimated to cause an annual average of \$49,000 in damage to Nassau County (N. Y. Services 2019).



4.11 Severe Winter Weather

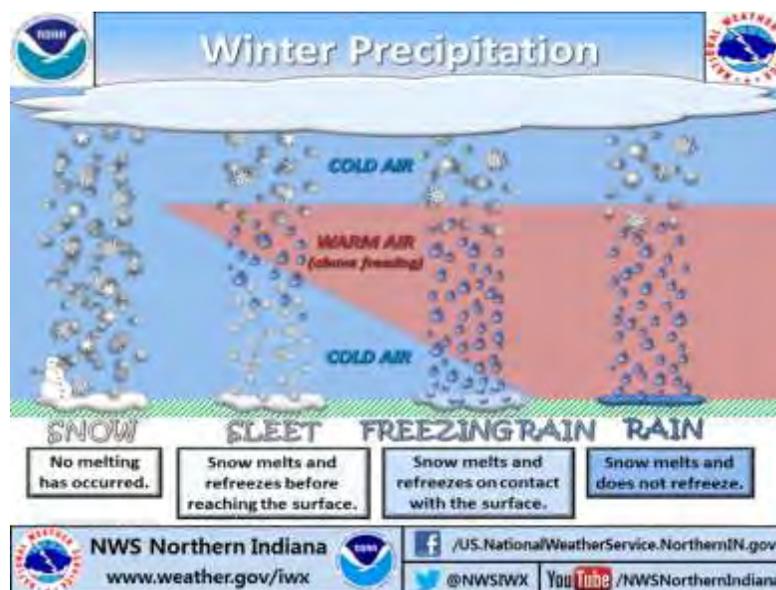
4.11.1 Characteristics

Severe winter weather is characterized by one or more of the following hazards: snow, blizzards, sleet, freezing rain, and extreme cold (NOAA, Severe Weather 101: Winter Weather n.d.). Extreme cold is discussed further in the **Extreme Temperatures** section. Strong low pressure systems move across the United States during winter months and bring severe winter weather to the Northeast. Nor'easters are a type of coastal winter storm that occurs along the East Coast of North America, between the months of September and April, and is known for causing damaging winds, storm surges, coastal erosion, and significant snow accumulations in Nassau County.

Different types of freezing precipitation are discussed below and in **Figure 27**.

- **Snow:** Snow forms when precipitation freezes in cold wintertime clouds. Snowflakes are ice crystals that cling to each other as they fall to the ground. If the air temperature remains at or below 32 degrees F from the cloud base to the ground, the precipitation will continue to fall as snow.
- **Blizzards:** Blizzards are snow events with winds that exceed 35 mph, blowing snow and sometimes reducing visibility to a quarter mile or less.
- **Sleet:** When snowflakes only partially melt after falling through a shallow layer of warm air, sleet occurs. These slushy drops refreeze as they then fall through a deep layer of freezing air above the surface, and eventually reach the ground as frozen rain drops that bounce on impact.
- **Freezing Rain:** Freezing rain occurs when snowflakes descend into a warmer layer of air and melt completely. When these liquid water drops fall through another thin layer of freezing air just above the surface, they do not have enough time to refreeze completely before reaching the ground, resulting in freezing rain. When freezing rain significantly accumulates for several hours it is called an ice storm.

Figure 27: Types of Winter Precipitation



4.11.2 Location and Extent

Given the large geographic footprint of winter storms, all jurisdictions in Nassau County are equally likely to experience severe winter weather. The Northeast Snowfall Impact Scale (NESIS) is one way that the extent of severe winter weather is measured (NOAA, Regional Snowfall Index n.d.). The index, shown in **Table 23**, differs from other meteorological indices in that it uses population information in addition to meteorological measurements. Scores are a function of the area affected by the snowstorm, the amount of snow, and the number of people living in the path of the storm.

Table 23: Northeast Snowfall Impact Scale

Category	Description	NESIS Range	Definition
1	Notable	1.0 – 2.49	These storms are notable for their large areas of 4 inch accumulations and small areas of 10 inch snowfall.
2	Significant	2.5 – 3.99	Includes storms that produce significant areas of greater than 10 inches of snow while some include small areas of 20 inch snowfalls. A few cases may even include relatively small areas of very heavy snowfall accumulations (greater than 30 inches)
3	Major	4.0 – 5.99	This category encompasses the typical major Northeast snowstorm, with large areas of 10 in. snows (generally between 50,000 and 150,000 square miles, roughly 1–3 times the size of New York State, with significant areas of 20 inch accumulations.
4	Crippling	6.0 – 9.99	These storms consist of some of the most widespread, heavy snows of the sample and can be best described as crippling to the northeast U.S, with the impact to transportation and the economy felt throughout the United States. These storms encompass huge areas of 10 inch snowfalls, and each case is marked by large areas of 20 inches and greater snowfall accumulations.
5	Extreme	10+	The storms represent those with the most extreme snowfall distributions, blanketing large areas and populations with snowfalls greater than 10, 20, and 30 inches. These are the only storms in which the 10 inch accumulations exceed 200,000 square miles and affect more than 60 million people.



The Dolan-Davis Nor'easter Intensity Scale, shown in **Table 24**, is one method used to measure the extent of nor'easter, a common type of winter storm that impacts Nassau County (County 2010). The extent of nor'easters is challenging to measure, but the Dolan-Davis Nor'easter Intensity Scale considers storm magnitude in terms of beach and coastal deterioration.

Table 24: The Dolan-Davis Nor'easter Intensity Scale

Storm Class	Description	Beach Erosion	Dune Erosion	Overwash	Property Damage
1	Weak	Minor changes	None	No	No
2	Moderate	Modest; mostly to lower beach	Minor	No	Modest
3	Significant	Erosion extends across the beach	Can be significant	No	Loss of many structures at local level
4	Severe	Severe beach erosion and recession	Severe dune erosion or destruction	On low beaches	Loss of structures at community level
5	Extreme	Extreme beach erosion	Dunes destroyed over extensive areas	Massive in sheets and channels	Extensive at regional scale; millions of dollars

4.11.3 Recent Occurrences

Between January 2010 and January 2020, Nassau County experienced 32 reported winter weather events resulting in one death and 129 injuries. The worst winter storm event to impact Nassau County in terms of injuries occurred on January 10, 2014. A storm brought widespread freezing rain across Long Island causing dozens of motor-vehicle accidents and 129 injuries in Nassau County (NCEI 2020). No crop or property damage was recorded in association with these events. **Appendix B** provides additional details on these hazard events.

4.11.4 Probability

The probability of occurrence for severe winter weather in Nassau County is **highly likely**. Based on historic events, severe winter weather is expected multiple times annually. Research suggests that climate change is fueling an increase in the intensity winter storms because the atmosphere now holds more moisture, driving heavier than normal precipitation and snowfall accumulation (Communication 2011). Additionally, researchers attribute winter weather whiplash, a sudden shift from one set of weather conditions to another, to climate change (Harvey, How Climate Change May Affect Winter 'Weather Whiplash' 2019).



4.11.5 Impacts and Vulnerability

According to the HAZNY risk assessment, severe winter weather is ranked a moderately high hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

Severe Winter Weather	
Rank	Moderately High
Potential Impact	Throughout a Large Region
Cascade Effects	Yes, Some Potential
Frequency	A Frequent Event
Onset	Several Days Warning
Hazard Duration	Two to Three Days
Recovery Time	Three Days to One Week
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Little or No Damage to Private Property • Moderate Damage to Public Facilities

Severe winter storms can cause extensive impacts to the County, fundamentally to the **life, safety, and health** of the community and the **built environment**. Winter storms contribute to hundreds of deaths that are difficult to calculate and impossible to attribute specifically to the hazard. Examples of these types of deaths include automobile accidents caused by icy roads, heart attacks while shoveling snow, or hypothermia from prolonged exposure to the cold.

Moreover, winter storms can cause extensive damage to critical infrastructure. Utilities may be disrupted, causing life safety issues. Transportation may be interrupted causing detours, delays, and cancellation of mass transportation.

Severe winter storms can also cause property damage. High winds, heavy snow, and ice can topple over trees. The paint may chip on the siding of home after years of exposure to snow and ice. Overtime, chipping can lead to water intrusion and damage.

The County’s **economy** is vulnerable to the cascading impacts of the hazard event. Severe winter weather can create the inability to commute to work, conduct business operations, purchase goods or services; in addition to the cost of snow removal and damage repairs (Directorate 2014).



4.12 Straight-Line Wind

4.12.1 Characteristics

Wind occurs when air moves from high to low pressure. Pressure differences result from the uneven heating of Earth’s surface that causes differences in temperature. Straight-line winds are produced by the downward momentum in the downdraft region of a thunderstorm and distinguished from tornadic wind by the lack of rotation. Straight-line winds are commonly associated with hurricanes and nor’easters. **Table 25** outlines different types of straight-line winds (NOAA, Severe Weather 101: Types of Damaging Winds n.d.).

Table 25: Straight-line Wind Types

Type	Description
Downdraft	A small-scale column of air that rapidly sinks toward the ground.
Downburst	Downburst is the general term for all localized strong wind events that are caused by a strong downdraft within a thunderstorm. Downbursts can be categorized as macrobursts when they are greater than 2.5 miles across and microbursts when they are less than 2.5 miles across.
Gust front	The leading edge of rain-cooled air that clashes with warmer thunderstorm inflow. Gust fronts are characterized by a wind shift, temperature drop, and gusty winds out ahead of a thunderstorm. Sometimes the winds push up air above them, forming a shelf cloud or detached roll cloud.
Derecho	Widespread, long-lived windstorm that is associated with a band of rapidly moving showers or thunderstorms. A typical derecho consists of numerous microbursts, downbursts, and downburst clusters. If the wind damage swath extends more than 240 miles (about 400 kilometers) and includes wind gusts of at least 58 mph (93 km/h) or greater along most of its length, then the event may be classified as a derecho.

4.12.2 Location and Extent

Straight-line winds can occur anywhere in Nassau County; therefore, all jurisdictions are equally likely to experience this hazard. Generally, straight-line winds are considered severe when they meet or exceed 58 mph.⁸ Furthermore, the extent of straight-line wind can be measured utilizing the Beaufort Scale, shown in **Table 26** (Beaufort wind scale n.d.). Current research has determined that nationwide, the wind speed of significant wind events has increased since 2010 (Harvey, The World’s Winds Are Speeding Up 2019).

⁸ Per the National Weather Service.



Table 26: Beaufort Scale

Grade	Kind of wind	Knots	Km/h	Effects	Height of waves (meters)
0	Calm	<1	<1	Smoke rises vertical	-
1	Very light	1-3	1-5	The wind bends smoke	0.1
2	Light breeze	4-6	6-11	It can be felt on face	0.2 – 0.3
3	Gentle breeze	7-10	12-19	It shakes leaves	0.6 – 1.0
4	Moderate breeze	11-16	20-28	It lifts dust and papers	1.0 – 1.5
5	Fresh breeze	17-12	29-38	It shakes branches	2.0 – 2.5
6	Strong breeze	22-27	39-49	It shakes big branches	3.0 – 4.0
7	Near gale	28-33	50-61	It impedes walking	4.0 – 5.5
8	Gale	34-40	62-74	It shakes big trees	5.5 – 7.5
9	Strong gale	41-47	75-88	Chimney pots and slate removed	7.0 – 10.0
10	Storm	48-55	89-102	It uproots trees	9.0 – 12.5
11	Violent Storm	56-63	103-117	Serious devastation	11.5 – 16.0
12	Hurricane	> 64	>118	Very serious catastrophes	>14

4.12.3 Recent Occurrences

Between January 2010 – January 2020, Nassau County reported 75 significant⁹ straight-line wind events (NCEI 2020). These recent occurrences caused injury to three individuals and property damage totaling \$1,572,000 (NCEI 2020). **Appendix B** provides additional details on these hazard events.

4.12.4 Probability

The probability of occurrence for significant straight-line wind hazards in Nassau County is **highly likely**. High wind hazards are expected to occur in the County more than once per year.

4.12.5 Impacts and Vulnerability

According to the HAZNY risk assessment, straight-line wind was not evaluated as a separate hazard. Straight-line wind is a component of “Severe Storms” (i.e., thunderstorms), which were ranked a moderately high hazard in Nassau County. Additional details about the result of that assessment are summarized in the table below.

⁹ As defined by the NOAA Storm Events database.



Severe Storm	
Rank	Moderately High
Potential Impact	Throughout a Small Region
Cascade Effects	Yes, Some Potential
Frequency	A Frequent Event
Onset	Several Hours Warning
Hazard Duration	Less Than One Day
Recovery Time	One to Two Days
Impact	<ul style="list-style-type: none"> • Serious Injury or Death is Likely, but Not in Large Numbers • Severe Damage to Private Property • Severe Damage to Public Facilities

Nassau County is vulnerable to the impacts of wind hazards primarily in terms of impact on the **life, safety, and health** and **built environment**. Extreme winds pose a significant threat to lives, property, and vital utilities due to flying debris, such as rocks, lumber, fuel drums, sheet metal and loose gear of any type that can be picked up by the wind and hurled with great force.

Vulnerability increases in areas that have more structures of light construction, particularly manufactured homes, which suffer more damage from high winds. Moreover, older buildings, especially those that were built prior to when the County adopted modern building codes, are susceptible to damage from straight-line winds. These buildings are less likely to have enough design to mitigate wind damage. Even structurally sound buildings can suffer costly damage with potential for secondary impacts, such as broken windows (N. Y. Services, Wind 2019).

Extreme winds also down trees and power lines, often resulting in power outages across an affected area (N. Y. Services, Wind 2019). During the ten year period of analysis, straight-line winds have caused about \$19,700 in annual losses in Nassau County. However, one event during this time period caused about \$100,000 in damage (N. Y. Services, Wind 2019).



5 Capability Assessment

This section summarizes the capabilities that Nassau County has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement. Capability assessments specific to the participating jurisdictions of this multi-jurisdictional Plan are available in the Jurisdictional Annexes.

5.1 Progress after Superstorm Sandy

After Superstorm Sandy, the capabilities of Nassau County and the cities, towns, and villages within Nassau County have increased related to disaster management and hazard mitigation. Superstorm Sandy devastated Nassau County, causing over \$1 billion in damage to infrastructure and over 35,000 residents requesting FEMA assistance. Due to the storm, these jurisdictions have extensively utilized various funding streams, including the FEMA's Public Assistance (PA) and Hazard Mitigation Grant Program (HMGP) as well as funding from the Governor's Office of Storm Recovery (GOSR).

Specifically, Nassau County's Department of Public Works has led the way in understanding risk to the County's infrastructure that was exposed from Superstorm Sandy. Since then there has been extensive work to mitigate risk, including:

- West Shore Road and seawall repair in Bayville
- Emergency generator elevation for Bayville and Long Beach Bridges
- Purchase of portable traffic signal trailers for use throughout the County
- Purchase of portable message sign trailers for use throughout the County
- Purchase of emergency generator trailers for use throughout the County
- Purchase of traffic camera trailers for use throughout the County
- Purchase of highway advisory radios for use in the County
- Purchase of incident management response trailers for use in the County
- Traffic signal infrastructure improvements
- Signal Management System upgrades
- Restoration of Bay Park in East Rockaway
- Hardening of North Woodmere Park and Wantagh Park
- Restoration of Bay Park Wastewater Treatment Plant and Sewage Pumping Stations
- Barnes Avenue/Third Place sanitary sewer overflow mitigation in the Villages of Baldwin and Hempstead

Specific mitigation related projects implemented after Super Storm Sandy are also included in the Jurisdictional Annexes.



5.2 Legal and Regulatory Capabilities

Legal and regulatory capabilities are assessed during the mitigation planning process in order to understand the County’s framework for implementing a diverse range of mitigation actions. Moreover, legal and regulatory capabilities can often in and of themselves be mitigation actions, by strategically guiding development and planning for the future.

Legal and regulatory capabilities that can support mitigating risk to a community include:

- Access and functional needs plans
- Building codes
- Capital improvement plans
- Climate action plans
- Community development plans
- Comprehensive plans
- Master plans
- Economic development plans
- Emergency response plans
- Floodplain management plans
- Growth management plans
- Flood damage prevention ordinances
- Open space plans
- Post disaster recovery ordinances
- Post disaster recovery plans
- Real estate disclosure requirements
- Resilience plans
- Site plan review requirements
- Small area development plans
- Special purpose ordinances
- Stormwater management plans
- Subdivision ordinances
- Transportation plans
- Zoning ordinances

The purpose of this piece of the assessment is not to evaluate the County based on these potential capabilities but rather to understand the capabilities the County currently has to help guide and prioritize future planning efforts. **Table 27** lists the existing legal and regulatory capabilities that the County has that support mitigation. Specific capabilities of individual jurisdictions are listed in the Jurisdictional Annexes.

Table 27: Nassau County’s Existing Legal and Regulatory Capabilities

Regulatory Tool	Details
2017 Comprehensive Emergency Management Plan (CEMP)	Operational plan to outline how the Nassau County will manage an emergency.
2010 Nassau County Master Plan	The Master Plan is a policy framework for Nassau County that sets goals and actions for how jobs, places, and infrastructure will grow and improve to prosper on the road to 2030 and beyond.
Departmental COOP Protocols, 2020	Nassau County underwent a comprehensive continuity of operations planning effort with Nassau County government departments.
Environmental Review	Section §1611 of the County Charter charges the Nassau County Planning Commission with providing a State Environmental Quality Review Act (SEQRA) recommendation to the County Legislature or the County Executive regarding certain actions of the County. The



Regulatory Tool	Details
	Legislature or the Executive then uses that recommendation to act as Lead Agent under the State Environmental Quality Review Act (SEQRA).
Nassau Inter-County Express (NICE) Plan	Countywide plan for transportation and transit across Nassau County.
Subdivision Review	Nassau County has jurisdiction over the subdivision of land within the unincorporated portions of the Towns of Hempstead, North Hempstead and Oyster Bay. On average, the Nassau County Planning Department will review 120-140 subdivision applications over the course of a year.
2005 - 2030 Regional Transportation Plan	This plan lays out the Region's transportation needs and desires over a minimum twenty year period to provide a continuing, coordinated, comprehensive transportation planning process while assuring air quality. The Planning Department participates in NYMTC's Working Groups needed to support the RTP.
Zoning Referral	New York State General Municipal Law Section 239m requires that municipalities refer certain proposed actions to the Nassau County Planning Commission for its recommendation, including the adoption of Comprehensive Plans and Master Plans or any Plan with land use planning implications; approval of site plan; and boundary of any city, village, or town. A comprehensive list can be found on the Nassau County Planning Department's website.
U.S. Housing and Urban Development (HUD) 5-Year Consolidated Plan (2014 – 2019)	This Plan strategizes for the effective use of funding to address the revitalization needs of the 31 member Urban County Consortium.



5.3 Administrative and Technical Capabilities

Administrative and technical capabilities are assessed during the mitigation planning process in order to understand the County's capability to planning for and implement mitigation projects. This assessment also helps to highlight the additional support that may be needed to partake in certain mitigation activities. The specific capabilities of Nassau County and participating jurisdictions are listed in the Jurisdictional Annexes.



5.4 Fiscal Capabilities

Fiscal capabilities are assessed during the mitigation planning process in order to gain perspective on how projects outlined in the Mitigation Strategy can be immediately funded or funded in the future. Fiscal capabilities that can support mitigating risk to a community include:

- Ability to incur debt through general obligation bonds
- Ability to incur debt through private activity bonds
- Ability to incur debt through special tax bonds
- Authority to levy taxes for specific purposes
- Capital Improvements Project Funding
- Authority to withhold public expenditures in hazard prone areas
- Authority to utilize user fees for utility services
- Community Development Block Grants (CDBG)
- Impact fees for home buyers and/or developers
- State and federal mitigation grant programs

Table 28 lists the existing fiscal capabilities that the County has that support mitigation. Specific capabilities of individual jurisdictions are listed in the Jurisdictional Annexes.

Table 28: Nassau County's Existing Fiscal Capabilities

Fiscal Tool	Details
Community Development Block Grants (CDBG)	The Nassau Urban County Consortium is an entitlement community under the CDBG program. The CDBG program provides housing to support housing and community development in low-income and vulnerable communities.
Flood Mitigation Assistance (FMA) Program	The FMA program is a fiscal capability available to Nassau County to reduce flood risk. The County has obtained funding through the program for both riverine and coastal elevation projects.
Hazard Mitigation Grant Program (HMGP)	The HMGP program is a fiscal capability available to Nassau County. The HMGP supports communities in implementing long-term risk reduction measures post-disaster.
Pre-Disaster Mitigation (PDM) Grant Program / Building Resilient Infrastructure and Communities (BRIC)	The PDM grant program is a fiscal capability to Nassau County. The County obtained a grant through the program to fund the development of this plan update and has obtained funds previously for elevations and other infrastructure protection measures through the program. In 2020, the PDM program was replaced by FEMA's new BRIC program.



5.5 Community Classification Assessment

Community classifications are assessed during the mitigation planning process in order to gain a better understanding of what the County is already doing to promote risk reduction. Additionally, certain community classifications can influence other capabilities listed previously in this document. Community classifications that can support mitigating risk to a community include:

- Building Code Effectiveness Grading Schedule (BCEGS)
- Public Protection Classification Program
- Community Rating System (CRS)
- Climate Smart Communities Program

Table 29 lists the existing fiscal capabilities that the County has that support mitigation. These classifications generally pertain to local communities and are listed in the Jurisdictional Annexes.

Table 29: Nassau County's Community Classifications

Classification	Details
Climate Smart Communities Program	<p>On January 2, 2020 Nassau County passed a resolution to participate in the New York State Department of Environmental Conservation's (NYSDEC's) Climate Smart Communities Program. This program aims to provide technical support to local jurisdictions to reduce greenhouse gas emissions and mitigate / adapt to the impacts of climate change.</p> <p>Eight municipalities in Nassau County have taken the Climate Smart Communities pledge, including:</p> <ul style="list-style-type: none"> • Town of Hempstead • Town of North Hempstead • Town of Oyster Bay • Village of East Rockaway • Village of Great Neck Plaza • Village of Sea Cliff • Village of Woodsburgh • Nassau County <p>The City of Long Beach has a Bronze Certification in the Program.</p>
StormReady Communities	<p>The StormReady program is run by the National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS) to support community preparedness to extreme weather. Nassau County is a StormReady Community.</p>



5.6 National Flood Insurance Program Summary

The National Flood Insurance Program (NFIP) was created in 1968 to provide an incentive to communities that enact and enforce regulations that regulate development in floodplain areas through federally backed, affordable, flood insurance to residents and business owners in those communities. The NFIP is administered by FEMA.¹⁰ Flood insurance through the NFIP is only available to those in communities that participate in the program. In Nassau County, the NFIP is administered at the local level. Each village, town, and city that participates in the NFIP has adopted a floodplain management ordinance that stipulates how floodplain management will be enforced. Details about how each jurisdiction oversees and maintains their participation in the NFIP can be found in the Jurisdictional Annexes.

5.7 Planning for Displaced Residents

5.7.1 Intermediate Housing Needs

The New York State Mitigation Planning Guide requires that viable parcels of land be pre-identified for use if a disaster causes significant damage to residences and temporary housing is needed. Nassau County analyzed Real Property Tax Parcels throughout the County against the following list of criteria to ensure their safety and viability to accommodate temporary housing:

- Outside the 100-year floodplain, as identified on FEMA's flood insurance rate maps;
- Utilities available (e.g., water and electric);
- Ingress and egress;
- Parcel size – larger than one acre; and
- Publicly owned, ideally, though privately owned sites also considered.

Through this analysis, the County identified the **greater Hub region of Nassau County** as an area that could potentially be used to site temporary housing. This area is desirable because it contains several County-owned properties (e.g., Nassau County Community College) that would allow the County to more easily facilitate a temporary housing mission. Many of the large parking lots in this area are close to utilities and could provide ideal locations to place temporary housing. In addition, a shelter and disaster resource center could be opened in the greater Nassau Hub region in the event of a disaster. Co-locating temporary housing may be advantageous from a logistics and public information perspective. This area is easily accessible by car and has several mass transportation options available as well. The County will conduct a more detailed planning effort in the future to further scope out the potential needs for temporary housing and examine how sites in and/or outside of the greater Nassau Hub region could be used to address this need.

¹⁰ FEMA, 2020. Flood Insurance. Retrieved at: <https://www.fema.gov/national-flood-insurance-program>.



5.7.2 Long-Term Permanent Housing Needs

In the event of a severe flooding event, structures currently located in the special flood hazard area may need to be relocated and rebuilt. Nassau County is highly developed with minimal to no vacant land that is viable for construction (i.e., not in a floodplain or wetland). Therefore, the County analyzed the number of residential parcels that are not located in a 100-year floodplain, as identified by FEMA. **Table 30** summarizes the properties that the County would have to work with outside the high-risk area. Strategies for long-term housing relocation would need to include home buyouts and a further examination of the subdivision and rezoning of previously developed property to allow for higher density development. Exploration of this approach would consider proven current technologies that would assist in the County's focus on risk reduction in all communities.

Table 30: Summary of Residential Parcels Outside the 100-Year Floodplain

Jurisdiction	Number of residential parcels	Total acreage of residential parcels
Atlantic Beach, Village of	28	3
Baxter Estates, Village of	229	58
Bayville, Village of	1455	352
Bellerose, Village of	349	46
Brookville, Village of	641	1630
Cedarhurst, Village of	1149	183
Centre Island, Village of	155	436
Cove Neck, Village of	101	542
East Hills, Village of	2279	852
East Rockaway, Village of	1814	308
East Williston, Village of	830	202
Farmingdale, Village of	1798	330
Floral Park, Village of	4394	487
Flower Hill, Village of	1480	654
Freeport, Village of	5437	960
Garden City, Village of	6465	1421
Glen Cove, City of	6323	1902
Great Neck Estates, Village of	2540	482
Great Neck Plaza, Village of	826	306
Great Neck, Village of	143	18
Hempstead, Town of	122057	18669
Hempstead, Village of	7412	993



Jurisdiction	Number of residential parcels	Total acreage of residential parcels
Hewlett Bay Park, Village of	137	158
Hewlett Harbor, Village of	257	164
Hewlett Neck, Village of	108	65
Island Park, Village of	29	4
Kensington, Village of	321	100
Kings Point, Village of	1278	1320
Lake Success, Village of	824	300
Lattingtown, Village of	592	1440
Laurel Hollow, Village of	596	1331
Lawrence, Village of	1159	449
Long Beach, City of	67	8
Lynbrook, Village of	5024	657
Malverne, Village of	2985	408
Manorhaven, Village of	1270	138
Massapequa Park, Village of	5568	878
Matinecock, Village of	262	1025
Mill Neck, Village of	361	1122
Mineola, Village of	4542	524
Munsey Park, Village of	836	212
Muttontown, Village of	1080	2043
New Hyde Park, Village of	2819	301
North Hempstead, Town of	27575	4586
North Hills, Village of	801	276
Old Brookville, Village of	757	1872
Old Westbury, Village of	1078	2822
Oyster Bay Cove, Village of	723	1873
Oyster Bay, Town of	68119	14418
Plandome Heights, Village of	407	186
Plandome Manor, Village of	314	78
Plandome, Village of	245	146
Port Washington North, Village of	712	115
Rockville Centre, Village of	5915	1056
Roslyn Estates, Village of	434	136



Jurisdiction	Number of residential parcels	Total acreage of residential parcels
Roslyn Harbor, Village of	404	192
Roslyn, Village of	355	355
Russell Gardens, Village of	242	63
Saddle Rock, Village of	266	91
Sands Point, Village of	846	1502
Sea Cliff, Village of	1633	384
South Floral Park, Village of	402	46
Stewart Manor, Village of	658	78
Thomaston, Village of	644	144
Upper Brookville, Village of	559	1784
Valley Stream, Village of	9196	1092
Westbury, Village of	3747	684
Williston Park, Village of	2153	234
Woodsburgh, Village of	192	101
Total:	326397	77796

5.8 Planning for Evacuation and Sheltering

Nassau County’s *Coastal Storm Plan* outlines the viable evacuation routes in the event of a coastal storm. The County also maintains a Hurricane Preparedness Section on the Nassau County OEM website that includes a link to the evacuation routes.

- Hurricane Evacuation Routes: <https://www.nassaucountyny.gov/2931/Hurricane-Evacuation-Routes>

Information about the types of shelters and accommodations available to Nassau County residents during the time of an emergency can be found here on the Nassau County OEM website:

- Shelter Information: <https://www.nassaucountyny.gov/1627/Emergency-Preparedness>

The County has taken steps to analyze that all Coastal Storm shelters are located outside of the flood zones. A list of these shelters is included as part of a redacted appendix to this Plan. The County does not publicly post the full list of shelter locations because these locations are only opened based on the event. The County does not want people to assume that all the shelters will always be opened. In the event of an emergency, the County will publicly post information about shelter locations as they are opened at the following link:

- Hurricane Evacuation Shelters: <https://www.nassaucountyny.gov/1633/Hurricane-Evacuation-Shelters>



6 Mitigation Strategy

This section presents the Mitigation Strategy for the Nassau Hazard Mitigation Plan. **Figure 28** below summarizes the different components of the Mitigation Strategy: the goals of the County’s Mitigation Program, the review and development of mitigation action plans, and the implementation strategy. Nassau County’s mitigation actions are presented in this section of the plan. Actions for each of the participating jurisdictions can be found in their respective Jurisdictional Annex. It is through these actions that Nassau County and its jurisdictions aim to reduce long-term exposure and losses to the natural hazards reviewed in the Risk Assessment.

Figure 28: Summary of Mitigation Strategy



6.1 Mitigation Strategy Goals

The Mitigation Strategy Goals are the mitigation targets that the Planning Committee defined for the 2021 Nassau County Hazard Mitigation Plan Update. These goals outline the mitigation priorities that the County and its jurisdictions will address over the next five years. The Planning Committee, in coordination with the Steering Committee, reviewed and adjusted the 2014 Mitigation Goals to better align with the current priorities of the County and its jurisdictions. Changes in development and increased hazard risk informed many of the adjustments made.

- **Goal 1:** Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.
- **Goal 2:** Build and support local capacity to prepare for, respond to, and recover from disasters.
- **Goal 3:** Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
- **Goal 4:** Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
- **Goal 5:** Develop and implement long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
- **Goal 6:** Improve coordination between land use and redevelopment planning to encourage safe, economically sound investments.



6.2 Mitigation Strategy Development

This section discusses the approach taken to develop the Plan's Mitigation Strategy, including the Planning Committee's process of reviewing the previous plans actions and developing new actions to address changes in risk. Nassau County's mitigation actions are discussed and summarized in this section of the plan. The actions for each of the participating jurisdictions can be found in their corresponding Jurisdictional Annex.

6.2.1 Updates to the 2014 Mitigation Action Plan

As a part of the hazard mitigation planning process, the Planning Committee members who participated in the 2014 plan reviewed the 2014 Mitigation Action Plan to report on the status of each action and evaluate these actions in light of current and emerging priorities. As detailed in the **Planning Process**, the structure of the Planning Committee has changed significantly compared to the 2014 plan.

For this plan update, Nassau County's municipal governments (i.e., 2 cities, 3 towns, and 64 villages) were invited to participate as adopting jurisdictions. As much as possible, actions from the 2014 plan that were provided by special-purpose local governments (e.g., school districts, special districts) or non-profit entities were assigned to a municipal government based on their geographic location, or to the County. The County and its municipalities are not responsible for the projects from these entities or for pursuing grants for these projects. Nassau County and its municipalities contacted these entities to try to obtain a status update for these actions. A status update is provided where responses were received. This approach was taken to leverage local ties to more effectively update the previous plan's actions.

The County's updates to the 2014 mitigation actions can be found in the Nassau County Jurisdictional Annex. The 2014 mitigation actions were used as a foundation for the development of the 2020 Nassau County Mitigation Action Plan. Assessing and evaluating previous elements of the mitigation strategy helps keeps this Plan up-to-date, supports creativity in mitigation practice, and supports the development of an appropriate and effective mitigation strategy.



6.2.2 Identification of Mitigation Actions

In order to develop the 2020 Mitigation Action Plan, Planning Committee members reviewed their 2014 actions (if applicable), developed their 2020 Mitigation Action Plan, and completed at least two NYS DHSES mitigation action worksheets. Once these materials were completed, Nassau County and each participating jurisdiction had a one-on-one consultation call with Hagerty Consulting to discuss their mitigation strategy, the appropriateness of actions, and the completeness of the submitted documentation for the Plan. On these calls, jurisdictions voiced challenges with securing funding for mitigation and having limited staff capacity to manage a mitigation program alongside the ongoing disaster response to COVID-19. The Planning Committee will continue mitigation-focused discussions as they convene throughout the coming years, including considerations for undeveloped land and open space. As the Planning Committee moves forward with implementing their mitigation actions, they will continue to share ideas and resources with each other to support the identification of funding and building capacity.



6.3 2020 Nassau County Mitigation Action Plan

This section presents an explanation of the Nassau County's 2020 Mitigation Action Plan in **the County Annex**. The action plan contains the following information as specifically as possible to support project implementation:

- Project Name and Number:** The project name and number are unique for each project (action). The mitigation actions in the 2014 plan were not numbered; a new numbering system has been implemented for this Plan update.
- Goal being met:** Each action must be consistent with one or more of the goals identified in the Plan.
- Hazard to be mitigated:** The hazard(s) to be mitigated by this action.
- Description of the Problem:** A brief description of hazard's impact to the community, including damages and/or potential damages.
- Description of the Solution:** A brief description of the proposed project, including location and scope of work of mitigation action (including studies/assessments required or already performed).
- Critical Facility:** Is this project related to a critical facility?
- EHP Issues:** Will this project require an Environmental and Historic Preservation (EHP) related review and/or permitting?
- Estimated Timeline:** The time required for completion of the project upon implementation.
- Lead Agency:** The lead agency or department responsible for implementation.
- Estimated Costs:** The estimated cost for implementation. Rough dollar figures are included where possible.
- Estimated Benefits:** A description of the estimated benefits, either quantitative and/or qualitative.
- Potential Funding Sources:** The funding sources that will be used to implement this project.

For some of the actions, Nassau County completed a "Mitigation Action Worksheet" that provides additional information about the project and its implementation. Refer to **Mitigation Strategy** in the County's Jurisdictional Annex. The County and each adopting jurisdiction must complete at least two of these worksheets to meet one of the New York State hazard mitigation planning requirements. Mitigation action worksheets for each participating jurisdiction are contained in their corresponding annex to the hazard mitigation plan.



6.4 Implementing the Mitigation Strategy

The Nassau County Mitigation Program consists of implementing the hazard mitigation projects outlined in this plan, building hazard mitigation capabilities over time, and updating the hazard mitigation plan every five years. The Planning Committee will implement the Mitigation Program by completing mitigation projects and meeting regularly to maintain the Plan according to the five-year cycle outlined in **Figure 29**.

Figure 29: Nassau County Mitigation Program



6.4.1 Plan Adoption

Participating jurisdictions adopt the Plan to demonstrate their intent to implement the Plan, in accordance with regulations outlined in the Stafford Act and Title 44 Code of Federal Regulations (CFR) § 201.6. Each participating jurisdiction provides documentation to FEMA (e.g., a resolution) demonstrating that the Plan was formally adopted by its governing body.

Responsibility: Planning Committee Members

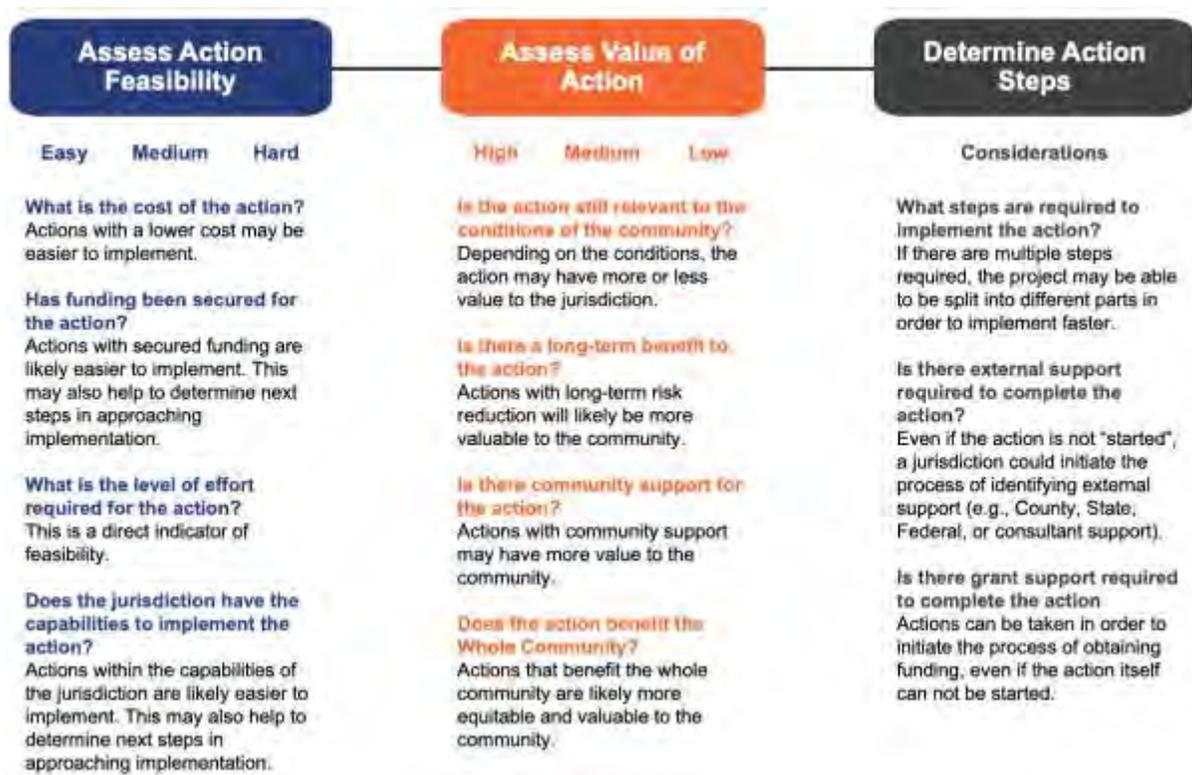
Frequency: Year 1, One-Time

Support Tools: Appendix C

6.4.2 Action Prioritization

Members of the Planning Committee will meet annually to prioritize projects. The Committee will use the action prioritization methodology presented in **Figure 30** to determine the priority of their jurisdiction’s actions and update their action plans for the year. Factors like the feasibility of the action, its value, and considerations for next steps will help determine these priorities. Jurisdictions may include additional factors to help further refine the prioritization.

Figure 30: Action Prioritization Methodology



6.4.3 Plan Maintenance

The Planning Committee will meet at least twice a year to maintain the Nassau County Hazard Mitigation Plan and keep it up to date. Plan maintenance will consist of:

- **Monitoring** – tracking and reporting on mitigation project completion over the five-year Nassau County Mitigation Program cycle.
- **Evaluating** – assessing how effectively the Plan has been at supporting the Nassau County Mitigation Program.
- **Updating** – reviewing and revising the Plan’s content to reflect changes in development, progress in local mitigation efforts, changes in priorities, and new hazard risks.

	Monitoring	Evaluating	Updating
Responsibility:	Planning Committee	Planning Committee	Planning Committee
Frequency:	Twice a year	Twice a year	At least once every five years and after major events
Support Tools:	Appendix C	Appendix C	

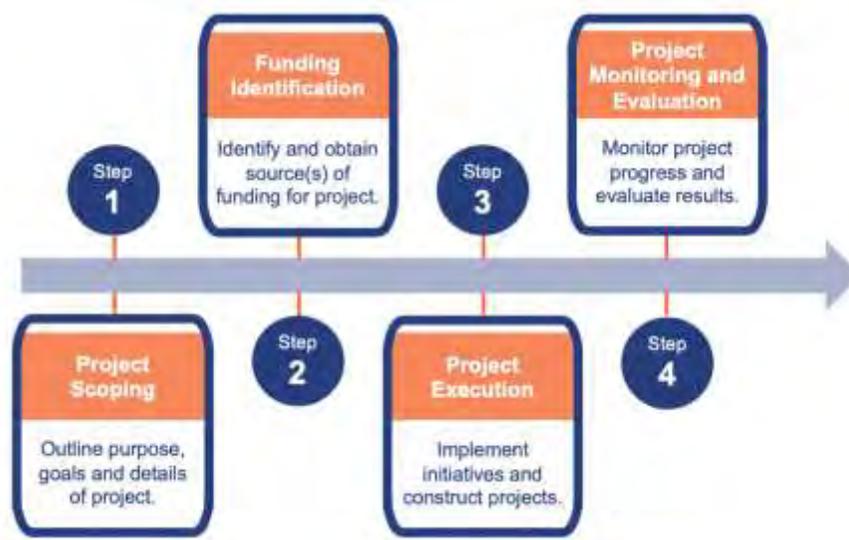
6.4.4 Project Implementation

Planning Committee members will implement the mitigation actions contained in this Plan to reduce Nassau County’s long-term risk to natural hazards. As shown in **Figure 31**, project implementation consists of four main steps: project scoping, funding identification, project execution, and project monitoring and evaluation

- Responsibility:** Planning Committee Members
- Frequency:** Ongoing
- Support Tools:** Appendix C



Figure 31: Project Implementation Process



6.4.5 Public Engagement

Public engagement will be conducted regularly to support the Nassau County Mitigation Program. This engagement will ensure the Plan is consistently addressing the needs of stakeholders and community members who are experiencing the impacts of natural hazards. The public will be engaged annually by the Planning Committee through a variety of potential engagement methods, including:

- Public surveys
- Public meetings
- Document publication

Responsibility: Planning Committee Members

Frequency: Annually

Support Tools: Nassau County OEM website and social media, jurisdiction websites and social media

6.4.6 Plan Integration

Nassau County and its municipal governments will use scheduled voluntary and required updates to planning documents as opportunities to integrate relevant information from this Hazard Mitigation Plan into other local planning mechanisms. For example, comprehensive plans guide future development and address community values related to land use, transportation, infrastructure, housing, economic development, and natural resources. The goals and actions in this hazard mitigation plan can inform the goals and strategies in future comprehensive plan updates. Nassau County and the participating municipal governments will refer to FEMA’s guide “Plan Integration: Linking Local Planning Efforts” and similar resources to help inform this process of plan integration.



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Appendix A: Planning Process Documents

Appendix A consists of documentation of the planning process used to update the Nassau County Hazard Mitigation Plan. Click the links below to navigate to each of the different sets of documentation.

- Newsletters
- Outreach Strategy
- Core Planning Group Kickoff Meeting - 2/3/2020
- Planning Committee Pre-Workshop Webinars - 2/19/20 and 2/20/20
- Planning Committee Workshop - 3/5/20
- Risk Review and Mitigation Webinar - 6/11/20
- Stakeholder Webinar - 6/12/20
- Public Survey - 6/12/20 to 7/20/20
- Jurisdiction Consultation Calls - 6/25/20 to 7/16/20
- Planning Committee Mitigation Strategy Webinar - 8/20/20
- Planning Committee Plan Review Webinar - 9/16/20
- Public Meeting - 10/8/20
- Public Comment Summary - 10/1/20 to 10/30/20

Newsletters

1. Mitigation Planning Newsletter: Issue #1
2. Mitigation Planning Newsletter: Issue #2
3. Mitigation Planning Newsletter: Issue #3
4. Mitigation Planning Newsletter: Issue #4

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Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Mitigation Planning Newsletter: Issue #1

February 2020

Welcome to the first issue of the **Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update Newsletter**, an e-publication that curates news about the development of the plan, innovations in mitigation, and opportunities to get involved!

The Latest: Upcoming Plan Workshops

There will be multiple opportunities to participate in the Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update. Nassau County and its cities, towns, and villages will attend Planning Committee workshops to update and develop parts of the plan. Separate workshops will also be held to familiarize stakeholder groups and the public with the plan and gather feedback. Mark your calendars!

- March 5, 2020 - Planning Committee Kickoff Workshop
- April 22, 2020 - Planning Committee Risk Assessment and Mitigation Strategy Workshop
- April 22, 2020 - Stakeholder and Public Meetings

If you are a member of the Planning Committee and have not already registered to attend the Kickoff Workshop, please [click here](#) to register.

Planning, Training and Exercising for Greater Resiliency

Integrating planning and preparedness efforts into your daily work helps to make continuity and resiliency more achievable! The Nassau County Office of Emergency Management (NCOEM) is currently aligning many of the County's plans to do just that. NCOEM is looking to ensure that elements such as terminology, resource allocation, and plan activation are adequately addressed and match across each set of plans. Alongside these planning efforts, the training and exercise plan for 2020 has identified training courses that will help reinforce and strengthen the County's capabilities.

planning process. For example, NCOEM is starting the year off by offering jurisdictions an overview of the National Incident Management System through a four-hour training course. Over the next few months, training courses will be focused on recovery areas such as Economic Recovery and Local Government Role in Recovery. As we get closer to the summer, NCOEM will be offering hazard specific courses covering hazards such as hurricanes and flooding.



Registration is open until March 2nd, 2020 for the [March 23rd course ICS-402: ICS for Executives and Senior Officials](#). Check out the [2020 NCOEM Training Calendar](#) to save the date for upcoming events. Read future newsletters for training announcements and more information on upcoming courses! **If you have any questions, please feel free to reach out to Nicole Marks at nmarks@nassaucountyny.gov.**

How the Long Island Community Rating System Users Group Can Help You Mitigate and Get Discounts!



The Community Rating System (CRS) is a National Flood Insurance Program initiative that allows for communities to achieve discounts on flood insurance premiums. The Long Island Community Rating System Users Group promotes education and cultivation of strong floodplain management programs in Nassau and Suffolk Counties. CRS Users Groups are communities that meet regularly to provide a forum about the National Flood Insurance Program's voluntary program, the Community Rating System, and other floodplain management issues.

Established in 2015 by Long Island's Climate Smart Community Coordinators, the Long Island CRS Users Group was formed to help current and future CRS Program participants advance their community's ratings and share ideas and experiences. The Long Island CRS Users Group will be a forum for communities and Long Island's CRS FEMA representative to discuss the challenges met, and successes achieved, by Long Island communities.

The Long Island CRS Users Group meets quarterly at the Town of Babylon Parks Department Recreation Building in the Green Room at 151 Phelps Lane in North Babylon. Meetings often include informational presentations and group discussions to transfer knowledge and troubleshoot difficult floodplain management issues. Attendees include participating and non-participating communities, volunteer organizations, and civic groups. All are welcome!

The next Users Group meeting will take place in April. The date and time will be announced in the coming weeks. **If you are interested in joining the Users Group mailing list to receive meeting announcements, floodplain training notifications, and educational materials, please contact Brian Zitani, LI CRS Users Group Coordinator, at bzitani@townofbabylon.com.**

Strengthening Teams and Communities Through Mental

The Nassau County Department of Human Services, Office of Mental Health, Chemical Dependency and Developmental Disabilities Services offers [Mental Health First Aid Training](#) presentations to the community at no cost. This 8-hour course provides an evidence-based public education and prevention tool. The goal is to improve the public’s knowledge of mental health and substance use problems and connects people with care for their mental health or substance use problems. Similar to traditional First Aid and CPR, Mental Health First Aid can provide a person developing a mental health problem, or experiencing a crisis, with assistance until professional treatment is obtained or the crisis resolves.

Participants will learn of a five-step action plan to help loved ones, colleagues, neighbors, and others cope with mental health or substance use problems. Trainees go through a one day 8-hour training program or a two-day training that are four hours each that teaches them a five-step action plan to assess a situation, select and implement appropriate interventions and secure appropriate care for an individual experiencing a mental health or substance use problem. In addition, trainees also learn risk factors and warning signs of mental illness and addiction and about available treatments. Upon completion, participants will have a better understanding of the impact that mental illness and addictions have on a person, their family, and communities. A certificate of attendance will be issued at the end of the presentation.

The course is designed to help anyone who wants to learn how to provide initial help to someone who may be experiencing symptoms of a mental illness or who may be in a crisis. Lastly, individuals can identify, understand, and respond to signs of mental illness and addictions.



You Could Be The Help Someone Needs.....

For more information, please contact Diana Johnson at 516 227-7057 or Diana.Johnson@hhsnassaucountyny.us.

Get Involved

The Steering Committee welcomes your input! If you would like more information on specific elements of the project, or if you believe that you may be able to supply critical information during the planning process, please reach out to our Steering Committee by contacting:

Susan Park
 Nassau County Office of Emergency Management, Director of Recovery
spark@nassaucountyny.gov
 (516) 573-9642

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Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Mitigation Planning Newsletter: Issue #2

July 2020

Welcome to the second issue of the **Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update Newsletter**, an e-publication that curates news about the development of the plan, innovations in mitigation, and opportunities to get involved!

LIVE: Public Survey

Please remember to distribute the [public survey](#) online and through social media using this [template language](#). This is an important step to include the community in the planning process and gather feedback on the plan. The survey will be open until **July 20th!**

[Click here to take the Public Survey](#)

Upcoming Jurisdictional Consultation Calls

Cities, Towns, and Villages, please remember to **schedule your [Jurisdictional Consultation Call](#) as soon as possible**. As a valued partner of the Nassau County Hazard Mitigation Plan update, this meeting is when you will speak with our consultants to derive mitigation actions based on the data you have provided in your jurisdictional annex.

Before your Jurisdictional Consultation Call, gather your team to review and work on the following documents. Refer to this [Instruction Guide](#) for more information along the way.

1. Use the [2014 Mitigation Action Spreadsheet](#) to review your jurisdiction's actions from the previous plan and fill in the required fields to document your progress.

3. Fill out two [Mitigation Action Forms](#). Your proposed projects should aim to reduce long-term risk to natural hazards, including structural and non-structural (e.g., planning) projects. *Note: if your jurisdiction is specifically in a flood hazard area, one of your actions must be related to flooding.*
4. [Submit the above documents](#).

To assist with your preparation materials, you can review the [Meeting Notes](#), [Presentation](#), and [Recording](#) of the June 11th Risk Review and Mitigation Strategy Webinar.

[Click here to Schedule your Jurisdictional Consultation Call](#)

Hazard Mitigation Strategies



Image: [National Park Service](#)

Hazard mitigation planning focuses on activities to **make homes, businesses, infrastructure and communities more resilient to the impacts of natural hazards and climate change**. The [FEMA Mitigation Ideas Guide](#) catalogs different mitigation projects that can be implemented to reduce the risk of 16 natural hazards. This resource **groups the mitigation projects by the specific natural hazard they can reduce the risk of** in a community. As you begin to think about how to implement mitigation strategies in your jurisdiction, consider some of the following types of mitigation projects:

Local plans and regulations help steer development away from hazard-prone areas. Examples of this type of project are comprehensive plans, land ordinances, and community rating systems. The state of Oklahoma recently passed legislation to develop a [Statewide Flood Resiliency Plan](#). The plan will assess flood risk, collect information on current resiliency strengths, and propose flood mitigation strategies to protect communities.

Structural projects modify existing structures to protect them from hazards. Examples of this type of project are building elevations, floodwalls, and placing utilities underground. Stone Harbor, New Jersey is currently working on a structural mitigation project by [constructing a set of stormwater pumps](#). These pumps will help drain flooding from storm surge and better protect vulnerable neighborhoods in the City. The project [began in 2018](#) and is expected to go through 2021.

of this type of project are erosion control, forest management, and wetland restoration. Wetlands in Walton County, Florida are at high risk for damage from storm surge and hurricanes due to their proximity to the Gulf of Mexico. A new [wetlands restoration project](#) will maintain the wetlands ecosystem, but also increase the County's protections from natural hazards by slowing the rate of flooding and mitigating impacts of storm surge on the inland community.

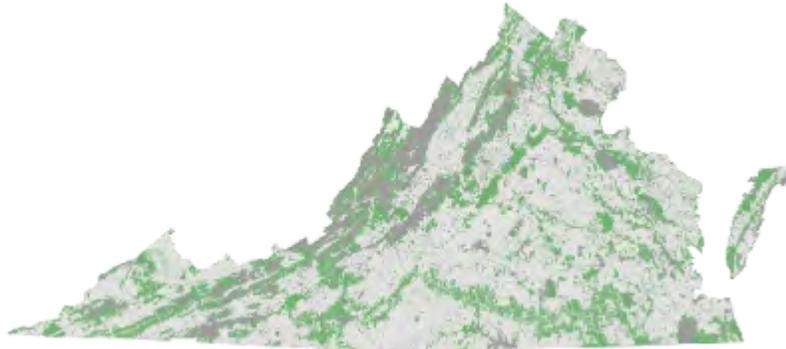


Image: [Virginia Department of Conservation and Recreation](#)

Education programs are important in informing and educating the community about hazards and how to mitigate their impacts. Examples of this type of project are digitizing risk maps, mandating real estate disclosures, and mental health first aid classes to help survivors cope with the impact of disasters. The Virginia Department of Conservation and Recreation developed an online mapping system called [ConserveVirginia](#), which illustrates areas in Virginia vulnerable to flooding and other hazards. This system educates Virginians on risks posed by natural hazards and is [continually updated](#) to provide accurate information to the Commonwealth.

Preparedness and response actions reduce short-term risk posed by threats and hazards and help a community better respond to acute needs after a disaster. Examples of this type of project are mutual aid agreements, upgrading communication systems, and upgrading citizen notification systems. Pittsburgh, Pennsylvania recently [updated their fire and EMT alert system](#) to support more efficient communication of the location and type of risks. This system will help the City better respond to community fires and other hazards.

Other specific hazard mitigation projects can be found in the [FEMA Mitigation Ideas Guide](#).

Mark your Calendars!

Important upcoming events include:

- **Public Survey** (now – July 20): This survey will **elicit feedback from the whole community** on their concerns about natural hazards and priorities for mitigation.
- **Jurisdictional Consultation Calls** (now – July 16): Each jurisdiction on the Planning Committee, including the County, will review their jurisdiction's capabilities and identify their greatest risks. These meetings will help **develop the Jurisdictional Annexes** in the Nassau County Hazard Mitigation Plan Update.

- **Plan Review Webinar** (September 16): The Planning Committee's opportunity to review the draft plan and provide initial comments. A plan review period will precede and follow this webinar.

Get Involved

The Steering Committee welcomes your input! If you would like more information on specific elements of the project, or if you believe that you may be able to supply critical information during the planning process, please reach out to our Steering Committee by contacting:

Susan Park
Nassau County Office of Emergency Management, Director of Recovery
hazardmitigation@nassaucountyny.gov
(516) 573-9642

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Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Mitigation Planning Newsletter: Issue #3

August 2020

Welcome to the third issue of the **Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update Newsletter**, an e-publication that curates news about the development of the plan, innovations in mitigation, and opportunities to get involved.

Upcoming Events:

August 20, 2020, | Planning Committee Mitigation Strategy Review Webinar

Please [register here](#) for the Planning Committee Mitigation Strategy Review Webinar and offer feedback on your draft mitigation strategy.

Planning Process Update

Since our last Newsletter in July 2020, the planning process has advanced by completing the Public Survey and Jurisdictional Consultation Calls. Thank you to Nassau County and all of the Cities, Towns, and Villages who participated in this critical step in determining specific mitigation actions for each jurisdiction.

July 15, 2020 – July 20, 2020, | Public Survey | Completed

The *Public Survey* was distributed online and through social media and aimed to gather feedback on perceptions of risk and the greatest hazards facing communities.

June 25, 2020 – July 16, 2020, | Jurisdictional Coordination Calls | Completed

The County, Cities, Towns, and Villages participated in individual jurisdictional coordination calls, which were used to develop and validate the mitigation actions for each community.

August 2020 | Complete a full draft of the Mitigation Action Plan | In Progress

Looking ahead, in September, the Planning Committee will be asked to review the full draft of the plan. After comments are received, the plan will be submitted to New York State and FEMA for review. As the State reviews the plan, the draft plan will be shared online for the public to review and provide comment on.

September 2020 | Complete a full draft of the Hazard Mitigation Plan

September 2020 | Commence Planning Committee review period

October 2020 | Submit the Hazard Mitigation Plan to New York State for Review

October 2020 | Public Review Period

November 2020 | Submit the Hazard Mitigation Plan to FEMA Region II

December 2020 – February 2021 | Approval and Adoption of the Hazard Mitigation Plan

Public Survey Summary

The Public Survey Summary is now live on the [NCOEM website](#) and can be accessed via the "[Public Survey](#)" option on the left-hand menu. Share the results of the public survey with your networks by using these [social media templates](#).

Hurricane Preparedness



Image supplied by [PixWizard](#)

County Office of Emergency Management (OEM) aims to help communities across Nassau County be StormReady, by publishing preparedness materials through the Nassau County website.

The Nassau County Hurricane Preparedness Guide aims to make residents “prepared and not scared” to face the challenges brought on by hurricanes experienced in Nassau County, and provides resources to help residents check family emergency supplies, prepare ‘go kits’, and finalize a family preparedness plan.

Tips for Handling Hurricane Season

BEFORE A HURRICANE	Know your zone: Find out if you live in a hurricane evacuation area by visiting: nassaucountyny.gov/oem .
	Have a Family Emergency Plan: Decide how you will get in contact with loved ones, where you will go, and what you will do in the event of a Hurricane.
	Prepare an Emergency Supplies Kit: Put together a basic disaster supplies kit with essentials such as generators, flashlights, and storm shutters
	Understand the difference between Watches and Warnings: hurricane watches indicate hurricane conditions are possible, whereas hurricane warnings indicate hurricane conditions are expected.
DURING A HURRICANE	Secure your home: Cover all of your home’s windows.
	Stay tuned in: Check the websites of your local National Weather Service office and Nassau County’s Office of Emergency Management . You can also listen to radio and TV stations for the latest storm news.

It is advised to take all watches and warnings seriously and follow the instructions issued by Nassau OEM and FEMA.

Additionally, community members can register their cell phones to receive emergency notifications through the County’s Notify Me page.



Through the [Building Resilient Infrastructure and Communities \(BRIC\)](#) program, FEMA will continue to invest in a variety of mitigation activities with an added focus on infrastructure projects and Community Lifelines.

The BRIC program will support states, local communities, tribes, and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program and focuses on supporting communities through capability and capacity-building, encouraging and enabling innovation, promoting partnerships, enabling large projects, maintaining flexibility, and providing consistency.

The program aims to categorically shift the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience. FEMA anticipates BRIC funding projects that demonstrate innovative approaches to partnerships, such as shared funding mechanisms, and/or project design.

Shelter Volunteers Needed

Nassau County's Office of Emergency Management continues to prepare for the possibility of responding to other disasters, such as a tropical storm while continuing to respond to the COVID-19 disaster. Typically, the American Red Cross is able to support the County's Shelter Plan, which is made up of 21 school locations across Nassau. Due to COVID-19, however, there are a lot of operational changes such as screening, prepackaged food, and social distancing that require further resources to support the Shelter Plan. In complying with current COVID-19 disaster guidance, the County's shelter capacities have been cut in half due to the required spacing, and now more shelters are needed. In addition to the concern of space, a great number of the American Red Cross' volunteers represent vulnerable populations that are at a higher risk of contracting COVID-19. The County expects to see a significant decrease in the number of available shelter volunteers.

The County is therefore actively seeking the help and support of new volunteers who are willing to work in a shelter during a tropical storm, amidst the continuing COVID-19 disaster. The American Red Cross provides training for shelter volunteers and the County will contact these volunteers when the Shelter Plan is activated.

information so we can get them on board! Please send the volunteer's name, phone number, and email address to nmarks@nassaucountyny.gov. If you don't know of anyone right now who would be interested in volunteering, please just keep this request in mind. Any questions can be directed to Nicole Marks, Director of Planning, at nmarks@nassaucountyny.gov or (516) 573-9600.

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Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Mitigation Planning Newsletter: Issue #4

September 2020

Welcome to the fourth issue of the **Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update Newsletter**, an e-publication that curates news about the development of the plan, innovations in mitigation, and opportunities to get involved.

Register Now:

Planning Committee Plan Review Webinar on September 16, 2020

Please [register here](#) for the Planning Committee Plan Review Webinar and offer feedback on your draft Plan.

Reminder: Review the Draft Plan

The Planning Committee is invited to review the draft version of the Nassau County Hazard Mitigation Plan. This is your opportunity to validate the draft plan prior to the public comment period and submission to New York State Department of Homeland Security and Emergency Services and Federal Emergency Management Agency for review.

Review and send your comments **by September 22, 2020**. To review your jurisdiction's documents:

1. Click [here](#) to access the **Microsoft OneDrive** library containing the full draft Plan. *Note: This library contains the countywide Base Plan, three appendices, and a folder containing annexes for each participating jurisdiction.*
2. **Download the Plan Review Adjudication Matrix [here](#)** or in the **Microsoft OneDrive folder**. Please use this excel spreadsheet to provide all feedback to the Steering

complete. Look through the countywide Base Plan and appendices to offer any additional comments. Write all your comments and edits in the adjudication matrix.

4. **Email your completed adjudication matrix** to Michelle Bohrson via email at michelle.bohrson@hagertyconsulting.com.

Please reach out to Michelle Bohrson via email at michelle.bohrson@hagertyconsulting.com if you are having any issues accessing the documents for your jurisdiction.

Planning for People with Disabilities and Access and Functional Needs

The work to support communities through disaster preparedness, response, recovery and mitigation brings with it the challenge of ensuring that disaster management policies, procedures and practices fully integrate people with disabilities and access and functional needs (DAFN). The road to meeting the challenge is not one that emergency managers, organizations or citizens can or should travel alone. Participation, communication, cooperation and coordination among all the "players" - government and private entities involved in disaster management, disability service/advocacy organizations, and the DAFN community - are essential if we are to establish meaningful resiliency in the face of disasters.



Disability Accessibility and Functional Needs

As part of a growing network of Core Advisory Groups (CAGs) across New York State, the Access and Functional Needs Advisory Coalition (AFNAC) is working hard to build resiliency through partnership in Nassau County, Long Island and beyond. If you are excited by the idea of collaboration across sectors, industries and disciplines for the common goal of disaster management that serves and engages the whole community, we want to hear from you.

For more information or to join the effort, please contact:

Therése Brzezinski

*AFNAC Lead and Director of Planning and Public Policy
Long Island Center for Independent Living, Inc. (LICIL).*

Email: ThereseA@licil.com

September is National Preparedness Month!

The Federal Emergency Management Agency (FEMA) recognizes September as National Preparedness Month annually. The purpose of National Preparedness Month is to promote community and personal preparedness and this year's theme is **Disasters Don't Wait, Make Your Plan Today.**

The Coronavirus Disease 2019 (COVID-19) crisis has not only complicated how governments approach disaster management, but also presents individuals with compounding challenges in the wake of a disaster. FEMA produced the following video to promote disaster preparedness in the time of COVID-19.



Ready.gov PSA COVID-19: Plan Ahead for How to Deal with Disasters During Coronavirus

[Ready.gov](https://www.ready.gov) has many resources to support your community bolster their preparedness and resilience. This resource for individuals to develop a personal preparedness plan and identify actions individuals can take to prepare for and mitigate their risk to disasters.

The Steering Committee is encouraging the Planning Committee to use National Preparedness Month as an opportunity to engage with your community to mitigate risk.

This could include actions such as:

- Purchasing or renewing a [National Flood Insurance Program](#) policy.
- Check up on the insulation, caulking, and weather stripping of homes to reduce the impact of extreme temperatures.
- Identify water conservation measures (e.g., low flow plumbing and to conserve water in the case of drought).

An Introduction to FEMA's National Flood Insurance Program Community Rating System: A New York State Perspective.

The Community Rating System (CRS) allows for participating jurisdictions to achieve a reduction on NFIP premiums for their property owners. Those interested in learning more about CRS should plan on attending! This webinar will be held on Tuesday, September 22, 2020 from 10 AM until 11:30 AM. Register [here](#).

Volunteers Still Needed:

Nassau County is still actively seeking the help and support of new volunteers who are willing to work in a shelter during a tropical storm, amidst the continuing COVID-19 disaster. The American Red Cross provides training for shelter volunteers and the County will contact these volunteers when the Shelter Plan is activated.

If there is anyone in your jurisdiction who is interested in the opportunity to receive this training and help when the time comes, then please send us their information so we can get them on board! Please send the volunteer's name, phone number, and email address to nmarks@nassaucountyny.gov. If you don't know of anyone right now who would be interested in volunteering, please just keep this request in mind. Any questions can be directed to Nicole Marks, Director of Planning, at nmarks@nassaucountyny.gov or (516) 573-9600.

Nassau County Office of Emergency Management

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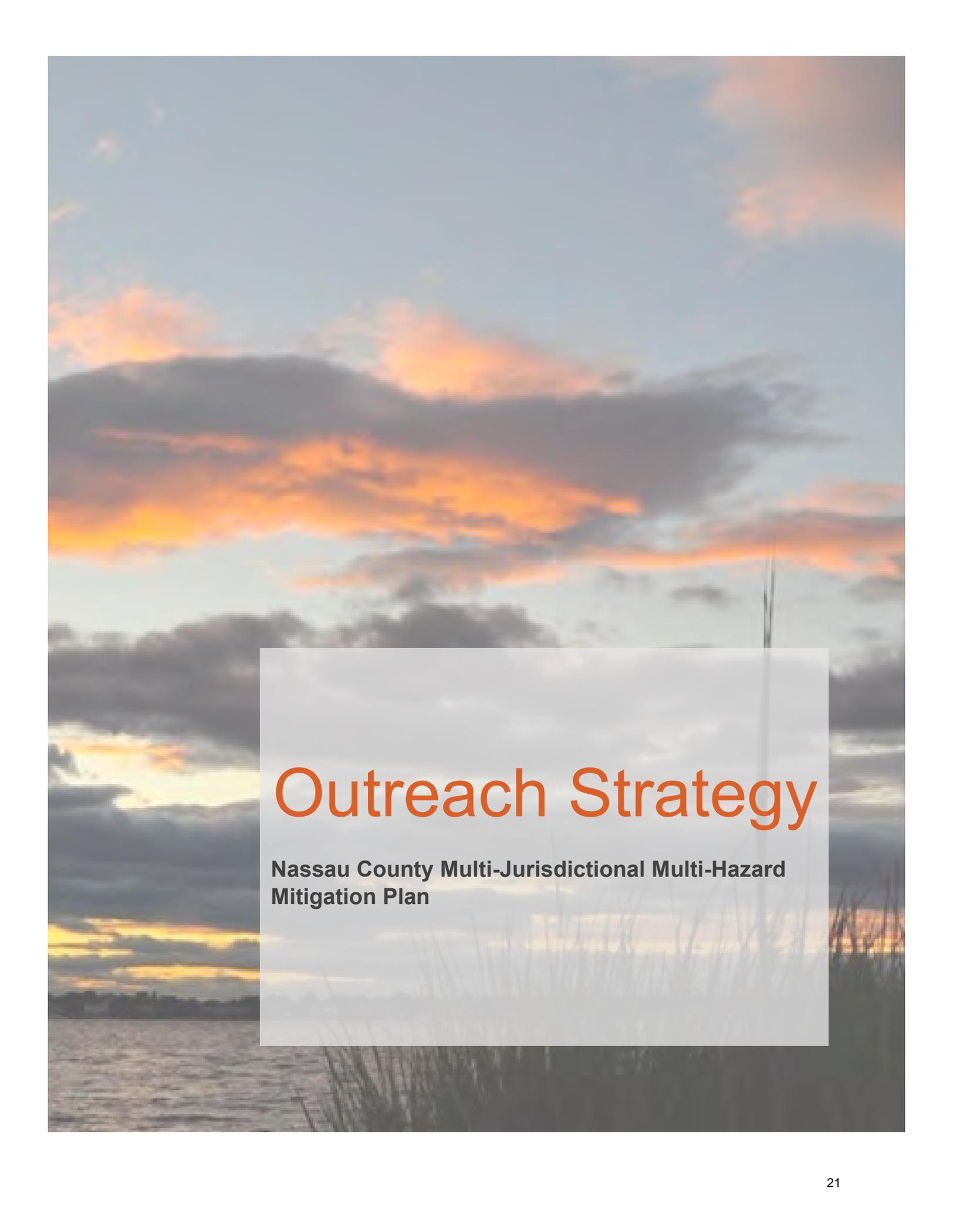
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Outreach Strategy

- 1. Outreach Strategy



Outreach Strategy

**Nassau County Multi-Jurisdictional Multi-Hazard
Mitigation Plan**

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Background

The Nassau County Multi-Jurisdictional Multi-Hazard Mitigation Plan (HMP) Update project provides the opportunity to develop a hazard mitigation plan that builds on the existing mitigation capabilities of the County and jurisdictions to enhance their resilience to natural hazards. This project will result in a plan that meets New York State Division of Homeland Security and Emergency Services (NYS DHSES) and Federal Emergency Management Agency (FEMA) requirements. This planning project will continue to build on the County's existing mitigation programs and will ensure that Nassau County and its jurisdictions have a comprehensive approach to reducing the vulnerability of their community to natural disasters.

The Code of Federal Regulations identifies that outreach requirements for Local Hazard Mitigation Plans must include public involvement during the planning process and plan maintenance ([44 CFR §201.6\(b\)\(1\)](#)), and relevant agency involvement ([201.6\(c\)\(1\)](#)). The purpose of the Outreach Strategy is to outline a plan to meet and exceed these requirements. This document describes the specific goals and tactics that the Steering Committee will use to meet intent of the regulation and fulfill a more comprehensive vision of successful outreach.

Stakeholder Organization

The planning process for the Nassau County Multi-Jurisdictional Hazard Mitigation Plan update will include five tiers of stakeholder participation that are based on the expected and desired levels of responsibilities for different individuals and organizations. These roles are intended to streamline the planning process, avoid duplication of effort and feedback, and ensure the planning effort remains sustainable for all participants.

- **Steering Committee** – The Steering Committee consists of the Nassau County Office of Emergency (OEM) Director of Recovery, Director of Planning and Hagerty Consulting. The responsibility of the Steering Committee is to organize and carry out the planning process, collect information from the Core Planning Group (CPG) and Planning Committee, and develop drafts of the plan documents.

Nassau County OEM Director of Recovery, Nassau County OEM Director of Planning, and Hagerty Consulting

- **Core Planning Group** – The CPG will provide the information, consultation, and feedback to support the HMP Update development. The CPG will be consulted to make high level decisions about the purpose and goals of the base plan. They will review drafts and provide feedback. They will contribute to developing mitigation strategies at the county government level.

Steering Committee, Nassau County departments, Long Island agencies, representatives from the cities and townships, neighboring counties, New York State (NYS) agencies, and FEMA Region II

- **Planning Committee** – This group is comprised of the CPG and the County's 64 incorporated villages. The Planning Committee will participate in several the outreach strategies listed in this document. This Committee is critical to understanding the local community needs. The Committee is primarily responsible for providing the Steering Committee with information for the annex and reviewing the annex for their respective jurisdictions.

The CPG and Nassau County's 64 incorporated villages

- **Stakeholder Group** – The Stakeholder Group will consist of a larger audience of community representatives. This group will be kept informed of the HMP Update process. As needed, the Steering Committee and Planning Committee may consult with individuals in the Stakeholder Group for subject matter expertise on specific topics. The Stakeholder Group will be invited to participate in two plan workshops to familiarize them with the plan update and gather feedback.

Special districts (school and fire), elected officials, nonprofits, businesses, coalitions, hospitals, utility companies and educational institutions

- **Public** – The Public will be invited to participate in a survey and a workshop webinar to familiarize them with the plan update and gather feedback.

All Nassau County residents and business owners

Strategy

The Outreach Strategy is comprised of three goals and six tactics that will ensure a thorough and comprehensive stakeholder and public engagement throughout the HMP Update process.

Figure 1: Outreach Strategy Goals and Tactics



Tactics

Tactic 1: Continue community outreach to previously identified organizations

The Steering Committee will communicate with the Planning Committee through email, phone, in-person workshops, and webinars to identify additional stakeholders to involve in the plan update process. The following types of organizations will be engaged:

- Emergency Management
- Economic Development
- Land Use and Development
- Housing
- Health and Social Services
- Infrastructure
- Natural and Cultural Resources

Tactic 2: Leverage existing “cohorts” and stakeholder/public engagement activities

The Stakeholder Group and Public may meet at regular intervals, allowing for an engagement opportunity related to the HMP Update. The Steering Committee may leverage existing meetings to share information with stakeholder groups and the public. Leveraging pre-existing meetings allows for a coordinated planning approach.

Tactic 3: Develop a cohesive and distinctive brand for the HMP Update

As part of the preparation for the Planning Committee Risk Review and Mitigation Strategy Webinar, the Steering Committee will develop a style guide and templates distinctive to the HMP Update planning process for all materials, including PowerPoint presentations, visual aids (handouts and posters), meeting materials (agendas, sign-in sheets, and meeting notes), maps, and the HMP Update. The branded materials will be available upon request from Nassau County OEM so that Planning Committee members can use them to develop additional communication and outreach within jurisdictions.

Tactic 4: Ensure CPG, Planning Committee, Stakeholder and Public meeting/webinar materials and plan elements are publicly available for review

FEMA requires all mitigation plans to be a publicly available resource, including meeting minutes, sign-in sheets, and presentations to demonstrate engagement. The Steering Committee will utilize the Nassau County Hazard Mitigation web page to post the full draft plan for at least a 30-day public review period. This web page will also host the final,

FEMA and NYS DHSES approved plan. The following list summarizes the items to display publicly:

Website Attribute

Plan Update Description	
Plan Update Contact Information	
Link to Plan and Draft Plan	

The Steering Committee will also develop content that Planning Committee members can use to update their websites and post the draft and final approved plans.

Tactic 5: Document outreach activities

The Steering Committee will capture all meeting materials and record planning activities in the HMP to demonstrate compliance with FEMA and NYS DHSES planning regulations. The Steering Committee will also encourage Core Planning Group and Planning Committee members to document all of their time spent supporting the development of the plan, including attending planning workshops and public meetings, reviewing the plan, and developing additional outreach materials to advertise the update of the plan (e.g., social media posts). These hours spent supporting the plan update will help the county to meet grant match requirements.

The Steering Committee will also develop an approach for continued outreach and public engagement during the maintenance of the plan. This approach will be socialized with Core Planning Group and Planning Committee for feedback before the final plan is approved.

Tactic 6: Distribute messaging to stakeholders and the public about HMP Update, stakeholder and public meetings, and where to review the plan online

To engage stakeholders and the public, the Steering Committee will draft and deliver pre-scripted social media messages and emails regarding the planning process at appropriate intervals during the project. Messaging can be used to draw the public to the Nassau County Hazard Mitigation web page and solicit feedback on the draft plan. The Steering Committee will also provide template social media messages and emails to any Planning Committee members interested in advertising the plan update process.

The Steering Committee will also draft and deliver routine hazard mitigation planning newsletters that provide an update on the planning process, training and resources available in Nassau County, and upcoming planning expectations. The newsletters will be distributed via email primarily to the Planning Committee, as well as certain stakeholders who have expressed interest in the plan update process.

Messaging

Messaging that the Steering Committee shares throughout the project will be persuasive, direct, and frequent. Several communication platforms will be utilized throughout the project to guarantee that the correct audience receives information about the HMP Update and to bolster participation. The following questions and common responses have been compiled to help standardize common messaging throughout the project:

Why Should You Be Involved?

- Advocate for your community's needs by voicing your input during the HMP Update process.
- Your involvement guarantees a diversity of representation and supports the development of an inclusive plan.
- Be a representative for those who have barriers to access or are unable to attend engagements. Their voice is as important as your own.
- Participating in the planning process fosters collaboration and bolsters the County's effort to better prepare in advance for future disasters.
- Document participation in the planning process and public outreach as required by FEMA to build consensus and encourage transparency.
- Participation helps to align departmental goals and resources with HMP Update.

How Can You Be Involved?

- Planning Committee:
 - Attend planning workshops and contribute meaningfully to the conversation to ensure future safety and resilience of the County. Meaningful contribution and active participation work to create and implement a realistic plan.
 - Fill out and return all requested forms to the Steering Committee in a timely manner.
 - Review and provide comments on drafts of the plan.
 - Adopt the final approved plan.
 - Reach out to local community groups and socialize them about the plan and its process.
- Stakeholders and Public:
 - Attend stakeholder and public workshops to learn about the plan update process and share your observations of how natural hazards impact where you live. Mitigation projects will consider stakeholder and public perspectives to build future safety and resilience of the County.

Notable Project Meetings

Meeting	Intended Audience
Pre-Workshop Webinar 1	Planning Committee
Planning Committee Kickoff Workshop	Planning Committee
Stakeholder Webinar	Stakeholder Group
Risk Review and Mitigation Strategy Webinar	Planning Committee
Public Survey 1: Risk Review and Mitigation Strategy	Public, Stakeholder Group
Jurisdictional Consultation Calls	Planning Committee
Mitigation Strategy Review Webinar	Planning Committee
Plan Review Webinar	Planning Committee
Public Meeting/Webinar: Draft Plan Review	Public, Stakeholder Group

Project Communication Platforms

While conducting the 2020 HMP Update, several communications platforms will be utilized to ensure all stakeholders are receiving information.

- **MailChimp** – The Steering Committee will use MailChimp for mass communication to the Planning Committee throughout the plan update.
- **Routine Newsletter** – The Steering Committee will distribute a routine newsletter to the Planning Committee and other interested stakeholders using MailChimp. The Newsletter will provide information on the HMP Update process, next steps, and additional Hazard Mitigation Planning resources.
- **Nassau County Hazard Mitigation Website** – The Nassau County Hazard Mitigation website will be used to distribute information and collect stakeholder and public feedback about the draft HMP Update.
- **Social Media** – The Steering Committee will explore options to engage stakeholders and the public active on social media by routinely posting updates on the County’s Facebook and Twitter pages.

Newsletter Schedule

Newsletter Issue	Projected Distribution	General Description
1	February 27 th , 2020	Introduce the newsletter, overview of upcoming meetings, description of upcoming mitigation-related trainings and programs.
2	July 6 th , 2020	Reminders about the live public survey, overview of the upcoming Jurisdictional Consultation Call process, review of different types of mitigation strategies
3	August 11 th , 2020	July jurisdictional workshops, review mitigation action plan development process, and reminder of upcoming August 20 th Mitigation strategy Review Webinar
4	September 14 th , 2020	Recap Plan Review, discuss public comment period and where to find draft plan online, announce plan submission to NYS DHSES for review, discuss plan adoption process and expectations
5	October 16 th , 2020	Recap public meeting, reminders about public comment period, discuss plan adoption process and expectations
6	January/February 2021 (timing contingent on length of State and FEMA review and approval process)	Updates on plan approval, discuss plan adoption process and expectations.

Appendix A: Identified Partners

Organization

Atlantic Beach
Baxter Estates
Bayville
Bellerose
Brookville
Cedarhurst
Centre Island
Cove Neck
East Hills
East Rockaway
East Williston
Farmingdale
FEMA Region II
Floral Park
Flower Hill
Freeport
Garden City
Glen Cove
Great Neck
Great Neck Estates Police Department
Great Neck Plaza
Hagerty Consulting
Hewlett Harbor
Hempstead
Island Park
Kensington
Kings Point
Kings Point Police Department
Lake Success
Lattingtown

Organization

Laurel Hollow

Lawrence

Long Beach

Long Beach Fire Department

Long Island Regional Planning Council

Lynbrook

Malverne

Manorhaven

Massapequa Park

Matinecock and Oyster Bay Cove

Mill Neck

Mineola Department of Public Works

Munsey Park

Muttontown

Nassau County Department of Health

Nassau County Department of Human Services

Nassau County Department of Parks, Recreation and Museums

Nassau County Department of Public Works

Nassau County Department of Social Services

Nassau County Fire Marshal

Nassau County Office of Community Development

Nassau County Office of Emergency Management

Nassau County Office of the County Executive

Nassau County Police Department

Nassau County Sheriff's Department & Correctional Center

Nassau County Soil and Water Conservation District

Nassau County Village Officials Association

New Hyde Park

North Hills

NYC Office of Emergency Management

NYS DHSES

NYS Floodplain and Stormwater Managers Association

NYSDEC

Organization

Old Brookville Police Department

Old Westbury

Oyster Bay Cove Police Department

Plandome

Plandome Heights

Plandome Manor

Port Washington North

Rockville Centre

Roslyn

Roslyn Estates

Roslyn Harbor

Russell Gardens

Saddle Rock

Sands Point

Sea Cliff

South Floral Park

South Hempstead Fire Department

Stewart Manor

Suffolk County Office of Emergency Management

Thomaston

Town of Hempstead

Town of North Hempstead

Town of Oyster Bay

Upper Brookville

Valley Stream

Westbury

Williston Park

Woodsburgh, Hewlett Neck & Hewlett Bay Park

Core Planning Group Kick-Off Meeting

February 3, 2020, 9:30 - 11:30 AM

Morrelly Center, 510 Grumman Road West, Bethpage, NY 11714

1. Core Planning Group Kick off Meeting Sign-in Sheet
2. Core Planning Group Kick off Meeting Agenda
3. Core Planning Group Kick off Meeting PowerPoint Presentation
4. Core Planning Group Kick off Meeting Summary

Sign-In Sheet Core Planning Group Kickoff Meeting

Date: 2/3/2020

Initial	Last Name	First Name	Organization
PB	Beckley	Patrick	NYS DHSES
PA/B	Broderick	Paul	NC DSS
SB	Brown	Shawn	Town of North Hempstead
EC	Clarke	Shannon	NYS DHSES
EC	Cole	Elizabeth	Long Island Regional Planning Council
<i>[Signature]</i>	Connolly	Robert	NCPD
<i>[Signature]</i>	Crean	Kevin	NC Office of Community Development - Mineola, NY
<i>[Signature]</i>	DeAngelo	Jim	Hagerty Consulting
	DeSimone	Ann	NC Department of Health
BF	Fonda	Bill	NYSDEC
	Ganim	David	Nassau County Soil and Water Conservation District
	Golio	Michael	NC Sheriff's Department & Correctional Center
	Gootman	Stephanie	FEMA <i>[Signature]</i>
	Guardino	Richard	Long Island Regional Planning Council
DWJ	Johnson	Diana	Nassau County Department of Human Services
	Kemins	Scott	Long Beach FD
RZX	Kreitzman	Ralph	NCVOA
	Mangano	Robert	Town of Oyster Bay
JM	Marks	Nicole	NCOEM
<i>Sydney McKenna</i>	McKenna	Sydney	Hagerty Consulting
TW	Messner	Timothy	NC Department of Parks, Recreation and Museums
	Mirando	John	Long Beach
	Monitz	Gary	FEMA
	Ortiz	Christopher	Glen Cove
SP	Park	Susan	NCOEM
<i>[Signature]</i>	Pilczak	Bohdan	NC Fire Marshal



Sign-In Sheet Core Planning Group Kickoff Meeting

Date: 2/3/2020

Initial	Last Name	First Name	Organization
	Powers	Edward	Town of Hempstead
AR	Ringhauser	Jillian	NYS OEM (DHSES)
	Schneider	Brian	NC County Executive's Office
KT	Taggart	Karen	NC Office of the County Executive
AV	Viana	David	NC Department of Public Works
B3	Zitani	Brian	NYS Floodplain and Stormwater Managers Association
RE	CORBETT	Richard	City of Long Beach
	Lenz	Jeanne	SCOEM
	Kurzer	Kew	SCOEM
CC	Cavallo	Corrina	NYS DHSES
SC	Clarke	Shannon	NYS DHSES
BH	Conway	Elliot	Village of Upper Brookville NCVOA
KM	MURRAY	Kenneth	NYPD Homeland Security



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Core Planning Group Kickoff Meeting

Morrelly Center, 510 Grumman Road West, Bethpage, NY 11714

Monday, February 3, 2020 – Sign-in starts at 9:00 AM; the meeting begins promptly at 9:30 AM EST

Meeting Purpose: Introduce project, discuss purpose and benefits of mitigation planning, review hazards and capabilities, develop mitigation goals, and outline next steps of project.

Meeting Audience: Nassau County Hazard Mitigation Core Planning Group Members

Topic	Presenter	Time
Welcome & Introductions	Susan Park, Nassau County Office of Emergency Management Jim DeAngelo, Hagerty Consulting	9:30 – 9:40 AM
Overview of a Hazard Mitigation Plan Update <ul style="list-style-type: none"> • Purpose and benefits • State and federal requirements • Planning process • Stakeholder engagement 	Jim DeAngelo	9:40 – 10:10 AM
Changes Since Last Plan Update <ul style="list-style-type: none"> • Hazards • Development • Planning and Ordinances 	Sydney McKenna, Hagerty Consulting	10:10 – 10:40 AM
Mitigation Strategy Session <ul style="list-style-type: none"> • Review and update the mitigation goals and objectives 	Jim DeAngelo	10:40 – 11:10 AM
Project Approach <ul style="list-style-type: none"> • Deliverables and project timeline • Data requests 	Jim DeAngelo	11:10 – 11:25 AM
Closing Remarks	All	11:25 – 11:30 AM

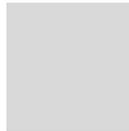
Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Core Planning Group Kickoff Meeting

February 3, 2020



Introduction



Susan Park

Director of Recovery, Nassau County OEM

Email: SPark@nassaucountyny.gov



Jim DeAngelo

Senior Managing Associate

Email: Jim.Deangelo@hagertyconsulting.com



Sydney McKenna

Managing Associate

Email: Sydney.Mckenna@hagertyconsulting.com





Introduction

Now we want to hear from you



Agenda

Topic	Time
Welcome & Introductions	9:30 – 9:40 AM
Overview of a Hazard Mitigation Plan Update	9:40 – 10:10 AM
Changes Since Last Plan Update	10:10 – 10:40 AM
Mitigation Strategy Session	10:40 – 11:10 AM
Project Approach	11:10 – 11:25 AM
Closing Remarks	11:25 – 11:30 AM



Overview of a Hazard Mitigation Plan Update

Nassau County Hazard Mitigation Plan Update: CPG Kickoff



Goals and Objectives for the Plan Update

- **Overall Goal:** Leverage current standards, regulations, guidance, and hazard information to ensure the Nassau County Multi-Jurisdictional Hazard Mitigation Plan meets and exceeds New York State and Federal Emergency Management Agency (FEMA) requirements.



Nassau County Map

[Source](#)



Long Beach, NY – Damage after Superstorm Sandy 2012

[Source](#)



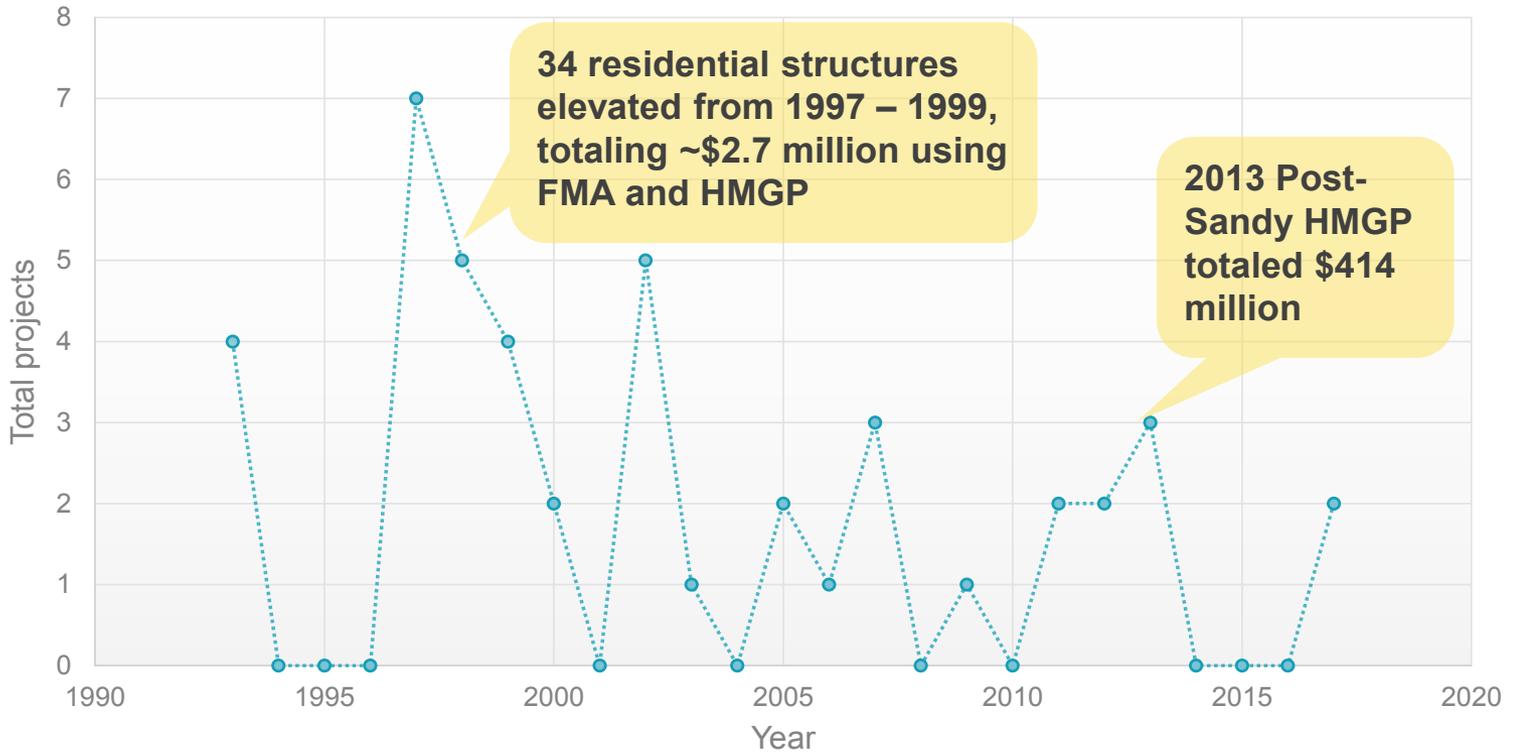
Purpose and Benefits of Hazard Mitigation Planning

- Required under [Disaster Mitigation Act of 2000](#)
- Ensures continued FEMA post-disaster funding:
 - [Public Assistance](#) (PA) for Permanent Work projects
 - [Fire Management Assistance Grants](#) (FMAG)
 - [Hazard Mitigation Grant Program](#) (HMGP)
 - [Pre-Disaster Mitigation](#) (PDM)
 - [Flood Mitigation Assistance](#) (FMA)
- Investment in your community's future safety and sustainability
- Educates the public and community officials about hazard risks and vulnerabilities of people, property, and infrastructure
- Promotes stronger partnerships among community stakeholders



Hazard Mitigation Grants

HMA Projects in Nassau County

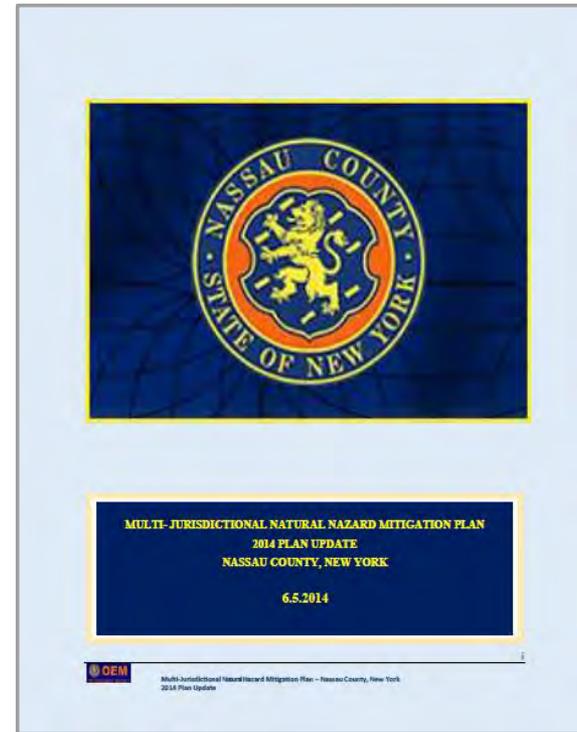


Planning Process



Historical Context

- Previous *Nassau County Multi-Jurisdictional Hazard Mitigation Plan* adopted in **2014**.
- New updates guided by FEMA Local Mitigation Plan Review Guide (October 2011) and the New York State Hazard Mitigation Planning Standards Guide (2017).

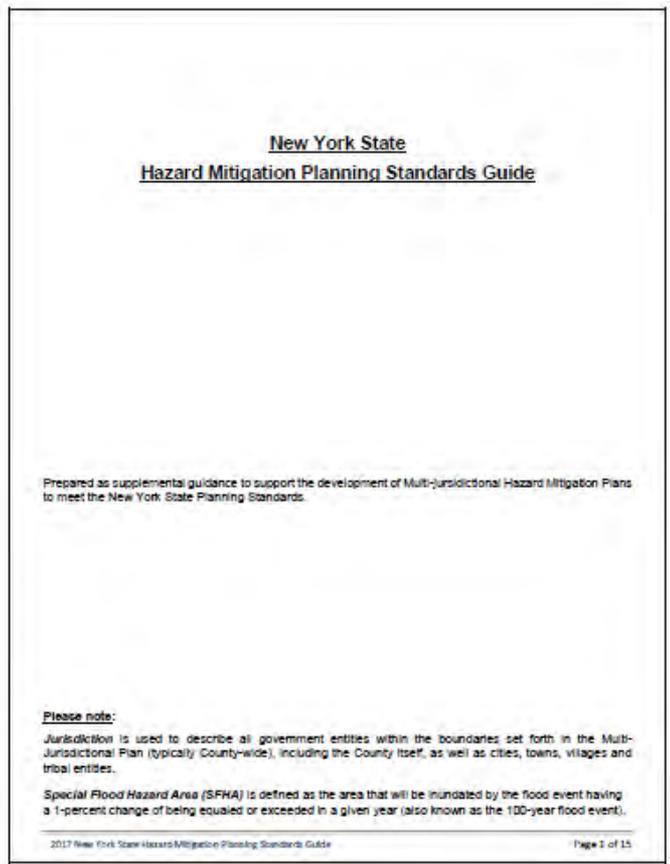


2014 Nassau County Multi-Jurisdictional
Hazard Mitigation Plan

[Source](#)



State Planning Requirements



New York State Hazard Mitigation Planning Standards

[Source](#)

The chart below shows the requirements as they appear on the plan review tool used by NYS DHSES and FEMA Region II to determine whether or not a submitted plan meets federal and state requirements.

1. REGULATION CHECKLIST Regulation (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)		Met	Not Met
	ELEMENT F. ADDITIONAL STATE REQUIREMENTS – NYS DHSES HAZARD MITIGATION PLANNING STANDARDS.			
These are required actions for plans developed with NYS DHSES-administered funds.				
F1. Does the plan document how stakeholders were invited to participate at each phase of the planning process and provide a summary of feedback?				
F2. Do jurisdictions identify critical facilities, assess vulnerabilities and ensure protection to a 500-year flood event or worst case scenario?				
F3. Do jurisdictions containing an SFHA identify: a. potential sites for the placement of temporary housing units for residents displaced by disaster; and b. potential sites within the jurisdiction suitable for relocating houses out of the floodplain, or building new houses once properties in the floodplain are razed?				
F4. Do jurisdictions identify: a. routes and procedures to evacuate citizens prior to and during an event; and b. shelters for evacuated citizens, to include provisions for a range of medical needs, accommodation for pets, and compliance with the Americans with Disabilities Act (www.ada.gov)?				
F5. Do jurisdictions identify mitigation projects completed since the approval of the previous mitigation plan (or within the last five years)?				
F6. Does the plan include an annex for every jurisdiction within the County's boundaries?				
F7. Within each jurisdictional annex, are: a. projects developed in accordance with the NYS DHSES Proposed Projects Table; and b. two (2) NYS DHSES Action Worksheets provided?				
F8. Does the plan include a list of potential funding sources?				
F9. Does the plan assess how climate change may affect vulnerability to hazards, propose actions to address this, and discuss sea level rise (if applicable)?				
F10. Was the draft plan posted for public comment?				
Note: The applicant is required to address the 2018 NYS DHSES Hazard Mitigation Planning Standards as required actions for a hazard mitigation plan developed with funds administered by NYS DHSES.				
ELEMENT F: REQUIRED REVISIONS				
<i>Please see opportunities for improvement</i>				



Federal Planning Requirements

Local Mitigation Plan Review Guide

October 1, 2011



FEMA Local Mitigation Plan Review Guide

[Source](#)

APPENDIX A: LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The [Regulation Checklist](#) provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The [Plan Assessment](#) identifies the plan's strengths as well as documents areas for future improvement.
- The [Multi-jurisdiction Summary Sheet](#) is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	Title of Plan:	Date of Plan:
Local Point of Contact:		Address:
Title:		
Agency:		
Phone Number:		
		E-Mail:

State Reviewer:	Title:	Date:

FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (Insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

Nassau County Hazard Mitigation Plan Update: CPG Kickoff



12

Stakeholder Engagement



Element A2

The planning process shall include an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, businesses, academia, and other private and non-profit groups.

44 CFR §201.6(b)(2)



Element A3

The planning process shall include an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.

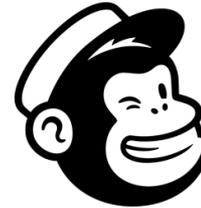
44 CFR §201.6(b)(1)



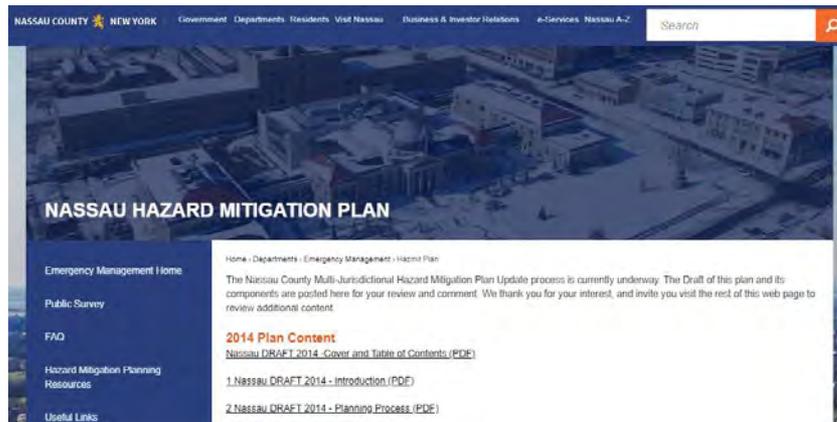
Project Communication Platforms



In-person workshops,
preceded by webinars



Monthly electronic newsletters
through Mail Chimp



Information sharing through Nassau Hazard
Mitigation Plan webpage



Changes Since Last Plan Update



Hazard Review

2014 HMP Hazards

- Coastal Erosion
- Drought
- Earthquakes
- Floods
- Extreme Winds
- Hurricanes and Tropical Storms
- Landslide
- Tornados
- Wave Action
- Winter Storms and Ice Storms

Element B1

The risk assessment shall include a description of the type, location and extent of all natural hazards that can affect the jurisdiction.

44 CFR §201.6(c)(2)(i)



Hazard Review

Should any additional hazards be considered for this plan update?

What, if any, significant hazard events have happened in the last 5 years?

Element B1

The risk assessment shall include a description of the type, location and extent of all natural hazards that can affect the jurisdiction.

44 CFR §201.6(c)(2)(i)



Proposed 2020 HMP Hazards

- Coastal Hazards (including erosion, wave action, and sea level rise)
- Cold Wave
- Drought
- Earthquakes
- Flooding
- Hail
- Heat Wave
- Hurricane and Tropical Storms
- Ice Storms
- Landslide
- Lightning
- Tornadoes
- Winter Storms
- Wind



Development Review

- For the 2014 plan, *2010 Nassau County Comprehensive Plan* was reviewed for information regarding land use and development trends.

Where is new development planned?

What has changed from what was projected 5 years ago?



Element D1

A local jurisdiction must review and revise its plan to reflect changes in development.

44 CFR §201.6(d)(3)



Planning & Ordinance Review

Nassau County Legal and Regulatory Capability (2014):

- Subdivision Ordinance
- Comprehensive Plan
- Capital Improvement Plan
- Economic Development Plan
- Emergency Response Plan
- Post-Disaster Recovery Plan
- Real Estate Disclosure Ordinance

What are some new plans you have since the last update?

What code updates should be considered in the plan update?

Any other plans, ordinances, and policies that help prevent and minimize future damages resulting from hazards?

Element C1

The plan shall include a mitigation strategy [...] based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.

44 CFR §201.6(c)(3)



Mitigation Strategy Session

Nassau County Hazard Mitigation Plan Update: CPG Kickoff



Creating Meaningful Goals and Objectives

- Goals explain what the community wants to achieve with the hazard mitigation plan (i.e., the “vision of success”). Goal statements are broad and long-term.
- Objectives, though not required, describe how to measure progress toward a goal. They are broader than an action and can help organize mitigation actions.

Goals Should:

- Consider community impact and input
- Be comprehensive of all jurisdictions
- Address all findings in the Risk Assessment
- Align with community values and state goals

Element C3

The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

44 CFR §201.6(c)(3)(i)



Avoid Goals That:

- Are hazard-specific goals
- Use unclear or confusing language
- Benefit only a singular group



Nassau County 2014 Goals

- Promote **disaster-resistant development**.
- Build and support local capacity to **enable the public to prepare for, respond to, and recover from disasters**.
- Reduce the possibility of damage and losses due to **drought**.
- Reduce the possibility of damage and losses due to flooding caused **by floods and coastal storms**.
- Reduce the possibility of damage and losses due to **earthquakes**.
- Reduce the possibility of damage and losses due to **landslides**.
- Reduce the possibility of damage and losses due to **coastal erosion**.
- Reduce the possibility of damage and losses due to **winter storms**.
- Reduce the possibility of damage and losses due to **tornadoes and high winds caused by windstorms and hurricane winds**.
- Reduce the possibility **of damages to emergency facilities from flooding and wind damage**.



New York State 2019 Goals

1

Promote a comprehensive state hazard mitigation policy framework for effective mitigation programs that includes **coordination among federal, state, and local organizations** for planning and programs.

2

Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.

3

Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.

4

Encourage the development and implementation of long-term, cost effective, and resilient mitigation projects to **preserve or restore the functions of natural systems**.

5

Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.



2014 Goals

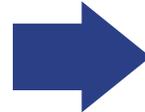
Promote **disaster-resistant development**.

Build and support local capacity to **enable the public to prepare for, respond to, and recover from disasters**.

Reduce the possibility of damage and loss due to drought, floods, coastal storms, earthquakes, landslides, coastal erosion, winter storms, hurricanes, and tornados.

N/A

N/A



Proposed 2020 Goals

Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.

Build and support local capacity to **prepare for, respond to, and recover from disasters**.

Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.

Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.

Develop and implement long-term, cost effective, and resilient mitigation projects to **preserve or restore the functions of natural systems**.





Discussion

Are there any other goals to add for the plan update?

How do these goals align with those found in other Nassau County plans? Are we missing any?



Project Approach



Project Approach

Task 1

Project Initiation, Management, and Stakeholder Organization

- ✓ CPG Kickoff Meeting (Today!)
- ✓ Stakeholder Engagement Strategy
- ✓ Pre-Workshop Webinar 1
- ✓ Planning Committee Kickoff Workshop
- ✓ Data Collection

Timeframe

2 Months

Task 2

Hazard, Risk, Vulnerability, and Capability Assessment

- ✓ Complete Level 1 Hazus
- ✓ Hazard Ranking
- ✓ Draft Risk and Vulnerability Assessment
- ✓ Interim Public Meeting

Timeframe

3 Months

Task 3

Develop Mitigation Strategies and Activities

- ✓ Pre-Workshop Webinar 2
- ✓ Risk Review and Mitigation Strategy Workshop
- ✓ Jurisdictional Workshops
- ✓ Draft Mitigation Action Plan

Timeframe

3 Months

Task 4

Plan Finalization and Approval

- ✓ Public Hazard Mitigation Workshop
- ✓ Draft 1 of Plan
- ✓ Plan Review Meeting
- ✓ Draft 2 of Plan
- ✓ Public Review Period
- ✓ Submission to DHSES and FEMA
- ✓ Draft Resolution Plan Adoption

Timeframe

6 Months

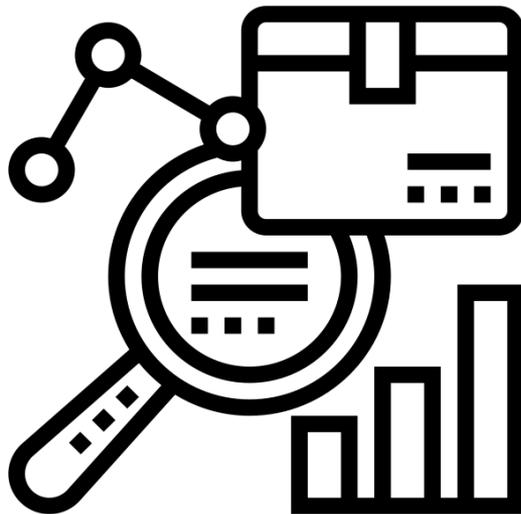


Upcoming Project Dates

Meeting	Timing
Pre-Workshop Webinar 1	February 19, 2020
Planning Committee Kickoff Workshop	March 5, 2020
Interim Public Meeting	April 2020
Pre-Workshop Webinar 2	April 2020
Risk Review and Mitigation Strategy Workshop	April 2020
Jurisdictional Workshops	April – May 2020
Final Public Meeting	June 2020



Data Requests



Closing Remarks

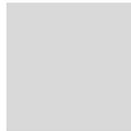


Next Steps

- **Hagerty Consulting:**
 - Finalize Project Management Plan and Outreach Strategy
 - Collect and review additional background documents and data
 - Draft Risk and Vulnerability Assessment
 - Prepare for the Planning Committee Workshop and webinar
- **Core Planning Group**
 - Compile and transmit data for consideration in the risk assessment, especially critical facilities and county/municipal owned buildings and infrastructure
 - Attend the Planning Committee Workshop (*March 5, 2020*) and Pre-Workshop webinar (*February 19, 2020*)



Questions?



Susan Park

Director of Recovery, Nassau County OEM

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Jim DeAngelo

Senior Managing Associate

Email: Jim.Deangelo@hagertyconsulting.com

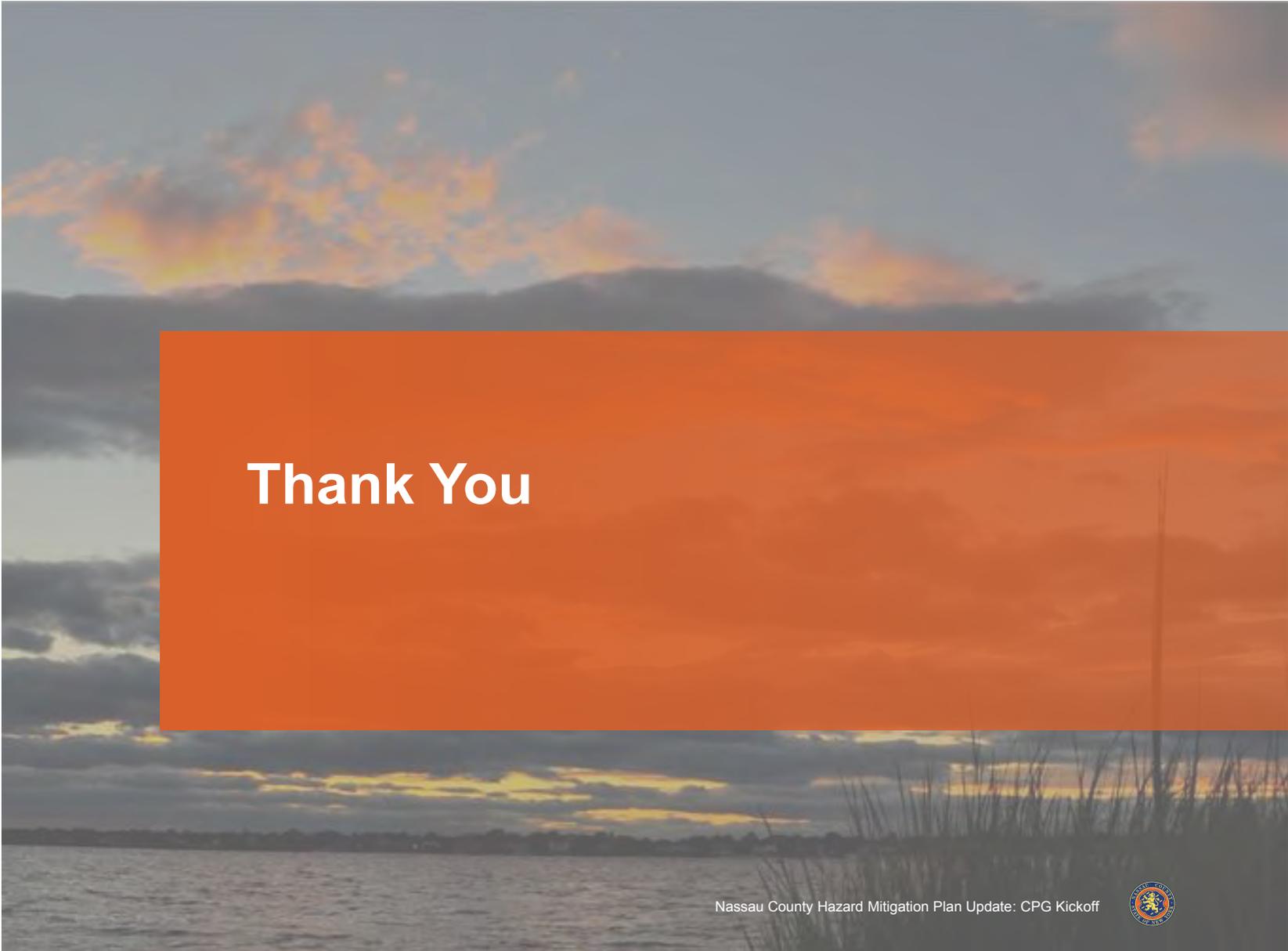


Sydney McKenna

Managing Associate

Email: Sydney.Mckenna@hagertyconsulting.com





Thank You



Core Planning Group Kickoff Meeting Summary

February 3, 2020 | 9:30 AM – 11:30 AM

Nassau County Office of Emergency Management

Introduction

Susan Park, the Hazard Mitigation Plan (HMP) Manager for Nassau County Office of Emergency Management, welcomed the Core Planning Group (CPG) to the meeting. Hagerty introduced the consulting team, asked the CPG to introduce themselves, and reviewed the meeting agenda.

Overview of a Hazard Mitigation Plan Update

Hagerty explained the purpose and overall goal of the Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update. HMPs increase access to certain federal grant programs that can be used to fund mitigation projects identified in the plan. Historically, Nassau County has utilized FEMA's Hazard Mitigation Grant Program for a variety of flood mitigation projects, with the largest Hazard Mitigation Grant Program awards after Hurricane Sandy, totaling \$414 million.

Hagerty asked the CPG who has worked on HMGP projects in the past?

- One community mentioned they went through an HMGP grant application process to secure funding for home elevations.
- New York State Department of Homeland Security and Emergency Services (DHSES) noted that there was a disaster declaration from the Halloween Storm in 2019. HMGP will be announced in June 2020. Despite the current Nassau County plan being expired, it will not inhibit Nassau County jurisdictions from applying for HMGP grants.

Susan Park noted that mitigation actions can be more than structural projects. There are several upcoming opportunities for communities to participate in throughout 2020 that relate to hazard mitigation:

- Participate in the Long Island Community Rating System User Group that will meet throughout the year.
- Attend or host a Mental Health First Aid class can provide you and your team a way to become more resilient and improve the livelihood of people.
- Preparedness training classes that are free and coordinated by the Nassau County Office of Emergency Management can build capacity and educate.

Hagerty reviewed the New York State DHSES 2017 local mitigation planning requirements, which are new since the previous Nassau County HMP update. Nassau County's plan update must meet these requirements as a condition of the grant they received through the state to update the plan.

Hagerty reviewed the stakeholder engagement structure for the plan update:

- The Core Planning Group (comprised of Nassau County, Long Island and State agencies, FEMA, two cities, and three townships) will be responsible for providing data and information that will inform the overall structure and composition of the HMP.
- The CPG is part of the Planning Committee, which also consists of the 64 incorporated villages. The Planning Committee will be responsible for contributing information and data to update and develop an annex for each participating jurisdiction. A series of forms/questionnaires will be used to collect this information throughout the planning process.

Changes since Last Plan

In this section of the kickoff meeting, Hagerty walked the CPG through an exercise to review and discuss how hazards, development, and planning has changed in Nassau County since the last plan update.

Hazard Review

Hagerty reviewed the 2014 HMP hazards with the CPG and talked about what has changed in the last five years. The CPG then reviewed a list of proposed hazards for the 2020 HMP update and discussed anything else that was missing or should be changed. The impacts of climate change will be discussed within the applicable hazard profiles.

Hazards profiled in the HMP update will include:

- Coastal Hazards (coastal erosion, sea level rise, wave action, tsunami)
- Drought
- Extreme Temperatures
- Flooding
- Ground Failure (Earthquakes, Landslides, and Sink Holes)
- Hail
- Hurricane and Tropical Storms
- Lightning
- Tornados
- Severe Winter Weather
- Wind

Changes in Development

- Nassau County has several newly completed and ongoing development projects. A lot of this new development is higher density construction that puts a strain on first responders and existing stormwater management facilities because of the higher density.
- New development or redevelopment is not necessarily happening with resilience in mind. Building officials do not always seem to have the ability to restrict development in hazard prone areas.
- Some of the new redevelopment projects mentioned included:

Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

- The Nassau Hub is a large-scale redevelopment project around the Nassau Veterans Memorial Coliseum in Uniondale that will transform nearly 70-acres of parking lots into a walkable, mixed-use downtown in the heart of Nassau County.
- Southwest Nassau Villa View Estates is a future development project.
- Potential redevelopment of golf courses.
- Belmont Park redevelopment with a stadium and stores.

Changes in Planning and Ordinances

- County does not have zoning authority over jurisdictions, therefore there are a number of different zoning codes used throughout the County. Only the fire code transcends these boundaries, the Nassau County fire prevention code.
- 2010 master plan has not been adopted; an update is forthcoming in the future.

Mitigation Strategy Session

In this session, Hagerty familiarized the CPG with the mitigation strategy section of the HMP, which serves to capture the goals and actions that communities want to achieve to reduce or avoid long-term vulnerabilities to the identified hazards. The CPG learned about best practices for developing plan goals. Hagerty reviewed the 2014 plan goals and suggested potential updates. The 2019 New York State HMP goals were also reviewed and considered for the Nassau County plan update.

The CPG considered a revised list of plan goals that consolidates several of the hazard specific goals from the 2014 plan, rephrases a few goals to be broader, and adds a couple new goals to increase public awareness about hazards, preserve natural systems, and encourage redevelopment that is aware of natural hazard risk. The CPG is encouraged to review this list of **proposed 2020 goals** and provide comments to Hagerty.

Proposed 2020 Mitigation Goals:

1. **Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.**
2. **Build and support local capacity to prepare for, respond to, and recover from disasters.**
3. **Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.**
4. **Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.**
5. **Develop and implement long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems.**
6. **Improve coordination between land use and redevelopment planning to encourage safe, economically sound investments.**

Project Approach

Hagerty reviewed the project tasks and key deliverables (see graphic below) and highlighted key upcoming dates. Hagerty also discussed the types of data that will be requested from the CPG to inform the Risk Assessment (e.g., critical facility data).



Next Steps

- Hagerty Consulting:
 - Finalize Project Management Plan and Outreach Strategy
 - Collect and review additional background documents and data
 - Draft Risk and Vulnerability Assessment
 - Prepare for the Planning Committee Workshop and webinar
- Core Planning Group
 - Compile and transmit data for consideration in the risk assessment, especially critical facilities and county/municipal owned buildings and infrastructure
 - Attend the Planning Committee Workshop (*March 5, 2020*) and Pre-Workshop webinar (*February 19, 2020*)

Attendees

Last Name	First Name	Organization
Beckley	Patrick	NYS DHSES
Broderick	Paul	NC DSS
Brown	Shawn	Town of North Hempstead
Cavallo	Corrina	NYS DHSES
Clarke	Shannon	NYS DHSES
Cole	Elizabeth	Long Island Regional Planning Council
Connolly	Robert	NCPD
Conway	Elliot	Village of Upper Brookville and Nassau County Village Officials Association
Corbett	Richard	City of Long Beach
DeAngelo	Jim	Hagerty Consulting
Fonda	Bill	NYSDEC
Gootman	Stephanie	FEMA
Johnson	Diana	Nassau County Department of Human Services
Kreitzman	Ralph	NCVOA
Kutner	Kenneth	SCOEM
Lenz	Jeanne	SCOEM
Marks	Nicole	NCOEM
McKenna	Sydney	Hagerty Consulting
Messner	Timothy	NC Department of Parks, Recreation and Museums
Murray	Kenneth	NCPD Homeland Security
Park	Susan	NCOEM
Pilczak	Bohdan	NC Fire Marshal
Ringhauser	Jillian	NYS OEM (DHSES)
Taggart	Karen	NC Office of the County Executive
Viana	David	NC Department of Public Works
Zitani	Brian	NYS Floodplain and Stormwater Managers Association

Planning Committee Pre-Workshop Webinar

February 1, 2020, 10:30 to 11:30 AM

February 20, 2020, 1:00 - 2:00 PM

Note: This webinar was conducted twice. Attendees were requested to attend one of the two webinars.

1. Planning Committee Pre-Workshop Webinar Invitation
2. Planning Committee Pre-Workshop Webinar PowerPoint Presentation
3. Planning Committee Pre-Workshop Webinar Attendee List



Register Now!

*The Planning Committee will convene on **March 5, 2020 from 9:00 am to 12:00 pm for the Hazard Mitigation Kickoff Workshop** to update the Nassau County Multi-Jurisdictional Hazard Mitigation Plan. It is essential that you attend this workshop as a jurisdiction participating in the plan update.*

[Click here to register for the workshop](#)

At this workshop, you will become familiar with hazard mitigation planning and understand your role in the update process. Please be prepared to share the following information about your jurisdiction:

- A general description of how natural hazards impact your community and any notable recent occurrences;
- New planning efforts and recent changes to codes and ordinances related to risk reduction and hazard mitigation; and
- Legal, administrative, fiscal, and technical capabilities that can help to conduct mitigation projects.

To prepare you to attend the workshop, **please also register to attend one of the following informational webinars:**

[Click here to register for 2/19/20 from 10:30 to 11:30 AM](#)

[Click here to register for 2/20/20 from 1:00 to 2:00 PM](#)

If you have any questions, please contact Susan Park at (516) 573-9642 or spark@nassaucountyny.gov.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Planning Committee Pre-Workshop Webinar

February 19, 2020





Introductions



Sydney McKenna

Deputy Project Manager

Hagerty Consulting

Sydney.McKenna@hagertyconsulting.com



About Hagerty Consulting



2001

Founded in
Evanston, IL



130+

Full-time
professionals



Successfully guided states,
regions, jurisdictions, and
transit agencies through
compliant and inclusive
hazard mitigation plan
updates.



Since 2001

Supported the nation's
largest disaster recovery
efforts, including 9/11,
Katrina, Sandy, Harvey,
CA Wildfires, as well as
dozens of others.



**Experienced in all
federal grant programs**
Including FEMA PA, CDL,
HMGP, HUD CDBG-DR,
FHWA, etc.



Today's Agenda

About Hazard Mitigation Planning

- Background and outcomes of this plan update

Your Role

- Planning Committee responsibilities

What to Expect

- March 5th workshop overview and next steps

Questions

Use the chat box to submit questions throughout the webinar. We will answer at the end.





About Hazard Mitigation Planning



Goals and Objectives for the Plan Update

Leverage current standards, regulations, guidance, and hazard information to ensure the Nassau County Multi-Jurisdictional Hazard Mitigation Plan meets and exceeds New York State and Federal Emergency Management Agency (FEMA) requirements.



Nassau County Map
[Source](#)



Long Beach, NY – Damage after Superstorm Sandy 2012

[Source](#)



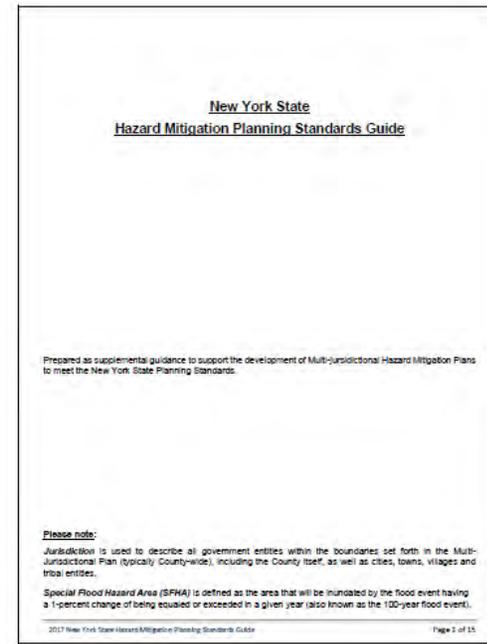
Purpose and Benefits of Hazard Mitigation Planning

- Required under [Disaster Mitigation Act of 2000](#)
- Ensures continued FEMA post-disaster funding:
 - [Public Assistance](#) (PA) for Permanent Work projects
 - [Fire Management Assistance Grants](#) (FMAG)
 - [Hazard Mitigation Grant Program](#) (HMGP)
 - [Pre-Disaster Mitigation](#) (PDM)
 - [Flood Mitigation Assistance](#) (FMA)
- Promotes stronger partnerships among community stakeholders
- Investment in your community's future safety and sustainability
- Educates the public and community officials about hazard risks and vulnerabilities of people, property, and infrastructure



Historical Context

- Previous *Nassau County Multi-Jurisdictional Hazard Mitigation Plan* adopted in 2014
- New updates will be guided by:
 - FEMA Local Mitigation Plan Review Guide (October 2011)
 - New York State Hazard Mitigation Planning Standards Guide (2017)



Local Mitigation Plan Review Guide

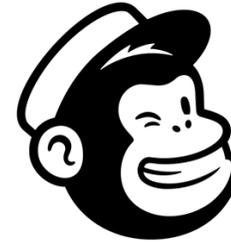
October 1, 2011



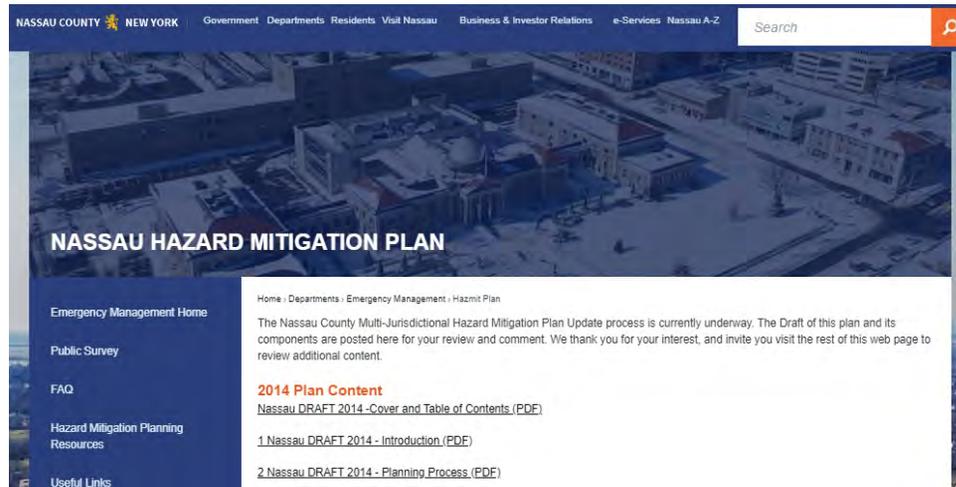
Project Communication Platforms



In-person workshops,
preceded by webinars



Monthly electronic newsletters
through Mail Chimp



Information sharing through Nassau Hazard
Mitigation Plan webpage



Planning Committee Pre-Workshop Webinar



2021 Plan Outcomes

- The **base plan** will be updated to include:
 - ✓ A countywide **assessment of risk to natural hazards**
 - ✓ Countywide **goals for mitigation** that align with current county and state priorities
 - ✓ A **roadmap for maintaining the plan** over the next five years, including evaluation of mitigation projects and continued public participation



2014 Nassau County Multi-Jurisdictional Hazard Mitigation Plan
[Source](#)



2021 Plan Outcomes

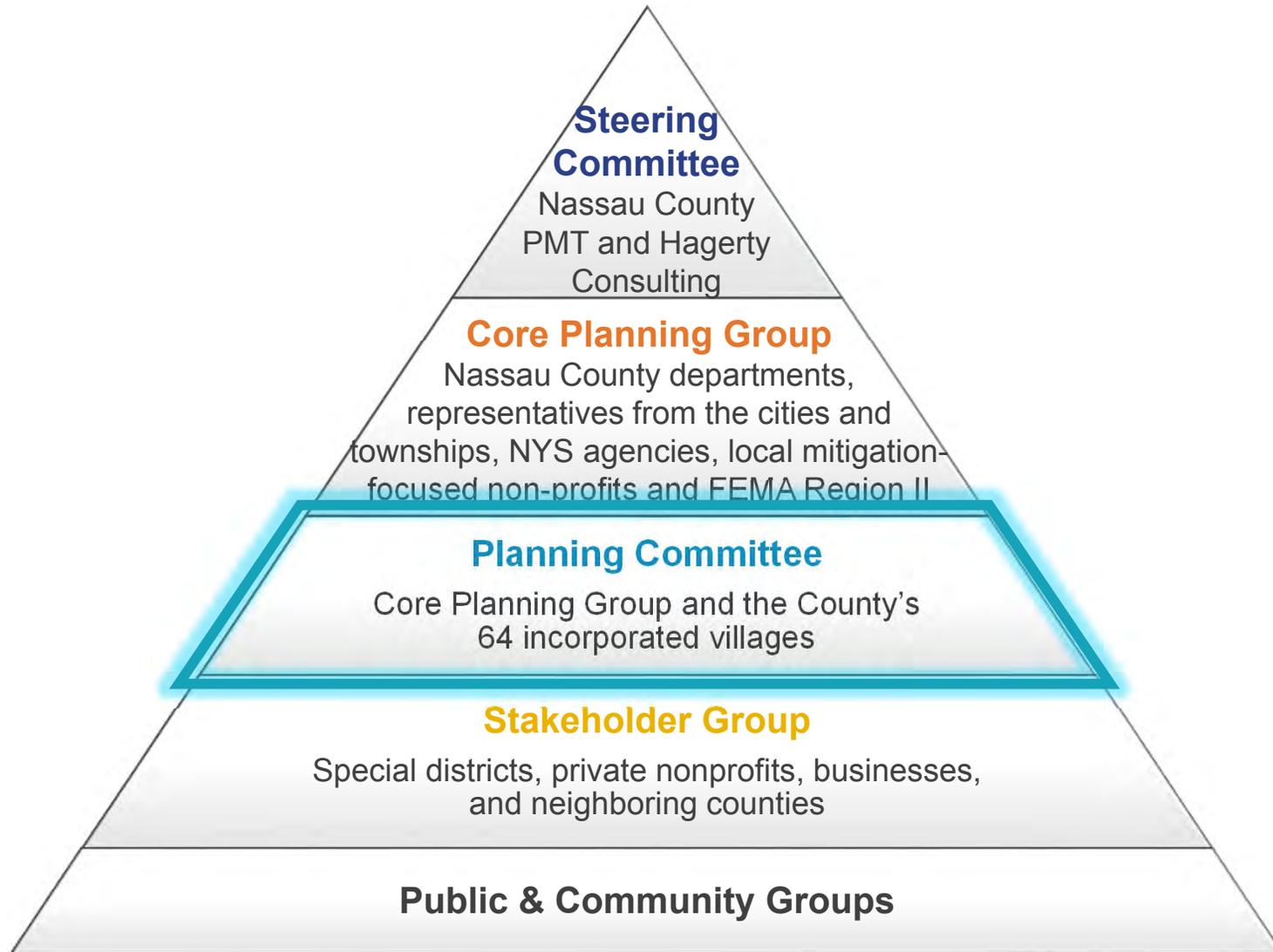
- **Each jurisdiction will have its own annex** to the base plan that includes:
 - ✓ Geography, demographics, and development
 - ✓ Hazard history and vulnerabilities
 - ✓ Critical facilities
 - ✓ Capabilities
 - ✓ Mitigation projects
 - ✓ National Flood Insurance Program summary



Your Role



Stakeholder Engagement



Planning Committee Expectations

- ✓ **Participate** in all in person workshops and webinars
- ✓ **Fill out and return** requested surveys of information
- ✓ **Develop** mitigation action worksheets
- ✓ **Review** and comment on drafts of the hazard mitigation plan

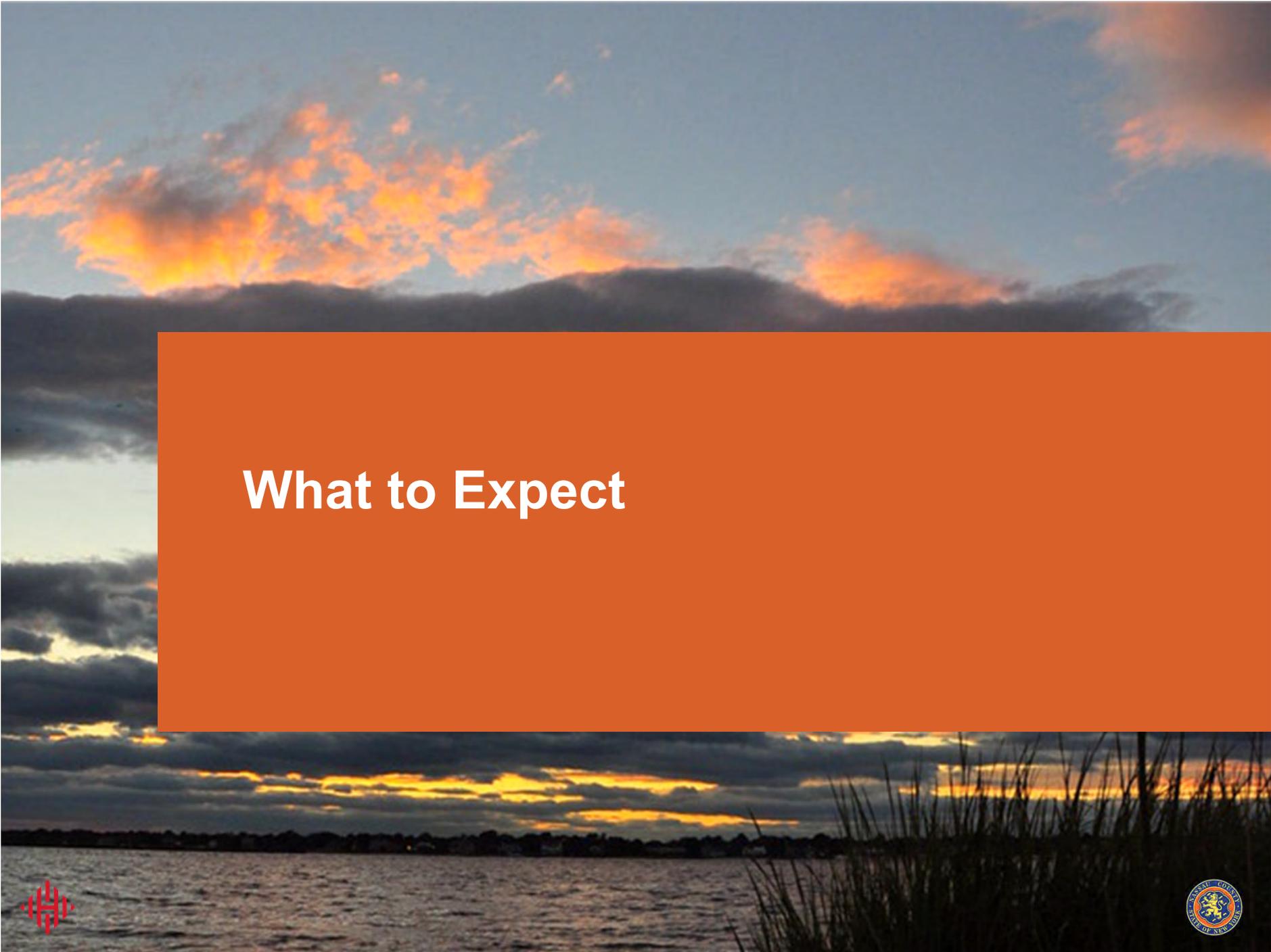
Time is of the essence!



Key Dates and Milestones

Milestone	Timing
Planning Committee Kickoff Workshop	March 5
Interim Public Meeting	April 22, 2020
Risk Review and Mitigation Strategy Workshop	April 22, 2020
Jurisdictional Workshops	May 5 – 7 and 12 – 14, 2020
Planning Committee Hazard Mitigation Workshop	July 8, 2020
Planning Committee Plan Review Meeting	August 4, 2020
Final Public Meeting	August 19
Submit Final Draft Plan to NYS and FEMA for review	September 2020 – January 2021
Plan Adoption	January – March 2021





What to Expect



Planning Committee Kickoff Workshop



Key Objectives:

- Review hazard mitigation planning process and project approach
- Examine previous plan and discuss changes to countywide hazards and mitigation goals
- Review components of jurisdictional annex documents, including:
 - Hazard Review
 - New Development Review
 - Capability Assessment Review
 - National Flood Insurance Program Review
- *Post Workshop: Technical Assistance*



How will jurisdictional annex documents be developed?

- A series of surveys will be distributed **electronically** the day of the workshop
- At the workshop, we will **demonstrate** how to access the surveys and fill them out
- After the workshop, **technical assistance** will be provided to fill out the surveys



Hazard Review



Reflecting on the last five years...

- How have natural hazards impacted people, the economy, public health, natural systems, and buildings and infrastructure in your community?
- Which of these hazards do you consider your community most vulnerable to?

Who is responsible?

Planning
Committee
Member

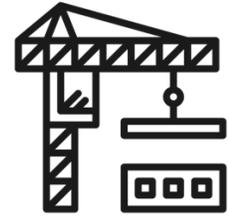
For the workshop...

- Consider and reflect on how natural hazards have impacted different parts of your community over the last five year.



New Development Review

- What's happened in the last 5 years?
- What's planned for the next 5 years?
- Is any of this development in regulatory floodplains? (e.g., 100-year floodplain)



Who is responsible?

Building
Department,
Planner,
Engineer

For the workshop...

- Consult with your jurisdiction's building department, planners, developers, and engineers to begin to understand recent development in your community.



Capability Assessment Review



- What is a “capability”?
 - *People, plans, ordinances, resources, and equipment that enable you to do mitigation projects.*
- What capabilities matter for hazard mitigation planning?
 - Legal and Regulatory
 - Administrative and Technical
 - Fiscal

Who is responsible?

Planning
Committee
Member

For the workshop...

- Identify what capabilities your jurisdiction has used in the past to complete mitigation work. Identify if any gaps or road blocks have prevented mitigation projects in the past.



National Flood Insurance Program Compliance Review



- Each jurisdiction's annex must:
 - Address that jurisdiction's participation in the National Flood Insurance Program, and
 - Describe their plan for continued compliance through their floodplain management program (if applicable).

**Who is
responsible?**

Floodplain
Administrator

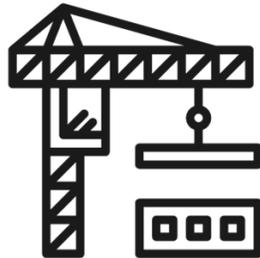
For the workshop...

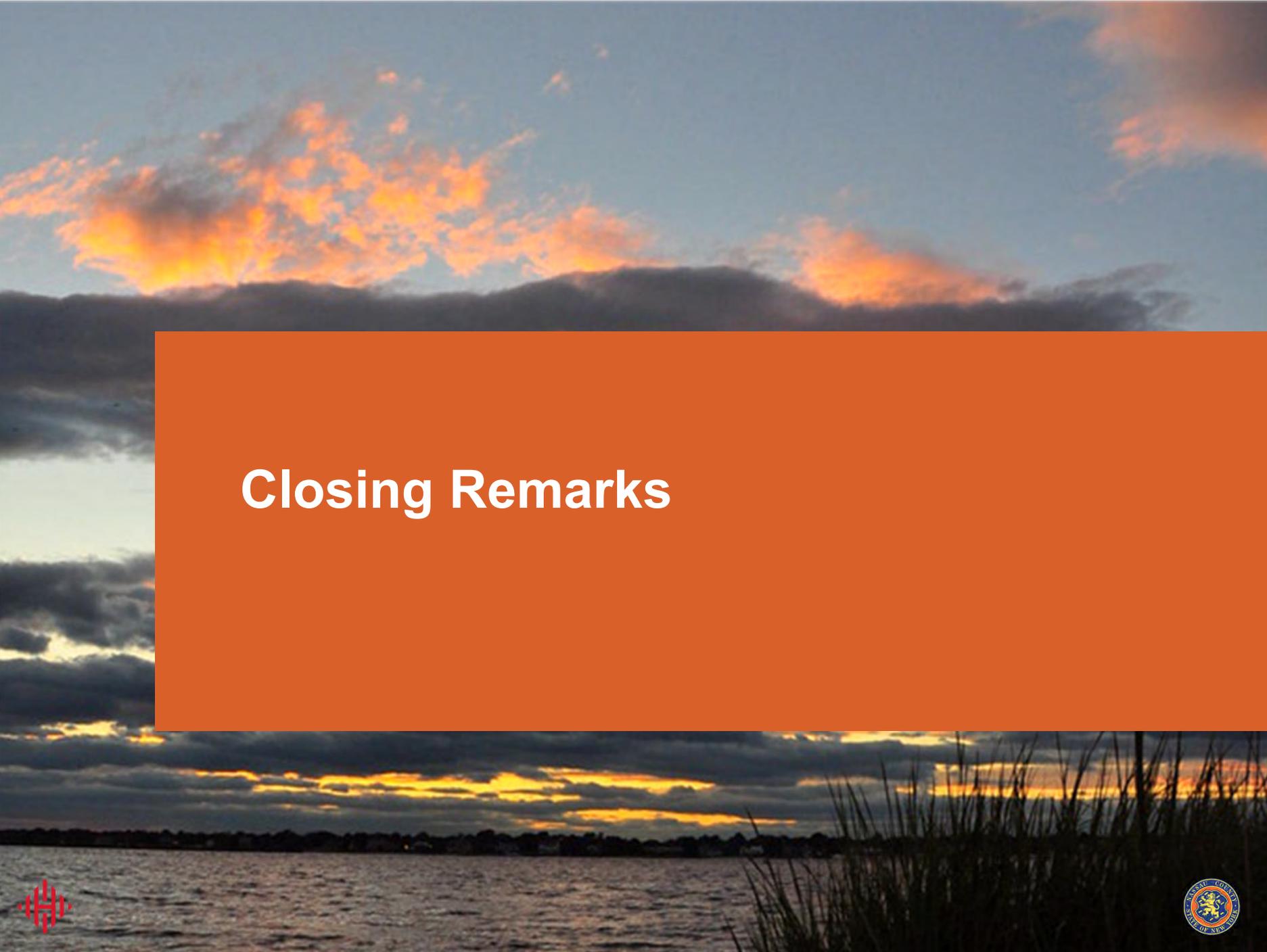
- Identify your jurisdiction's floodplain administrator.



How to Prepare

- ✓ Consider natural hazard impacts on your community
- ✓ Begin to collect an understanding of recent and planned development
- ✓ Think about what resources have enabled mitigation work in the past and what may be missing
- ✓ Identify your jurisdiction's floodplain administrator





Closing Remarks





Questions?

Contact:

Susan Park

Director of Recovery, Nassau County OEM

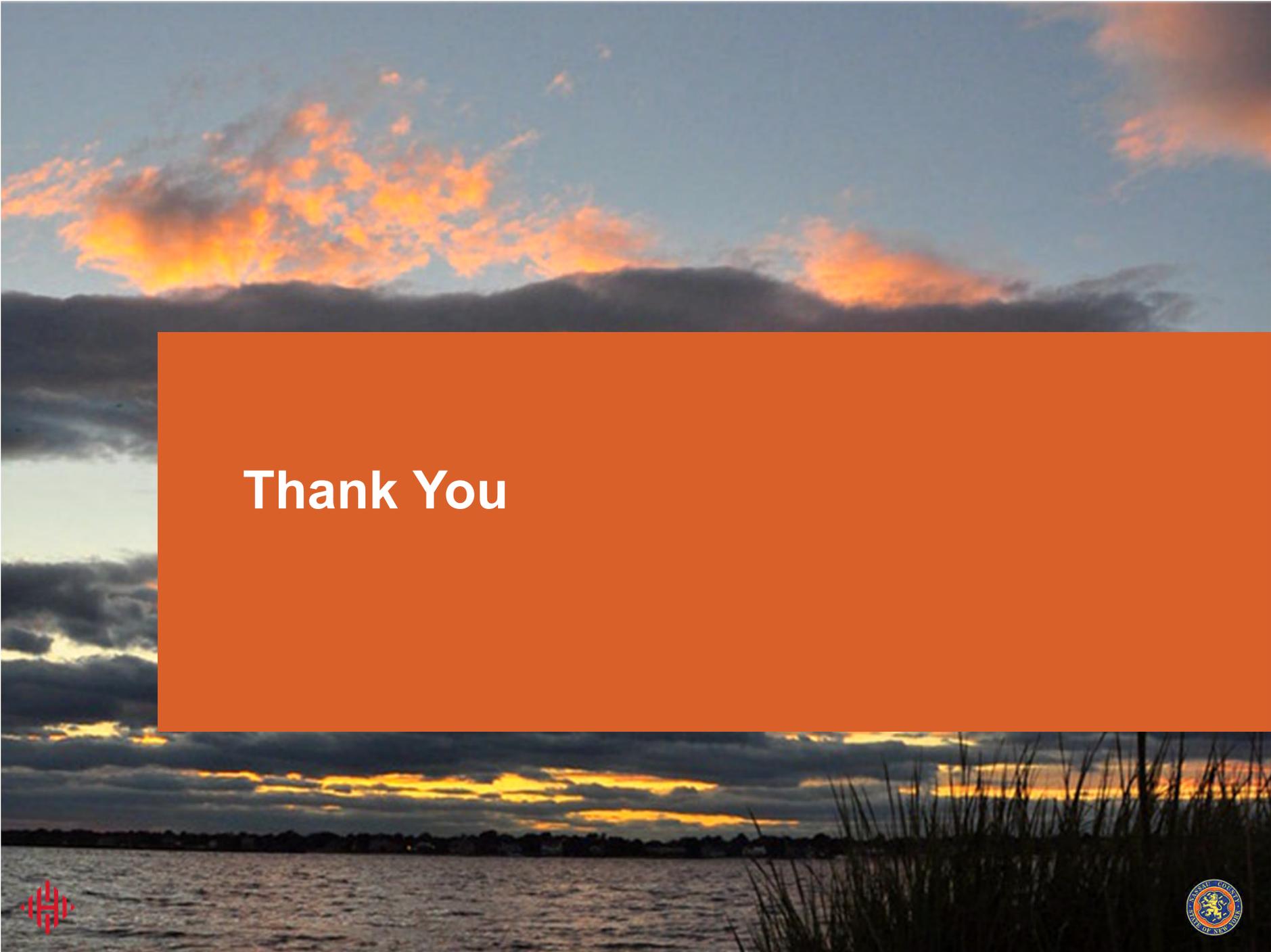
Email: SPark@nassaucountyny.gov

Sydney McKenna

Deputy Project Manager, Hagerty Consulting

Email: Sydney.McKenna@hagertyconsulting.com





Thank You



2/19/20 Pre-Workshop Webinar Attendee List

Last Name	First Name	Organization/ Jurisdiction
Acquavella	Steven	Village of Valley Stream
Alfano-Hardy	Maria	Village of Bayville
Bailey	James	Village of East Williston
Castro	Gerry	Village of Lawrence
Clark	Scott	Village of Hempstead
Clarke	Shannon	New York State Division of Homeland Security and Emergency Services
Conway	Elliot	Village of Upperbrookville
Cribbin	Rob	Village of Lynbrook
Daliposki	Sam	Village of Roslyn
Donno	Barbara	Village of Plandome Manor
Drucker	Arlene	Village of Plandome Heighs
Farrell	Patrick	Village of Lake Success
Gootman	Stephanie	FEMA Region II
Groth	Douglas	Village of Bayville
Guardino	Richard	Long Island Regional Planning Council
Hobbs	Waylyn	Village of Villageof Hempstead
Holdener	Richard	Village of Freeport
Iannucci	Pasquale	Village of Westbury
Johnson	Diana	Nassau County Department of Human Services
Jurcsak	Michael	Village of Russell Gardens
Kreitzman	Ralph	Nassau County Village Officials Association
Kutner	Kenneth	Suffolk County
Lenz	Jeanne	Suffolk County
Lucidi	Enrico	Village of Lattintown
Macri	Robert	Village of Massapequa Park
Malman	Randi	Village of Plandome Manor
Marcus	Renee	Village of Floral Park
Marino	Anthony	Nassau County Department of Public Works
Marks	Nicole	Nassau County Office of Emergency Services
McDermott	Patrick	Village of Lake Success
McKenna	Sydney	Hagerty Consulting
Mergel	Ted	Village of Oyster Bay Cove
Messner	Timothy	Nassau County Department of Parks, Recreation and Museums
Monitz	Gary	FEMA Region II
Mullen	Thomas	Village of Upper Brookville
Pape	Emil	Village of Bellerose
Park	Susan	Nassau County Office of Emergency Services
Reilly	Kevin	Village of Rockville Centre
Roca	Frank	Village of Valley Stream
Sandas	George	Village of Hempstead
Sgambati	Dennis	Village of Hempstead
Spina	Robert	Village of Brookville
Stanton	Brendan	Nassau County Office of Emergency Services
Zitani	Brian	NYS Floodplain and Stormwater Managers Association

2/20/20 Pre-Workshop Webinar Attendee List

Last Name	First Name	Organization/Jurisdiction
Alves	Daniel	Old Westbury
Bunnell	Keith	Williston Park
Connolly	Robert	Nassau County
Corbett	Richard	City of Long Beach
Crean	Kevin	Nassau County
DeAngelo	Jim	Hagerty Consulting
Ganim	David	Nassau County Soil and Water Conservation District
Golio	Michael	Nassau County
Harris	Donna	Mill Neck
Holiday	Ruth Anne	Hagerty Consulting
Kaplan	Steve	Port Washington North
Kennedy	Bruce	Sea Cliff
Kugler	Josh	Mill Neck
Kusoff	Dina	Roslyn Harbor
Mangano	Robert	Town of Oyster Bay
McKenna	Sydney	Hagerty Consulting
Moorehead	Michael	Kings Point
Neubert	Jim	Great Neck
Park	Susan	Nassau County
Powers	Ed	Town of Hempstead
Ryder	Michael	Hewlett Harbor
Stanton	Brendan	Nassau County
Toscano	Tony	Muttontown
Zoller	Thomas	Cove Neck

Planning Committee Workshop

March 5, 2020, 9:00 AM - 12:00 PM

Morrelly Center, 510 Grumman Road West, Bethpage, NY 11714

1. Planning Committee Workshop Invitation
2. Planning Committee Workshop Sign in Sheet
3. Planning Committee Workshop One Pager
4. Planning Committee Workshop PowerPoint Presentation
5. Planning Committee Workshop Meeting Summary



Register Now!

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If you have any questions, please contact Susan Park at (516) 573-9642 or spark@nassaucountyny.gov.

Initials	Last Name	First Name	Organization
MAH	Alfano-Hardy	Maria	Bayville
DA	Alves	Daniel	Old Westbury
	Arnold	Elliott	North Hills NOT ATTENDING EVER
GP	Bencic	Gregg	Old Westbury
MS	Bohrson	Michelle	Hagerty
PAS	Broderick	Paul	Nassau County Department of Social Services
	Brown	Shawn	Town of North Hempstead
KAS	Bunnell	Keith	Williston Park
	Castro	Gerry	Village of Lawrence
	Cherson	Steven	Atlantic Beach
MTL	Clifford III	Richard	Stewart Manor
ES	Cole	Elizabeth	Long Island Regional Planning Council
PC	Connolly	Robert	NCPD
SL	Conway	Elliot	Upper Brookville
DO	Coppola	Richard	New Hyde Park
KJC	Corbett	Richard	City of Long Beach
KOL	Crean	Kevin	Nassau County Office of Community Development
	Cribbin	Rob	Lynbrook
	Daliposki	Sam	Roslyn
	DaSilva	Joshua	Nassau County
	Dean	Tara	Stewart Manor
	DeSimone	Ann	Nassau County Department of Health
	Dommin	Shane	Sea Cliff
	Donno	Barbara	Plandome Manor
	Dougherty	Tim	Village of Brookville
	Falcones	Richard	Flower Hill
	Farrell	Patrick	Lake Success
	Fonda	Bill	NYS Department of Environmental Conservation
PF	Fulgieri	Phil	Westbury
US	Gange	Michael	Town of Oyster Bay
	Ganim	David	Nassau County Soil and Water Conservation District
JG	Garcia	Juan	East Rockaway
KG	Ginnane	Kevin	Floral Park
	Golio	Michael	Nassau County Sheriff's Department & Correctional Center
	Goodman, M.D.	Kenneth	Matinecock
AS	Groth	Doug	Bayville
	Guardino	Richard	Long Island Regional Planning Council
TS	Gutierrez	Ted	Cove Neck
NA	Haagenson	Nora	Baxter Estates
	Harris	Donna	Mill Neck
	Harty	Brian	Farmingdale
	Hausner	Marie	East Williston
	Hobbs	Waylyn	Hempstead, Village of

Sign-In Sheet

Planning Committee Kickoff Meeting

Date: 3/5/2020

Initials	Last Name	First Name	Organization
<i>RD</i>	Holdener	Richard	Freeport
<i>RA</i>	Holiday	Ruth Anne	Hagerty
<i>IP</i>	Iannucci	Pasquale	Westbury
<i>IS</i>	Isola	John	Island Park
<i>JD</i>	Johnson	Diana	Nassau County Department of Human Services
<i>JM</i>	Jurcsak	Michael	Russell Gardens
<i>JK</i>	Kaplan	Steven	
<i>KB</i>	Kennedy	Bruce	Sea Cliff
<i>KR</i>	Kreitzman	Ralph	Nassau County Village Officials Association
<i>KJ</i>	Kugler	Josh	Mill Neck
<i>KS</i>	Kussoff	Dina	Roslyn Harbor
<i>KU</i>	Kutner	Kenneth	Suffolk County Office of Emergency Management
<i>KL</i>	Leddins	Kris	Hagerty
<i>LN</i>	Lenz	Jeanne	Suffolk County Office of Emergency Management
<i>LU</i>	Lublin	Setn	
<i>LC</i>	Lucidi	Enrico	Lattingtown
<i>MACRI</i>	MACRI	ROBERT	Massapequa Park
<i>DM</i>	Malman	Randi	Plandome Manor
<i>DM</i>	Mangano	Robert	Town of Oyster Bay
<i>MA</i>	Mannino	Angela	Brookville
<i>MR</i>	Marcus	Renee	Floral Park
<i>MA</i>	Marino	Anthony	Malverne
<i>MA</i>	Marks	Nicole	NCOEM
<i>MA</i>	Massaro	Louie	Great Neck
<i>MC</i>	McCarty	Meagan	Sands Point
<i>MD</i>	McDermott	Patrick	Lake Success
<i>SK</i>	McKenna	Sydney	Hagerty
<i>TM</i>	Mergel	Ted	Oyster Bay Cove
<i>TM</i>	Messner	Timothy	Nassau County Department of Parks, Recreation and Museums
<i>GM</i>	Monitz	Gary	FEMA
<i>MM</i>	Moorehead	Michael	Kings Point
<i>NM</i>	Nemshin	Jeffrey	Laurel Hollow
<i>JN</i>	Neubert	Jim	Great Neck
<i>OR</i>	Ortiz	Christopher	City of Glen Cove
<i>PL</i>	Palumbo	Leonard	Mineola
<i>EP</i>	Pape	Emil	Bellerose
<i>PR</i>	Parente	Bonnie	East Williston
<i>FR</i>	Parise	Frank	Cedarhurst
<i>SP</i>	Park	Susan	NCOEM
<i>PE</i>	Peckelis	Alice	Baxter Estates
<i>BP</i>	Pilczak	Bohdan	Nassau County Fire Marshal
<i>EP</i>	Powers	Edward	Town of Hempstead
<i>KAR</i>	Reilly	Kevin	Rockville Centre

Michael Jurcsak participated in the Kickoff Meeting. Correction made on 3/12/2020 by Susan Park -SP 3/12/2020





Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Planning Committee Hazard Mitigation Kickoff Workshop Agenda

March 5, 2020 | Sign-in starts at 8:30 AM; meeting begins promptly at 9:00 AM

Morrelly Center, 510 Grumman Road West, Bethpage, New York 11714

Time	Item Details
09:00 AM	Introduction
09:15 AM	Project Review <ul style="list-style-type: none"> • Provide an overview of the project • Define stakeholder groups
09:30 AM	Hazard Mitigation Planning Review <ul style="list-style-type: none"> • Discuss the purpose of mitigation planning • Introduce New York State Department of Homeland Security and Emergency Services (NYS DHSES) and Federal Emergency Management Agency (FEMA) requirements
10 AM BREAK	
10:10 AM	Base Plan Review <ul style="list-style-type: none"> • Provide an overview of the Plan Update • Discuss details of risk assessment, capability assessment, and mitigation strategy • Engage stakeholders to support planning process
11 AM BREAK	
11:10 AM	Jurisdictional Annexes <ul style="list-style-type: none"> • Review jurisdiction annex structure and content • Review intent of surveys and who should be filling them out
11:50 AM	Conclusion and Next Steps <ul style="list-style-type: none"> • Discuss next steps for the planning team and stakeholders

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at spark@nassaucountyny.gov.



HAGERTY



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Introduction

Nassau County is currently updating its Hazard Mitigation Plan, a document that identifies the County’s greatest vulnerabilities to natural hazards and outlines an approach to mitigating risks. All of the County’s villages, towns, and cities are invited and encouraged to participate in the Planning Committee for this Plan Update. Your participation will ensure that the Plan Update addresses your community’s needs and that your jurisdiction maintains eligibility for federal assistance programs.



The Hazard Mitigation Plan Update will be a multi-part process that includes continuous engagement with stakeholders and the public. The Plan Update will capture your jurisdiction’s greatest concerns about natural hazards, and lay out projects that can improve the quality of life and protect the places where you live and work.

Plan Components

The Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update will include two main parts:

1. **A countywide “base plan”** that includes information about natural hazard risk, capabilities, and the mitigation strategy for Nassau County.
2. **Jurisdiction-specific “annexes”** that capture unique information specific to each jurisdiction’s risk, capabilities, and strategy for mitigation.

Participation

There are three groups of individuals that will oversee and contribute to different aspects of the Hazard Mitigation Plan Update:

Group	Responsibilities
Steering Committee <i>Nassau County OEM Director of Recovery, Nassau County OEM Director of Planning, & Hagerty Consulting</i>	Organize and carry out the planning process, collect information from the CPG and Planning Committee, and develop draft plan documents
Core Planning Group <i>Nassau County departments, Long Island agencies, representatives from the cities & townships, New York State agencies, and FEMA Region II</i>	Contribute information to, and review and comment on, the countywide plan.
Planning Committee <i>CPG cities & towns and Nassau County’s 64 incorporated villages</i>	Contribute information to, and review and comment on, your jurisdiction’s annex.

Planning Process

The planning process to update the Nassau County Multi-Jurisdictional Hazard Mitigation Plan began at the start of 2020. The draft Plan Update will be submitted to New York State Division of Homeland Security and Emergency Services (NYS DHSES) and the Federal Emergency Management Agency (FEMA) for review during the fall and winter of 2020, and the final Plan Update will be ready for jurisdictions to adopt in early 2021.

To prepare the Plan Update, the Steering Committee will organize meetings and workshops for the Core Planning Group and Planning Committee to attend over the next several months. Please check your email for save the dates and invitations to register.

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at spark@nassaucountyny.gov.



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Planning Committee Workshop

March 5, 2020





Introduction: Nassau Team



Susan Park
Director of Recovery
Nassau County Office of
Emergency Management





Introduction: Hagerty Team



Sydney McKenna

Deputy Project Manager

Michelle Bohrson

Hazard Mitigation Planner

Ruth Anne Holiday

Local Planner

Kris Ledins

Local Planner



About Hagerty Consulting



2001

Founded in
Evanston,
IL



Since 2001

Supported the nation's largest disaster recovery efforts, including 9/11; Hurricanes Katrina, Sandy, Harvey; California Wildfires; as well as dozens of others.



Successfully guided states, regions, jurisdictions, and transit agencies through compliant and inclusive hazard mitigation plan updates.



130+

Full-time professionals



Experienced in all federal grant programs

Including FEMA PA, CDL, HMGP, HUD CDBG-DR, FHWA, etc.*

*Federal Emergency Management Agency (FEMA) Public Assistance (PA), FEMA Community Disaster Loans (CDL), FEMA Hazard Mitigation Grant Program (HMGP), US Department of Housing and Urban Development (HUD) Community Development Block Grants Disaster Recovery Program (CDBG-DR), Federal Highway Administration (FHWA)



Workshop Objectives

- Review hazard mitigation planning process and project approach
- Examine previous plan and discuss changes to countywide hazards and mitigation goals
- Review components of jurisdictional annex documents and walk through filling out the online forms



Planning Committee Kickoff Workshop



Workshop Materials



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Planning Committee Hazard Mitigation Kickoff Workshop Agenda
March 5, 2020 | Sign-in starts at 8:30 AM; meeting begins promptly at 9:00 A.M.
Assembly Center, 510 Grassman Road West, Bethpage, NY 11714

Time	Item Details
09:00 AM	Introduction
09:15 AM	Project Review <ul style="list-style-type: none"> Provides an overview of the project Define stakeholder groups
09:30 AM	Hazard Mitigation Planning Review <ul style="list-style-type: none"> Discuss the purpose of mitigation planning Introduce NYS and FEMA requirements
10 AM BREAK	
10:10 AM	Base Plan Review <ul style="list-style-type: none"> Provides an overview of the plan Discusses details of risk assessment, capability assessment, and mitigation strategy Engage stakeholders to support planning process
11 AM BREAK	
11:10 AM	Jurisdictional Assessments <ul style="list-style-type: none"> Review jurisdiction annexes structure and content Review extent of surveys and who should be filling them out
11:50 AM	Conclusion and Next Steps <ul style="list-style-type: none"> Discuss next steps for the planning team and stakeholders

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at spark@nassaucounty.gov

Plan Components

The Nassau County Multi-Jurisdictional Hazard Mitigation Plan will include two main parts:

- A countywide "base plan" that includes information about natural hazard risks, capabilities, and the mitigation strategy for Nassau County.
- Jurisdiction-specific "annexes" that capture unique information specific to each jurisdiction's risk, capabilities, and strategy for mitigation.

Participation

There are three groups of individuals that will oversee and contribute to different aspects of the Hazard Mitigation Plan update:

Group	Responsibilities
Steering Committee Nassau County Chief Director of Recovery, Nassau County Chief Director of Planning & Policy, and County Council	Organize and carry out the planning process, solicit information from the CPS and Planning Committee, and develop draft plan documents
Core Planning Group Local elected officials, CPS, and other agency representatives from the state's seven New York State agencies, and FEMA Region II	Contribute information, and review and comment on the resulting plan
Planning Committee CPS cited 4 boards and various advisory committees	Contribute information to, and review and comment on, your jurisdiction's annex

To update the Nassau County Multi-Jurisdictional Hazard Mitigation Plan began at the start of 2020. The bill to New York State Division of Homeland Security and Emergency Services (NYS DHS&ES) and the Management Agency (FEMA) for review during the fall and winter of 2020, and the final plan will be ready by early 2021.

The Steering Committee will organize meetings and workshops for the Core Planning Group and Planning Committee over the next several months. Please check your email for save the dates and invitations to register.

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at spark@nassaucounty.gov

Agenda and Project Summary



Local Hazard Mitigation Planning Legal Requirements

Introduction:
This document summarizes some of the legal requirements for local hazard mitigation plans. The Code of Federal Regulations (CFR) holds stipulations necessary for local hazard mitigation plans to uphold. The Federal Emergency Management Agency (FEMA) Local Hazard Mitigation Plan Update details requirements and expectations for meeting the CFR requirements and ensuring a high-quality hazard mitigation plan. New York State Division of Homeland Security and Emergency Services (NYS DHS&ES) Local Hazard Mitigation Planning Strategy Guide details state-specific plan requirements that enhance resilience and prepare communities for climate change.

PLANNING PROCESS

Federal Requirements

- Opportunity for the public to review and comment on plan
- Treatment of diverse audience of stakeholders
- Incorporation of existing plans, studies, reports, and technical information
- Documentation of the planning process

NYS DHS&ES Requirements

- Establish diverse jurisdictional teams

CAPABILITY ASSESSMENT

Federal Requirements

- Document existing authorities, policies, programs, and resources
- Document ability to expand resources

NYS DHS&ES Requirements

- Identify funding sources
- Jurisdiction-specific capability assessments
- Plan for displaced residents, evacuation needs, and sheltering

MITIGATION STRATEGY

Federal Requirements

- Analyze a comprehensive range of mitigation actions
- Determine the actions to implement
- Prioritize implementation based on costs and benefits
- Describe process to integrate into other plans

NYS DHS&ES Requirements

- Document past mitigation accomplishments
- Develop mitigation actions, including how NYS DHS&ES mitigation action worksheets for minimum of five projects

RISK ASSESSMENT

Federal Requirements

- Describe type, location, and extent of all natural hazards
- Provide information on previous occurrences and probability of hazards
- Describe impacts on community and vulnerability
- Assess NFIP insurance

NYS DHS&ES Requirements

- Plan for climate change
- Document jurisdiction-specific hazards and vulnerabilities

PLAN MAINTENANCE

Federal Requirements

- Continue to seek public feedback after the hazard mitigation plan is approved
- Identify how the hazard mitigation plan will be monitored and evaluated within 5-year cycle

NYS DHS&ES Requirements

- No specific requirements

JURISDICTIONAL ANNEXES

Federal Requirements (per jurisdiction)

- Document existing authorities, policies, programs, and resources
- Document ability to expand resources

NYS DHS&ES Requirements

- Include jurisdictional annexes

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Management Director of Recovery, at spark@nassaucounty.gov

Planning Requirements Summary





Agenda

- 09:00 AM – Introduction**
- 09:15 AM – Project Review**
- 09:30 AM – Hazard Mitigation Planning Review**
- 10:00 AM – Break**
- 10:10 AM – Base Plan Review**
- 11:00 AM – Break**
- 11:10 AM – Jurisdictional Annexes**
- 11:50 AM – Conclusions and Next Steps**





Project Review



Goals for the Plan Update

- **Engage** the County, its 69 jurisdictions, and community members to update the hazard mitigation plan
- Create a common understanding of **natural hazard risk** and **vulnerabilities** in the County
- Develop a mitigation strategy that can **reduce risk** and **bolster the resilience** of the County
- Maintain Nassau County's **eligibility** for federal disaster recovery assistance under the Stafford Act by having a FEMA approved Hazard Mitigation Plan (HMP) Update



2021 Plan Outcomes

- Updated **countywide base plan**, to include:
 - ✓ A countywide assessment of risk to natural hazards
 - ✓ Countywide goals for mitigation and corresponding mitigation projects (actions)
 - ✓ A roadmap for maintaining the plan over the next five years, including evaluation of mitigation projects and continued stakeholder and public participation



Nassau County 2014 Plan Update



2021 Plan Outcomes

- **Individual jurisdictional annexes**, to include:
 - ✓ Geography, demographics, and development
 - ✓ Hazard history and vulnerabilities
 - ✓ Critical facilities
 - ✓ Capabilities
 - ✓ Mitigation projects
 - ✓ National Flood Insurance Program (NFIP) summary



Nassau County Map



Project Communication Platforms



In-person
workshops



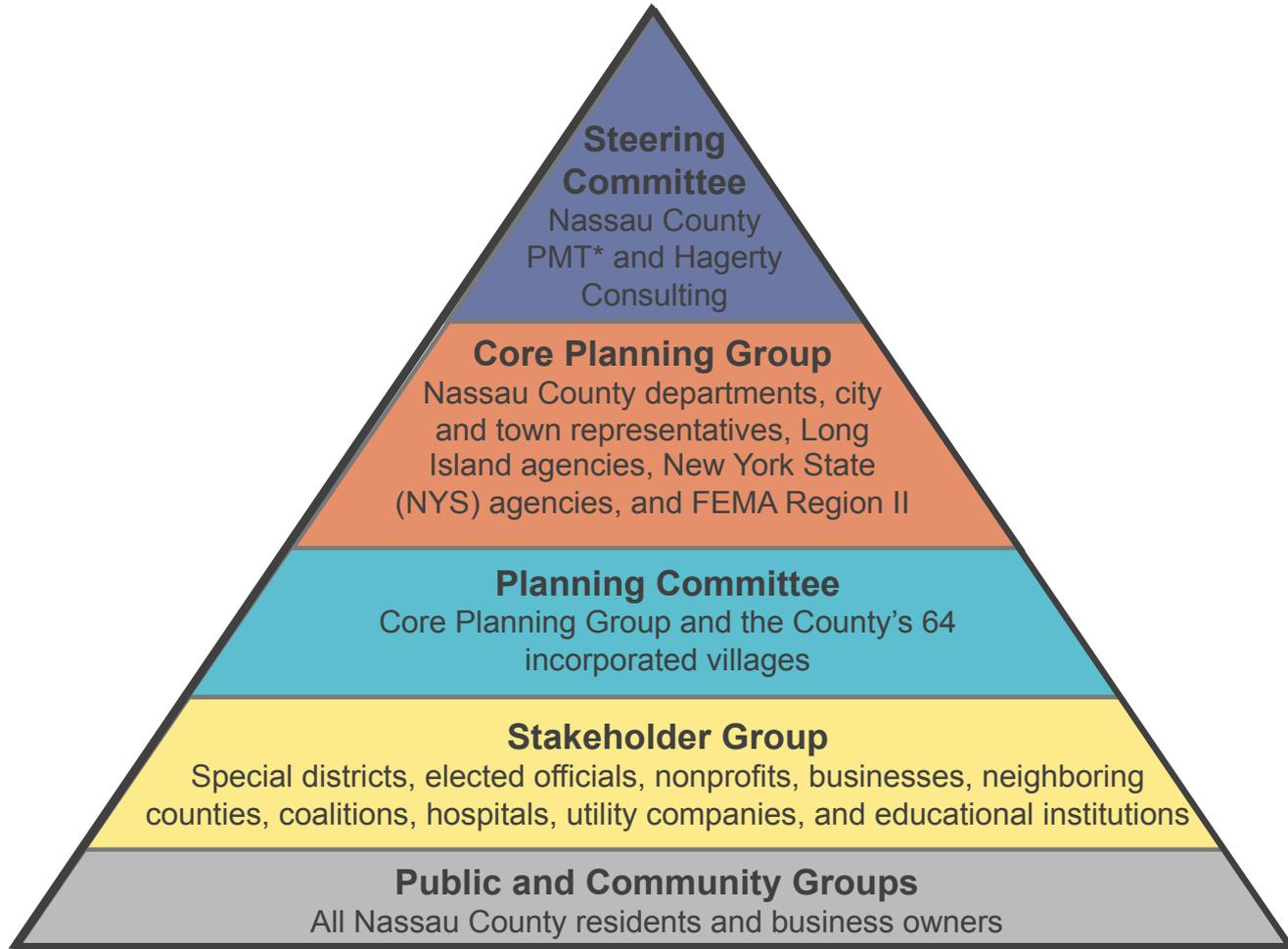
Information
sharing through
Nassau Hazard
Mitigation Plan
web page



Monthly
electronic
newsletters
through
Mailchimp



Stakeholder Engagement



Planning Committee Expectations

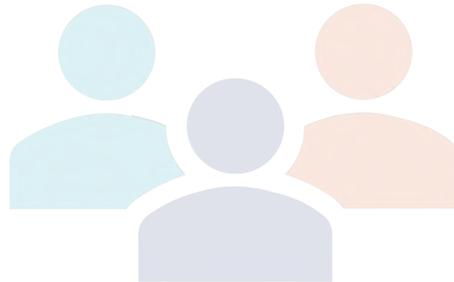
- **Participate** in workshops and webinars, or send a representative in your place
- Fill out and return requested **surveys of information**
- Develop **mitigation action worksheets**
- **Review and comment on drafts** of the hazard mitigation plan (HMP)
- **Document all time** spent supporting planning meetings and plan development



Planning Committee Expectations

- **Participate** in workshops and webinars, or send a representative in your place
- Fill out and return requested **surveys of information**

Your participation is critical for plan approval and adoption.



Key Dates and Milestones



- **Planning Committee Kickoff Workshop (3/5)**
- Interim Stakeholder and Public Meeting (TBD)
- Risk Review and Mitigation Strategy Workshop (4/22)
- Jurisdictional Workshops (Early May)

- Planning Committee Hazard Mitigation Workshop (July)
- Planning Committee Plan Review Meeting (August)
- Final Public Meeting (August)

- Submit Final Plan to New York State Division of Homeland Security and Emergency Services for Review
- Submit Final Plan to FEMA for Review and Approval Pending Adoption

- Plan Adoption





Hazard Mitigation Planning Review



What is Hazard Mitigation?



Hazard Mitigation describes actions taken to reduce the impact of natural and manmade hazards on people, property, economies, and the environment

Hazard Mitigation Planning presents an opportunity to think deliberately about the greatest vulnerabilities in your community and make a plan to address those issues through incremental, achievable projects

Hazard Mitigation Plans capture the planning process and summarize mitigation projects in an organized fashion so that it can be easily referenced in the future

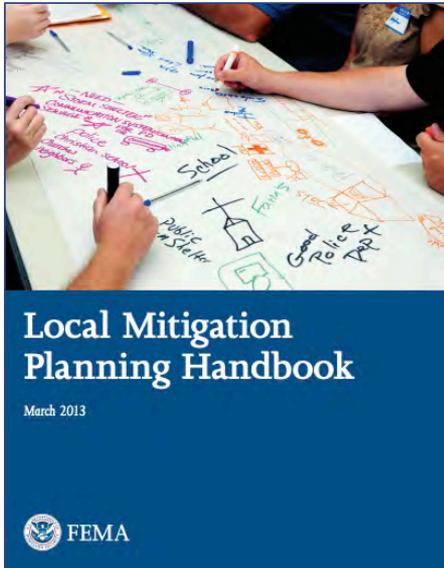


Benefits of Hazard Mitigation Planning



Legal Requirements

Refer to the Planning Requirements Summary handout!



APPENDIX A: LOCAL MITIGATION PLAN REVIEW TOOL

This Local Mitigation Plan Review Tool demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.4 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

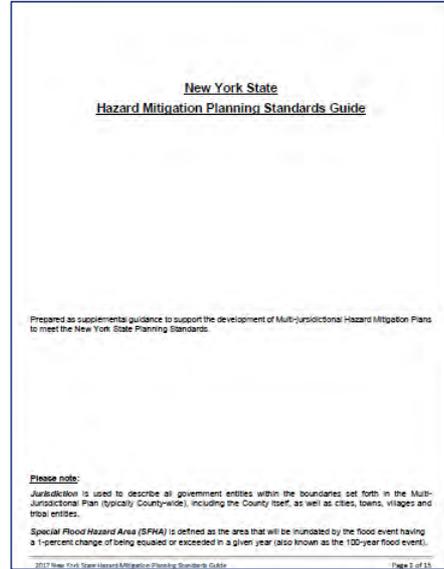
- The **Regulation Checklist** provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The **Plan Assessment** identifies the plan's strengths as well as documents areas for future improvement.
- The **Multi-jurisdiction Summary Sheet** is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation); and Plan Adoption).

The FEMA Mitigation Planner must reference the Local Mitigation Plan Review Guide when completing the Local Mitigation Plan Review Tool.

Jurisdiction:		Title of Plan:		Date of Plan:	
Local Point of Contact:			Address:		
Title:					
Address:					
Phone Number:			E-Mail:		
State Reviewed:		Title:		Date:	
FEMA Reviewed:		Title:		Date:	
Date Received by FEMA Region (over a)					
Plan Not Approved					
Plan Approvable Pending Adoption					
Plan Approved					

LOCAL Mitigation Plan Review Tool - A-1

FEMA Guidance and Federal Requirements



New York State Division of Homeland Security and Emergency Services Guidance and Requirements



Planning Process



Planning Process





Base Plan Review



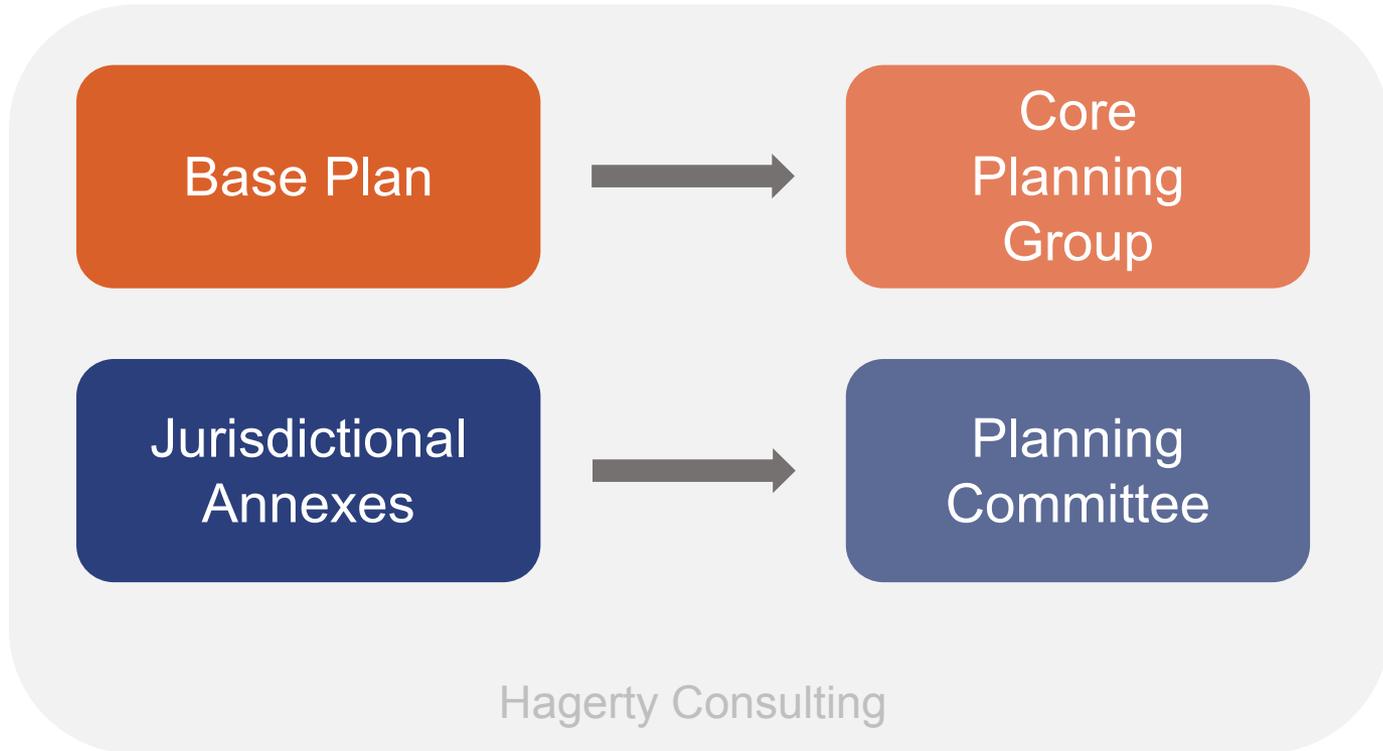
Hazard Mitigation Plan Components



Base Plan Review



Planning Process Responsibility



Introduction and Planning Process

Introduction

- Outline the purpose, scope, and planning assumptions
- Provide context for the situation of the planning area
- Review the laws and regulations driving the planning process

Planning Process

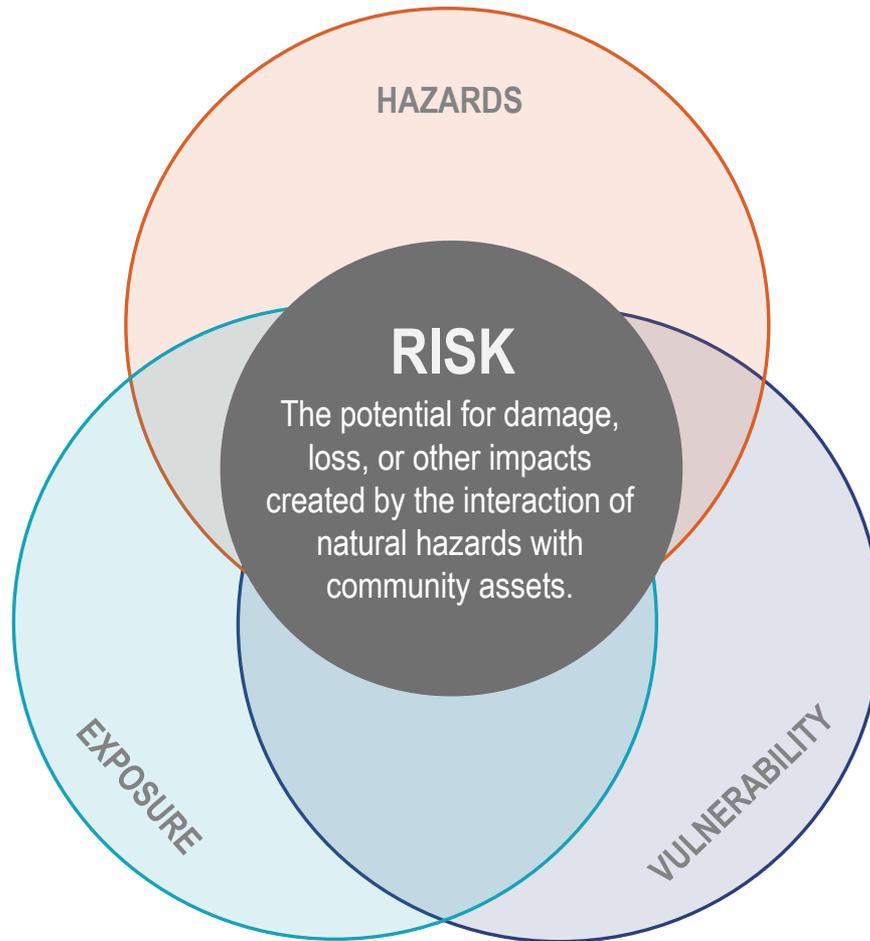
- Discuss the County's process for plan development including the schedule and activities
- Outline the stakeholder and public participation
- Review of relevant existing plans, studies, reports, and technical information



Base Plan Review



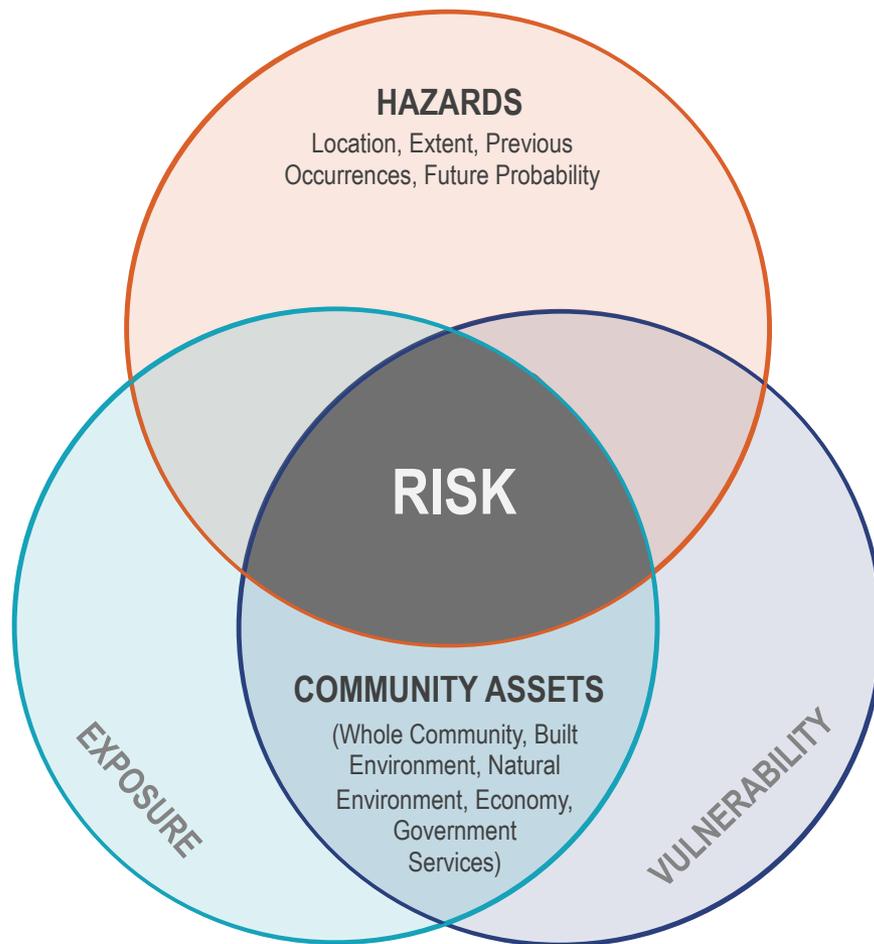
Risk Assessment Overview



Planning Committee Kickoff Workshop



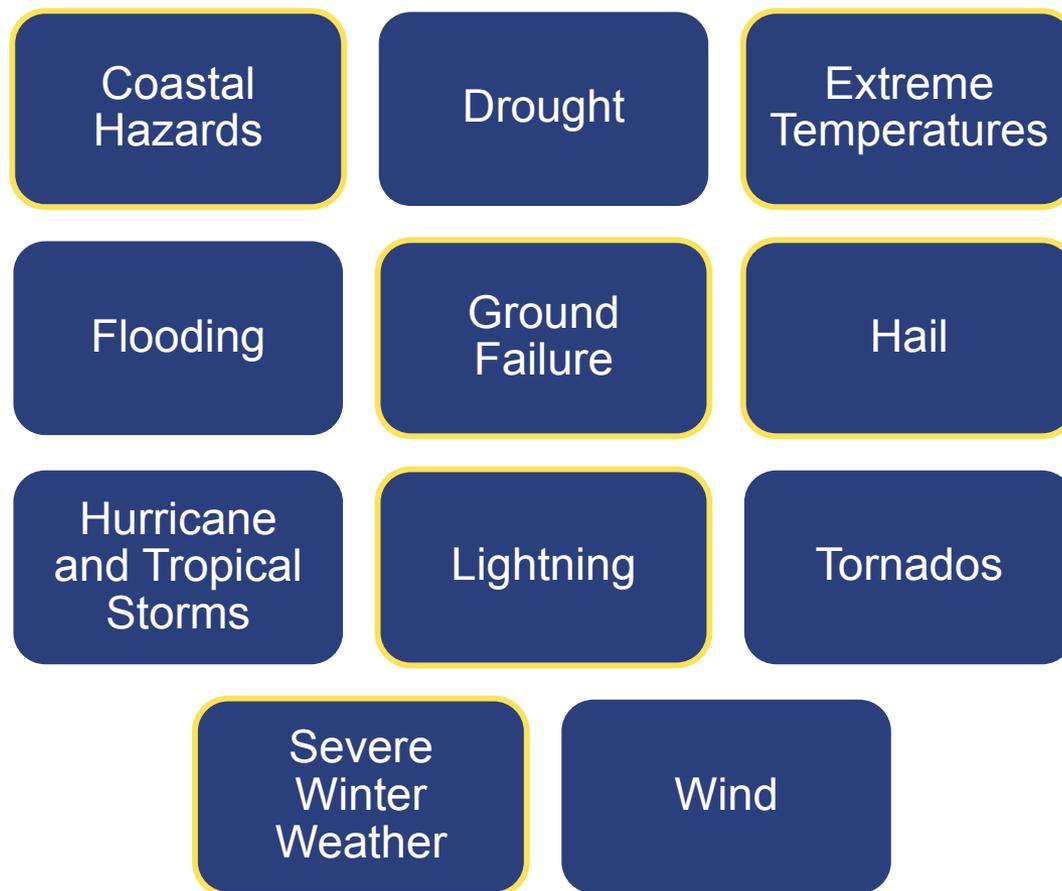
Risk Assessment Overview



Planning Committee Kickoff Workshop



Hazard Identification Overview



*Highlighted hazards are new to this plan update



Risk Assessment Methodology



Based on ...

- Stakeholder feedback
- Past hazard occurrence data
- 2019 New York State Hazard Mitigation Plan (*Mitigate NY*)

Describing ...

- Location
- Extent
- Previous occurrences
- Future probability, and impacts

By conducting...

- Exposure analysis
- Estimation of potential losses



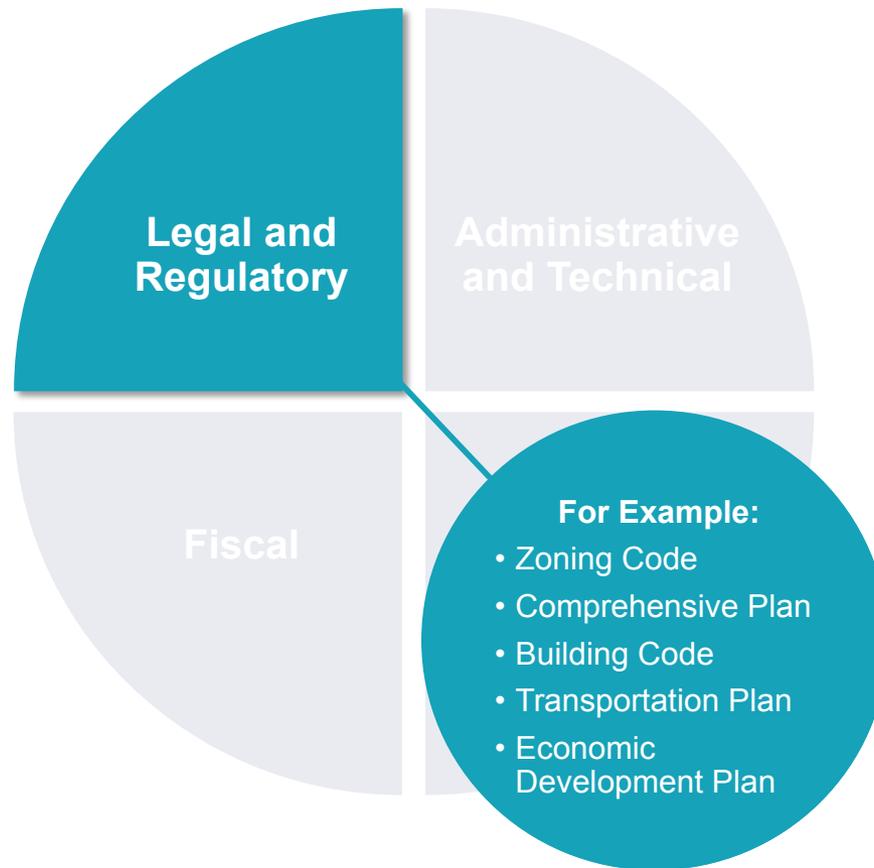
Base Plan Review



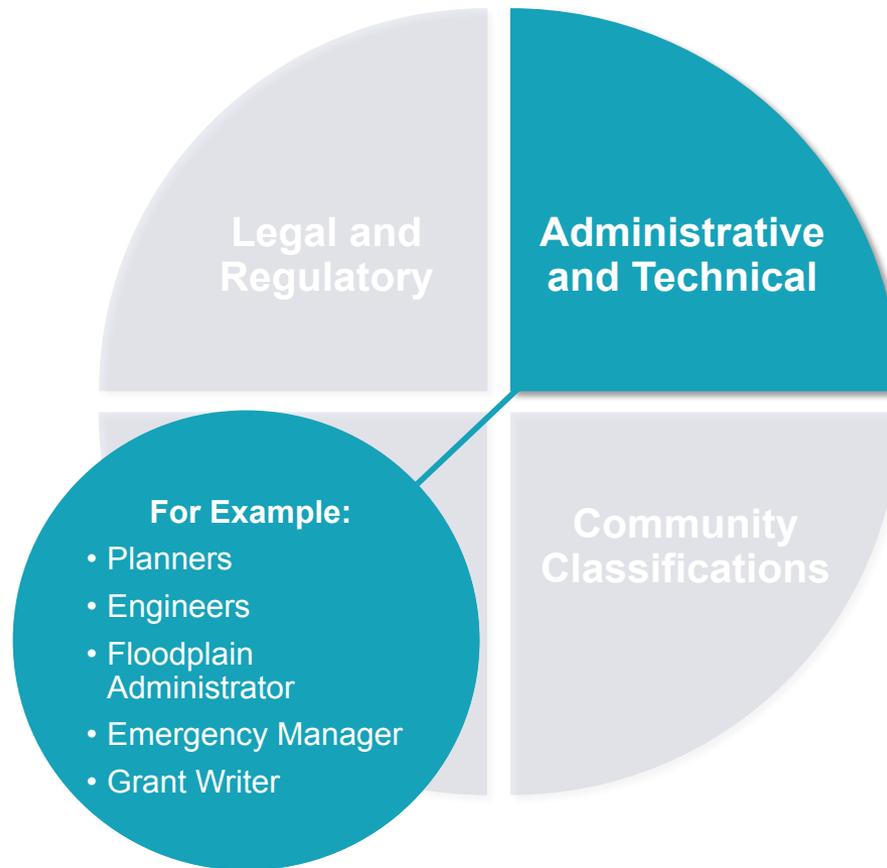
Types of Capabilities



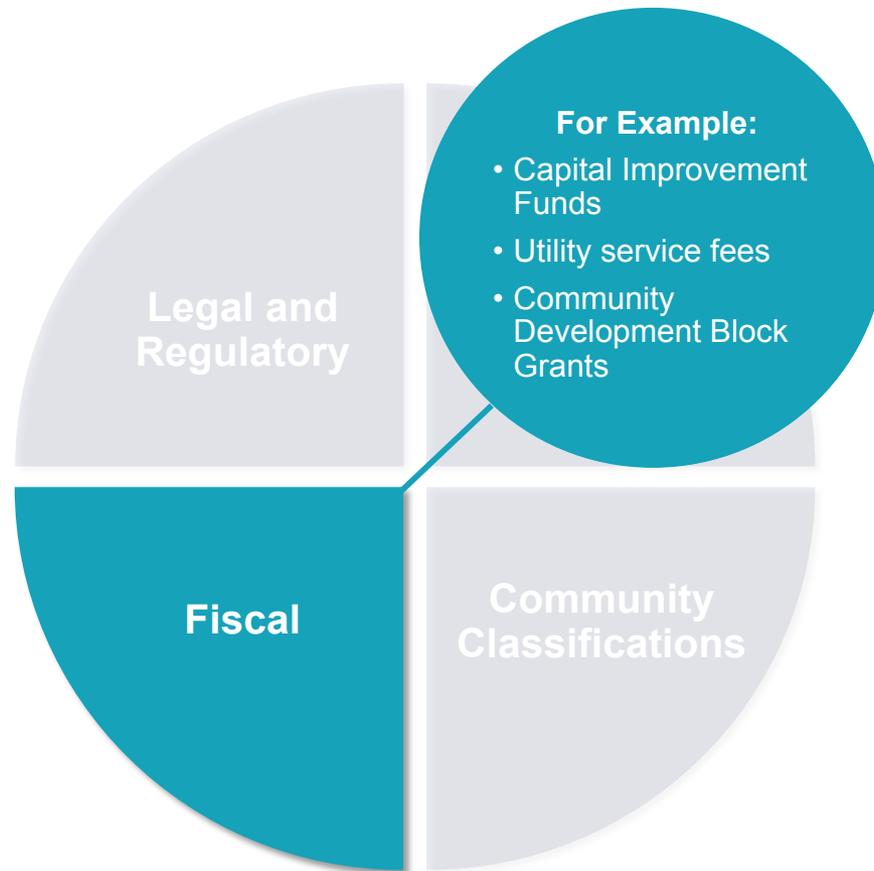
Types of Capabilities



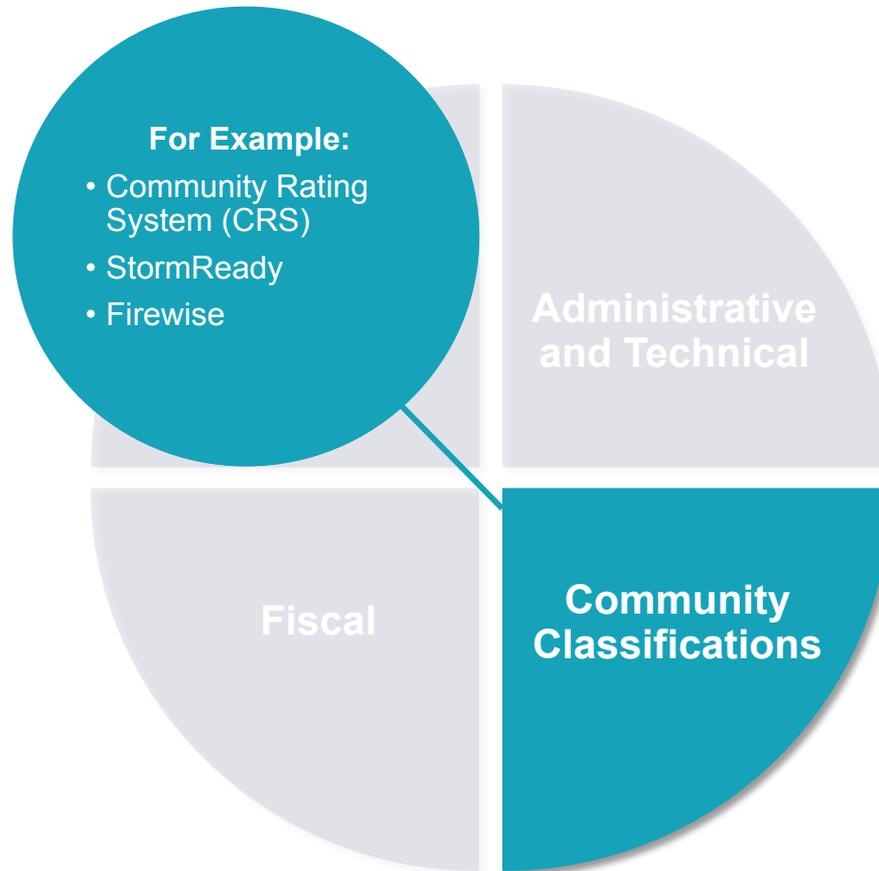
Types of Capabilities



Types of Capabilities



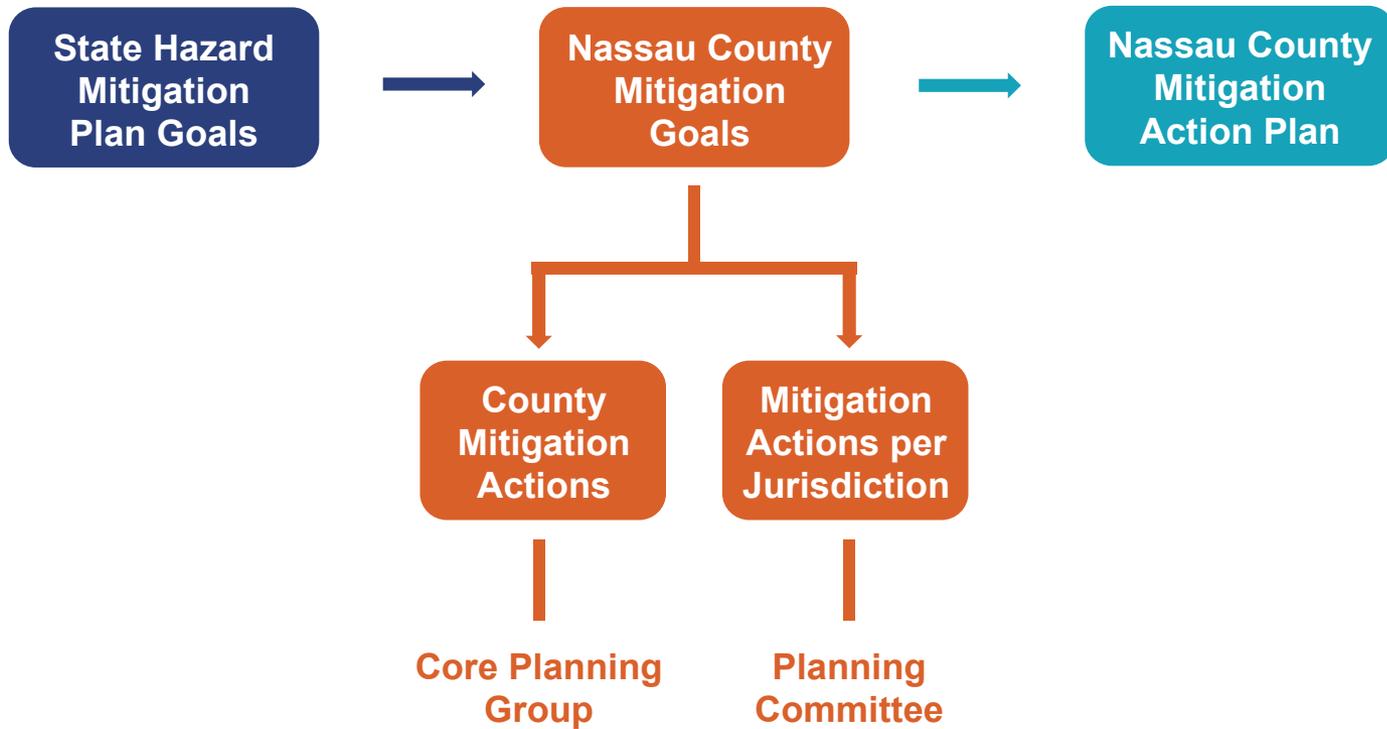
Types of Capabilities



Base Plan Review



Mitigation Strategy Overview



Developing the Mitigation Strategy

NYS SHMP Goals



1. Promote a comprehensive state hazard mitigation policy framework for effective mitigation programs that includes **coordination among federal, state, and local organizations** for planning and programs.
2. **Protect existing property** including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
3. **Increase awareness** of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
4. Encourage the development and implementation of long-term, cost effective, and resilient mitigation projects to **preserve or restore the functions of natural systems**.
5. **Build stronger** by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.



Developing the Mitigation Strategy

Goals explain what the community wants to achieve with the hazard mitigation plan (i.e., the “vision of success”). Goal statements are broad and long-term.

Goals should:

- Consider community impact and input
- Be comprehensive of all jurisdictions
- Address all findings in the risk assessment
- Align with community values and state goals

Goals should not:

- Be hazard-specific
- Use unclear or confusing language
- Benefit only a singular group



Developing the Mitigation Strategy

1. **Build stronger** by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.
2. Build and support local capacity to **prepare for, respond to, and recover from disasters**.
3. **Protect existing property** including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
4. **Increase awareness** of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
5. Develop and implement long-term, cost effective, and resilient mitigation projects to **preserve or restore the functions of natural systems**.
6. Improve coordination between **land use and redevelopment planning** to encourage safe, economically sound investments.

Nassau County
Mitigation
Goals*

**New for 2021*



Mitigation Strategy Discussion

If there are mitigation priorities that do not align with these goals, there will be an opportunity to add jurisdiction-specific goals in your annex.



Plan Maintenance



Plan Maintenance

- Discuss process for periodic plan review
- Discuss process and triggers for updating the plan
- Outline factors to support plan implementation





Jurisdictional Annexes



Jurisdictional Annexes

Individual jurisdictional annexes will include:

- Geography, demographics, and development
- Unique hazard history and vulnerabilities
- Critical facilities
- Capabilities
- Mitigation projects
- National Flood Insurance Program (NFIP) summary



Development of the Jurisdictional Annexes



Development of the Jurisdictional Annexes

- A series of forms will be distributed electronically after today's workshop:
 - [Part 1: Profile](#)
 - [Part 2: Hazard Review](#)
 - [Part 3: Capability Assessment](#)
 - [Part 4: National Flood Insurance Program](#)
- Today, we will demonstrate how to access the forms and fill them out



Expectations and Assignments

- Planning Committee:
 - One representative from each jurisdiction should complete the four forms
 - Consult with other individuals and departments for information
- Core Planning Group:
 - All County departments will get a chance to complete the Hazard Review form
 - Nassau County Office of Emergency Management will lead the completion of the forms for the County and consult with departments and individuals for information



Email Notification



Action Required!

On March 5, 2020, Nassau County hosted the Planning Committee Kickoff Workshop for the Multi-Jurisdictional Hazard Mitigation Update.

As per the workshop, the Nassau County Office of Emergency Management and its consultant, Hagerty Consulting, have now begun the data collection phase of the plan update. Accordingly, it is imperative that you, or your jurisdiction's designated representative, **complete the forms below by Friday, April 3, 2020.**

<p>Survey 1: Profile Complete Form 1 here.</p> <p>Survey 2: Hazard Review Complete Form 2 here.</p>	<p>Survey 3: Capability Assessment Complete Form 3 here.</p> <p>Survey 4: NFIP Form Complete Form 4 here.</p>
---	---

To avoid inconsistent data entries, it is important that **one representative per jurisdiction complete these forms.** Please complete each form to the best of your abilities.

If at any time you require assistance in completing your form(s) you may reach out to Susan Park (SPark@nassaucountyny.gov) in the Nassau County Office of Emergency Management or Sydney McKenna (sydney.mckenna@hagertyconsulting.com) with Hagerty Consulting.



Online Form Review



Profile

This section constitutes Part 1 of your Jurisdictional Annex submission. It collects very basic information about your county, town, or village that will be used to supplement future discussion.

**It is NOT a final product and may be changed at a future date. Please complete to the best of your ability.*

Contact Information

Each jurisdiction's annex to the hazard mitigation plan must list a primary point of contact. If alternate contact information is available, it should be included as well.

First name*
First name of person filling out form

Last name*
Last name of person filling out form

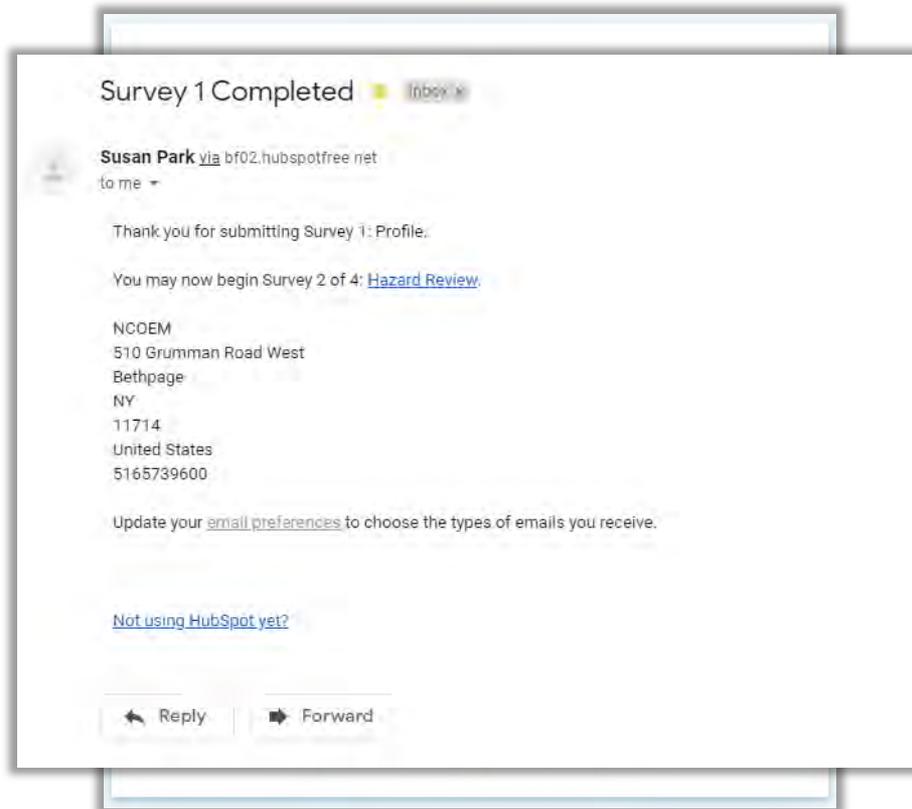
Organization/Jurisdiction*
Ex.: Town of Oyster Bay, Village of Oyster Bay, etc.

Primary Point of Contact*
POC will be published in profile (e.g. Village Mayor / Trustee)

Alternate Point of Contact*
Alt-POC will be published in profile (E.g. DPW Commissioner)



Survey Completion





Conclusions and Next Steps



Next Steps

- Check your email Monday for the surveys
- Complete surveys by Friday, April 3
- Assistance is available; please reach out to Susan Park or Sydney McKenna (contact information on the next slide)
- Save the Date:
 - April 22, 2020 - Risk Review and Mitigation Strategy Workshop (1:00 – 3:00 PM EST)
 - April 2020 - Stakeholder Meeting (TBD) and Public Meeting (TBD)





Questions?

Contact:

Susan Park

Director of Recovery, Nassau County OEM

Email: SPark@nassaucountyny.gov

Sydney McKenna

Deputy Project Manager, Hagerty Consulting

Email: sydney.mckenna@hagertyconsulting.com



Planning Committee Hazard Mitigation Kickoff Workshop Meeting Summary

March 5, 2020 | 9:00 AM – 12:00 PM

Morrelly Center, 510 Grumman Road West, Bethpage, New York 11714

Introduction

Susan Park and the Hagerty Consulting (Hagerty) Team welcomed and introduced themselves to the attendees, providing a brief overview of their background, work in hazard mitigation planning, and connections to New York. Sydney McKenna (Hagerty) provided a brief overview of Hagerty, including the firm's vast experience in hazard mitigation planning at the state, regional, and local levels.

This workshop met the following objectives:

- Review hazard mitigation planning process and project approach
- Examine previous plan and discuss changes to countywide hazards and mitigation goals
- Review components of jurisdictional annex documents and walk through filling out the online forms

Attendee also received two supplemental handouts that provided additional information about the hazard mitigation plan project and the federal and state planning requirements, respectively.

Project Review

During the hazard mitigation planning process, the Steering Committee, made up of the Nassau County project management team and Hagerty, will engage the County, create a common understanding of natural hazard risk and vulnerabilities, develop a strategy that reduces risk and bolsters resilience, and maintain the County's eligibility for federal funding. These goals will be met by engaging the County and creating a roadmap for mitigation over the next five years. In this Plan Update, each Jurisdiction will have a chance to include projects applicable to the needs of the respective community focusing on the Jurisdiction's unique risk, vulnerabilities, and exposures.

Project Communication and Stakeholder Engagement

To gather information for the Plan Update, the Steering Committee and contributing participants will communicate information through various communications platforms, including in-person workshops, the Nassau County Hazard Mitigation Plan (HMP) web page, and routine newsletters. There are five different stakeholder groups that will be engaged throughout the planning process. Sydney described each of the participant groups and their role in developing the Plan Update. She noted that the Stakeholder Group, comprised of special districts, elected officials, nonprofits, businesses, neighboring counties, coalitions, hospitals, utility companies, and educational institutions, would be meeting on April 22, 2020.

Planning Committee Expectations

It is a federal requirement to document all the people involved in, and the total hours they each contributed to, the plan update process, Susan explained. Nassau County Office of Emergency Management (OEM) will document attendance and time spent at meetings like this one. However, the Steering Committee needs to understand/document the hours spent working on the Plan Update outside of a meeting setting. A portion of the meeting will walk through the upcoming jurisdictional forms, time spent answering the surveys should be inclusive of the total hours the team spends working on the questions. Susan stressed that the planning committee's participation is critical for the plan adoption and approval process.

Key Dates and Milestones

Sydney reviewed upcoming dates with the participants, noting the next meetings are scheduled on April 22, 2020, and include a Stakeholder and Public and Risk Review and Mitigation Strategy Workshop. The Risk Review and Migration Strategy meeting will be attended by the Planning Group. Other notable dates include submission of the Plan Update to New York State Division of Homeland Security and Emergency Services (NYS DHSES) and FEMA at the end of November 2020. The finalized Plan Update is expected to be completed in February 2021, at which time jurisdictions will vote to adopt the plan.

Sydney encouraged attendees to review the plan adoption process and understand the time and effort requirements.

Hazard Mitigation Planning Review

Hazard Mitigation Plans (HMPs) summarize the impact of natural hazards on an area and highlight mitigation projects and actions jurisdictions will complete to build a stronger community in the future.

Legal Requirements

Sydney encouraged participants to review the *Planning Requirements Summary* handout. The federal and state requirements provide necessary guidance for creating the most comprehensive plan. Hagerty is working with the Nassau County Project Management Team (PMT) to ensure that each of these requirements is met in the final Plan Update.

To create the most actionable and inclusive plan, a wide audience of stakeholders and the public will be actively engaged in the entire planning process. Each step in the planning process, from conducting the Risk and Vulnerability Assessment to implementing the plan, will account for community input and formulate effective risk reduction strategies.

Base Plan Review

An HMP consists of multiple components. The introduction, planning process, hazard identification and risk assessment, capability assessment, mitigation strategy, and plan maintenance components make up the base plan. This base plan is largely developed with input from the Core Planning Group, which includes Nassau County departments, city and town representatives, Long Island agencies, New York State (NYS) agencies, and FEMA Region II. The Planning Committee largely contributes to the development of the Jurisdictional Annexes. More information about each of these components is summarized below.

Introduction and Planning Process

Michelle Bohrson (Hagerty) explained that the introduction of a plan often includes an overview of the scope and nature of the plan and context for the document. The “Planning Process” section narrates how the plan came together, including stakeholder and public participation, relevant data utilized, and other important activities.

Risk to the community is the culmination of hazards, exposure, and vulnerability. Risk is the potential for damage, loss, and other impacts created by the interaction of natural hazards with community assets. Nassau County has identified 11 hazards to include in this plan update, as seen below. The **yellow highlighted** hazards are new to this Plan Update.

- Coastal Hazards
- Drought
- Extreme Temperatures
- Flooding
- Ground Failure
- Hail
- Hurricane and Tropical Storms
- Lightening
- Tornados
- Server Winter Weather
- Wind

Risk Assessment Methodology

Michelle stated that the Steering Committee will pare together stakeholder input and data/research to create a comprehensive picture of how hazards are impacting Nassau County.

Participants used an electronic polling software to answer a series of questions about risks to, the capabilities of, and mitigation strategies for their jurisdiction:

*Question 1: What are the most impactful hazards to your jurisdiction?
Answer: Flooding, Hurricanes, and Tropical Storms*

A participant noted that the north peninsula of Nassau County experiences a substantial amount of flooding from heavy rainstorms, which leads to multiple road closures. Another attendee stated that there once was a stream running through the County, but it was filled in. The attendee strongly believes the stream should be reopened to help with water management.

*Question 2: Which assets are most vulnerable (most effected by natural hazards) in your jurisdiction?
Answer: Community members (55%) and Built Environment.*

In Long Beach, people that live close to the bay, which is constantly flooding. Long Beach is a barrier island so it is prone to flooding. Community members are tired of continually being flooded out and the impacts to their homes.

Capability Assessment

Each community and jurisdiction have a unique subset of capabilities that are used to mitigate the community against future disasters. Capabilities could be legal and regulatory, administrative and technical, fiscal, and community classifications, which support the development of a relevant and implementable mitigation plan.

*Question 3: What type of capability does your community use the most for mitigation?
Answer: Legal and Regulatory, Administration and Technical*

Question: What support is needed to improve your jurisdictions capabilities?

Answer: Funding (59%), Staffing

Mitigation Strategy Overview

Michelle explained that it is important to not only look at infrastructure projects but social, natural, and economic projects to holistically bolster the County's mitigation actions. The Nassau County Hazard Mitigation Plan Update will consider the State's 2019 Hazard Mitigation Plan goals and incorporate those into the County's goals and mitigation actions. The State outlines five important mitigation goals:

1. Promote a comprehensive state hazard mitigation policy framework for effective mitigation programs that includes **coordination among federal, state, and local organizations** for planning and programs.
2. **Protect existing property** including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
3. **Increase awareness** of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
4. Encourage the development and implementation of long-term, cost effective, and resilient mitigation projects to **preserve or restore the functions of natural systems**.
5. **Build stronger** by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.

Questions 4: Which goals most align with Community's priorities?

Answer: Goal 1- (33%), Goal 2, Goal 3

The Village of Cover Neck explained that there is only one road in and out of the community. They will prioritize repairing the seawall to protect that road.

Nassau County created its own set of six mitigation goals for the Plan Update, largely aligned with the State's goals:

1. **Build stronger** by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.
2. Build and support local capacity to **prepare for, respond to, and recover from disasters**.
3. **Protect existing property** including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
4. **Increase awareness** of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.

5. Develop and implement long-term, cost effective, and resilient mitigation projects to **preserve or restore the functions of natural systems**.
6. Improve coordination between **land use and redevelopment planning** to encourage safe, economically sound investments.

Michelle explained that there will be an opportunity to add jurisdiction-specific goals in the Jurisdiction Annex; therefore, communities needs will be heard if they do not align perfectly with the County's mitigation priorities/goals (above).

To ensure the most effective plan for the County, plan maintenance strategies should be considered in the Plan Update. This includes discussing triggers for updating the plan, periodic reviews of the plan, and implementation strategies for the mitigation actions/projects.

Jurisdictional Annex

The Jurisdictional Annex provides opportunity for individual jurisdiction to assess their community and form a tailored strategy to support their mitigation priorities. Each annex will include geography, demographics, and development; unique hazard history and vulnerabilities; critical facilities; capabilities; mitigation projects, and National Flood Insurance Program (NFIP) summary for the respective jurisdiction. Sydney encourages people to review Appendix C in the previous Nassau County HMP (2014) to see which of the projects and implementation strategies may still be applicable to the jurisdictions to include in this Plan Update.

After this meeting, Sydney explained that four forms will be emailed out to the Planning Committee. These forms will capture each jurisdiction's changes in development, capabilities, unique hazard history, and NFIP information. The Steering Committee will be available to assist each jurisdiction to fill out these forms.

Only one person from each jurisdiction should submit a response to each form. However, jurisdictions can go back and edit the information they provided in that one submission.

Sydney reviewed the forms with the Planning Committee to provide content and information about completing the forms. The information provided in these forms should (and will) inform the mitigation projects that each jurisdiction proposes. Sydney stressed the importance of accurately logging how much time is spent on this activity and all activities moving forward.

Sydney explained that this is the first of a couple steps to develop different components of the jurisdictional annexes. Hagerty will come to the next meeting with information and examples of successful mitigation projects and pitfalls. This meeting will inform jurisdictions about best practices for developing mitigation projects for their jurisdictional annexes.

Conclusion and Next Steps

Susan and Sydney concluded the meeting and thanked participants for attending. Sydney reminded the Planning Committee that surveys are due on April 3, 2020 and the next set of meetings will be held on April 22, 2020.

- April 22, 2020:
 - Risk Review and Mitigation Strategy Workshop (12:30 – 3:00 PM EST)

- Stakeholder Meeting (3:30 – 4:30 PM EST)
- Public Meeting (6:00 – 7:00 PM EST)

Risk Review and Mitigation Strategy Webinar

June 11, 2020, 10:00 - 11:30 AM

1. Risk Review and Mitigation Strategy Webinar Invitation
2. Risk Review and Mitigation Strategy Webinar Agenda
3. Risk Review and Mitigation Strategy Webinar Presentation
4. Risk Review and Mitigation Strategy Webinar Participants List
5. Risk Review and Mitigation Strategy Webinar Meeting Summary



Register Now!

*The Planning Committee, inclusive of the Core Planning Group, will convene on **June 11, 2020 from 10:00 AM to 11:30 AM for the Risk Review and Mitigation Strategy Webinar** to update the Nassau County Multi-Jurisdictional Hazard Mitigation Plan.*

[Click here to register for the webinar](#)

It is essential that you attend this workshop as a representative of a jurisdiction or part of Nassau County participating in the plan update. On this webinar we will:

1. Gather your feedback on the results of the Risk Assessment and highlight areas in Nassau County with greater vulnerability to natural hazards,
2. Review different types of mitigation projects and how those projects may be funded,
3. Familiarize you with the mitigation action forms each participating jurisdiction must complete,
4. Discuss the public survey that will be distributed to collect community feedback about hazard mitigation and natural hazard risk, and
5. Review next steps in the planning process.

If you have any questions, please contact Susan Park at (516) 573-9642 or spark@nassaucountyny.gov.

Attachments to this email include:

Webinar

[Meeting Notes](#)

[Presentation](#)

[Webinar Recording](#)

Survey

[Public Survey](#)

[Social Media Template](#)

Jurisdictional Consultation Calls

[Instructions](#)

Schedule: [Jurisdictional Consultation Call](#)

Step 1: [2014 Mitigation Action Spreadsheet](#)

Step 2: [Proposed Project Spreadsheet](#)

Step 3: [Mitigation Action Form](#)

Step 4: [Document Submission](#)

Thank you for your continual support and engagement in this project. Please email hazardmitigation@nassaucountyny.gov if you have any questions.



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Risk Review and Mitigation Strategy Webinar Agenda

June 11, 2020 | 10:00 AM – 11:30 AM

This webinar will be broadcast through Zoom. Please register ahead of time to receive information about how to join. Click [here](#) or visit this website to register: <https://tinyurl.com/ydeey7vg>

Time	Item Details
10:00 AM	Introduction and Project Review to Date
10:10 AM	Risk Assessment Review
10:40 AM	Types of Mitigation Projects
10:50 AM	Funding for Mitigation
11:00 AM	Developing Your Mitigation Strategy
11:15 AM	Next Steps and Q&A

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at hazardmitigation@nassaucountyny.com



HAGERTY

Risk Review and Mitigation Strategy Webinar

Nassau County, New York

June 11, 2020



HAGERTY

Hagerty Consulting



Sydney McKenna

Project Manager



Michelle Bohrson

Deputy Project Manager and
Lead Planner



Housekeeping

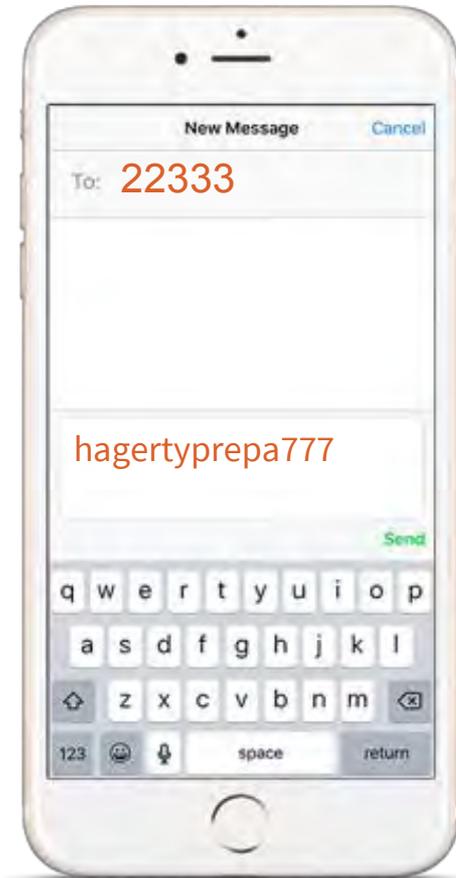
- **This meeting is being recorded.**
- **Phone lines will be muted for the duration of this meeting.**
- **Use the chat box to ask your questions throughout. We will answer your questions during a Q&A session at the end.**



Poll Everywhere



Web voting



Text voting

If your jurisdiction/county were a breed of dog, which breed would it be?

Jack Russell (small, tough, opinionated)

Tibetan Mastiff (rare and delightful)

German Shepherd (poised and elegant but hardy)

Poodle (beautifully presented but a bit of a poser)

Golden Retriever (warm, cuddly, and great with children)

Pit Bull Terrier (scary but kind deep down)

Labradoodle (energetic, cute, but a little confusing)

Agenda

1. Introduction and Project Review
2. Risk Assessment Review
3. Types of Mitigation Projects
4. Funding for Mitigation
5. Developing your Mitigation Strategy
6. Next Steps and Q&A



Introduction and Project Review



**HAZARD MITIGATION
PLANS PROVIDE THE
IMPETUS FOR MAKING
HOMES, BUSINESSES,
INFRASTRUCTURE, AND
COMMUNITIES MORE
RESILIENT TO THE
IMPACTS OF NATURAL
HAZARDS AND CLIMATE
CHANGE.**



House elevation in Freeport,
Long Island — Freeport, N.Y.
Source: *Hurricane Sandy Recovery Photos*, FEMA

Mitigation Planning for the Future



- Five years ago, most of us did not expect COVID-19
- Hazard mitigation helps communities **assess their risks** and **address any weaknesses**
- The Hazard Mitigation Plan will **prepare us for the next five years**

Planning Progress to Date

- 2/3/2020 – Core Planning Group Kickoff Meeting
- 3/5/2020 – Planning Committee Kickoff Workshop
- March through May 2020:
 - Planning Committee completed four online forms to help update their jurisdiction's annex
 - Hagerty completed a full update of the Risk Assessment section of the plan



Project Timeline



Risk Assessment Review

Risk Review and Mitigation Strategy Webinar



Methodology

1

Hazard Identification

- Based on State and Federal guidelines
- 11 natural hazards of concern identified in this update

2

Hazard Probability

- **Highly Likely:** More than once a year
- **Likely:** Once every five years
- **Unlikely:** Less than once every five years

3

Hazard Impact

- Estimate cost of disasters of different magnitudes

Measuring Hazard Impact

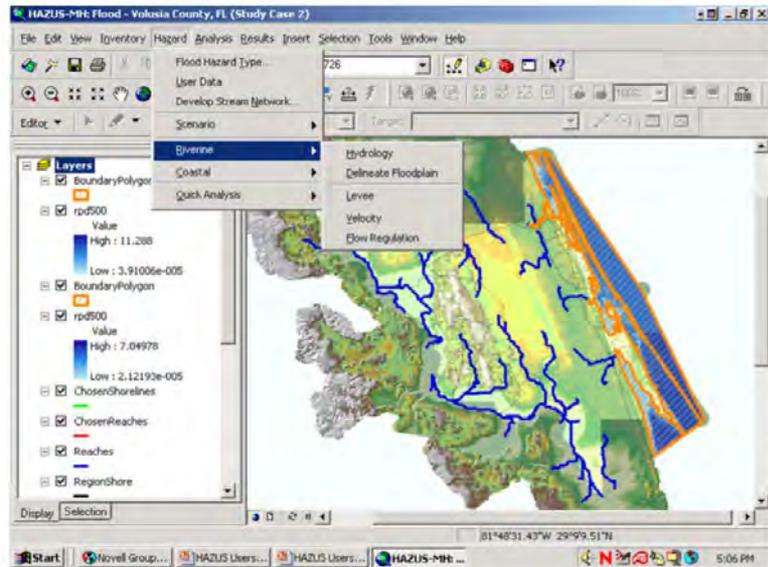
HAZNY

Automated hazard analysis program completed by Nassau County in 2019

Rank	Hazard	Hazard Rank
1	Hurricane and Tropical Storms	High Hazard
2	Coastal Hazard	Moderately High Hazard
3	Flooding	Moderately High Hazard
4	Severe Winter Weather	Moderately High Hazard

HAZUS

Determines damages and losses from earthquakes, hurricanes, and floods



Risk Assessment Findings - Probability

Highly Likely

- Coastal Hazard
- Flooding
- Severe Winter Weather
- Straight-Line Wind

Likely

- Drought
- Extreme Temperatures
- Hail
- Hurricanes and Tropical Storms
- Lightning

Unlikely

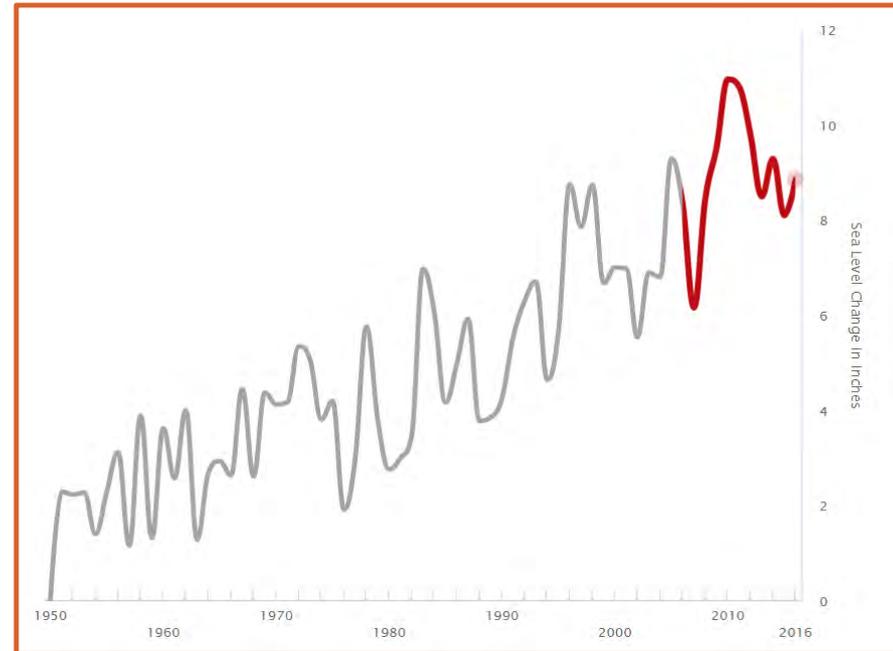
- Ground Failure
- Tornadoes



Coastal Hazard

Highly Likely

- Types:
 - Coastal Erosion
 - Strong Wave Action
 - Coastal Flooding
 - Sea Level Rise
 - Riptides
- Recent Occurrences:
 - Between 2010 and 2020, 3 incidences of **storm surge**
 - Between 2015 and 2020, **riptides** caused 4 fatalities

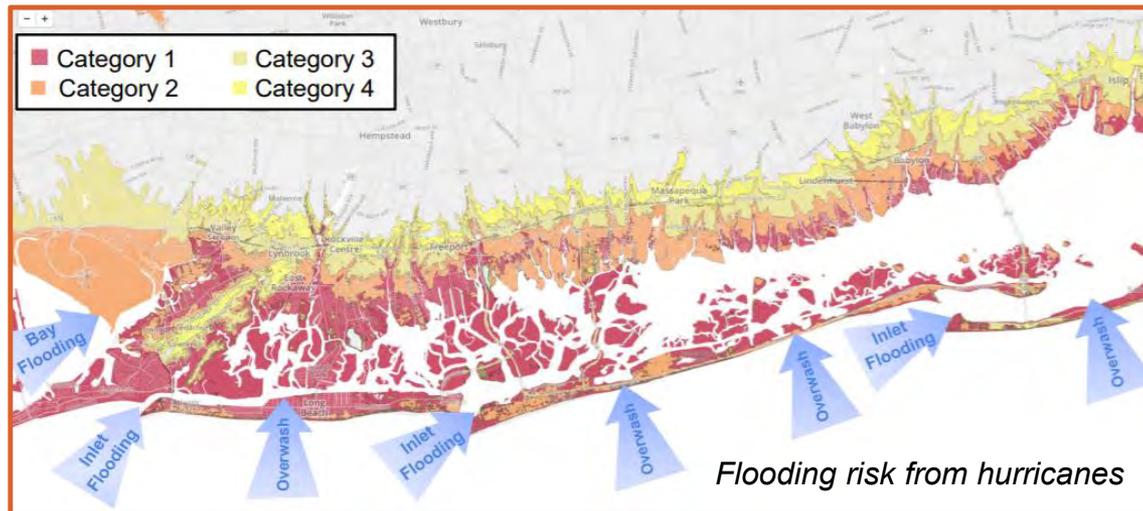


Sea level rise in New York from 1950 to 2015, from sealevelrise.org

Flooding

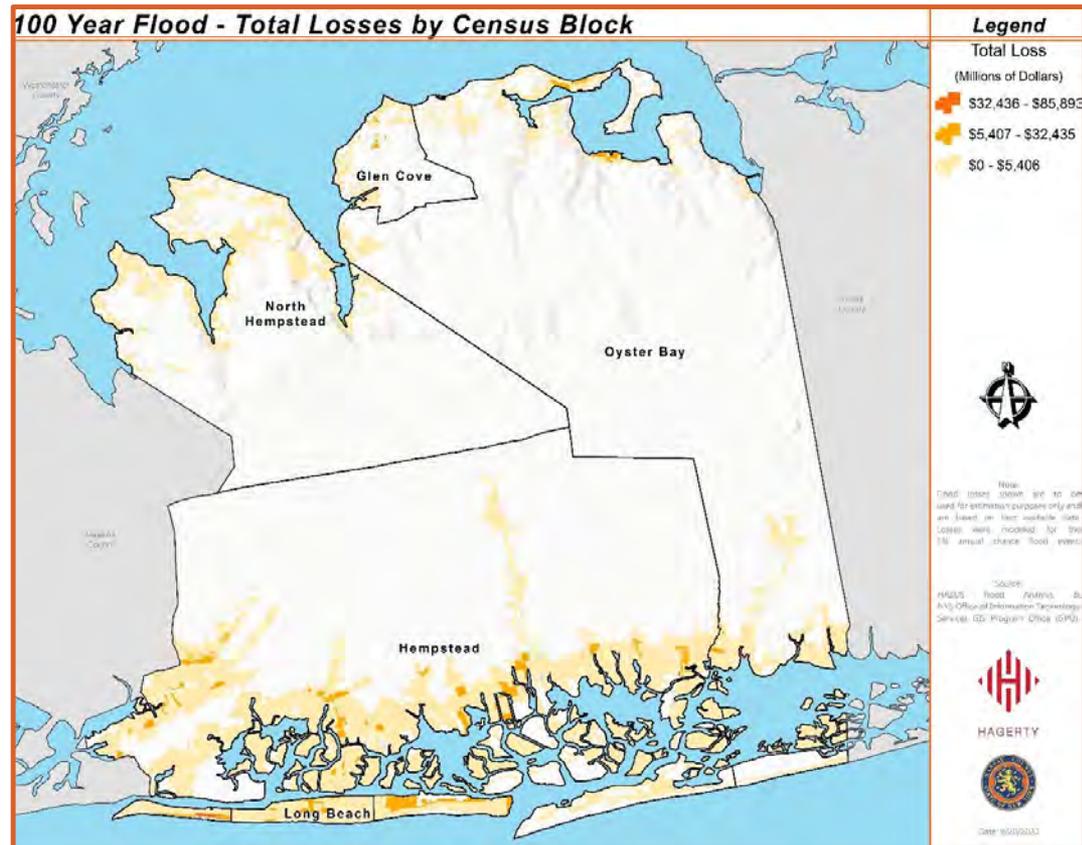
Highly Likely

- Floodplains:
 - 100-year floodplains have a 1% chance of flooding each year
 - 500-year floodplains have a 0.2% change of flooding each year
- Recent Occurrences:
 - Between 2015 and 2020:
 - 55 total floods
 - 21 flash floods
 - 33 coastal floods



Flooding: Vulnerability Assessment

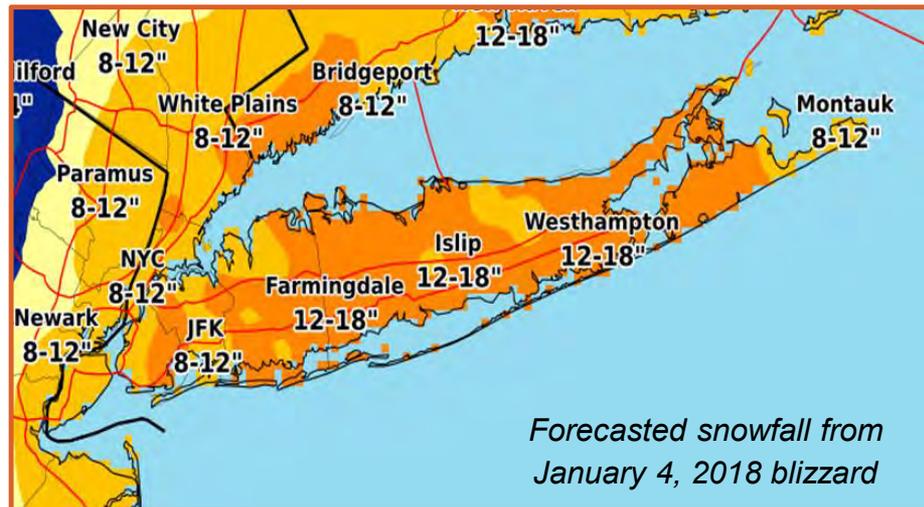
Building-related losses associated with a 100-year flood event total **nearly \$3.2 billion.**



Severe Winter Weather

Highly Likely

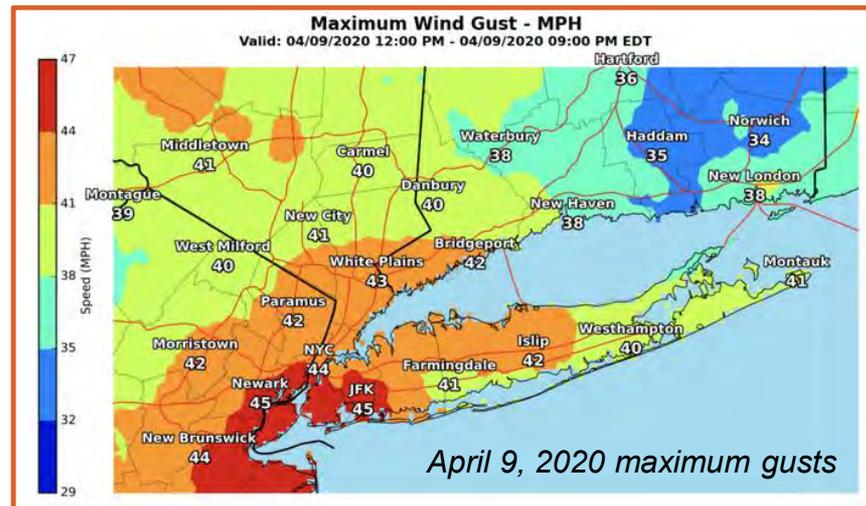
- Types:
 - **Snow:** frozen precipitation in the form of ice crystals
 - **Blizzards:** snow events with wind speed over 35 mph that reduce visibility to quarter mile or less
 - **Nor'easters:** Over nine inches of snow with high wind and storm surges
- Recent Occurrences:
 - Between 2010 and 2020, **66 reported events**, including **one death** and **129 injuries**.



Straight-Line Wind

Highly Likely

- Recent Occurrences:
 - **129 significant events** in the last 10 years, **injuring 3 individuals**
 - In the past 10 years, wind damages cost Nassau County almost **\$20,000 per year**
 - Single, **severe events can cause up to \$100,000 in damages**



When poll is active, respond at Pollev.com/hagertyprepa777

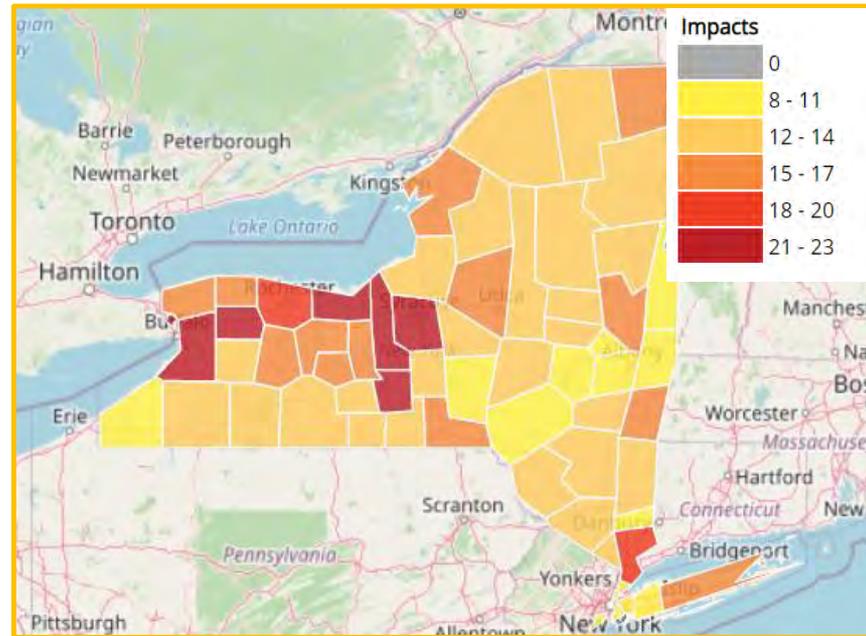
Text **HAGERTYPREPA777** to **22333** once to join

What additional information should we include in these hazard profiles?

Drought

Likely

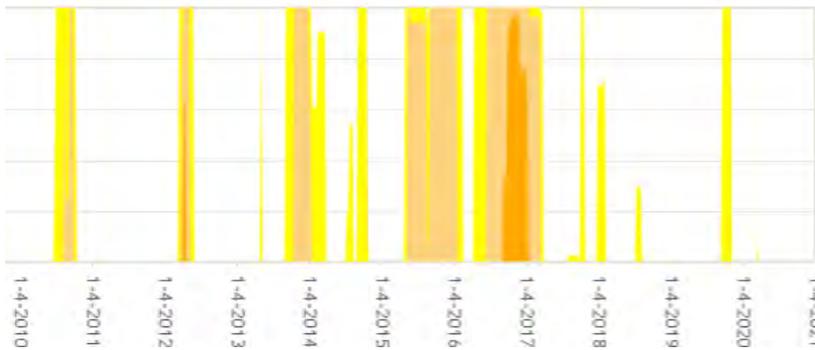
- Types:
 - **Meteorological:** lack of rain
 - **Hydrological:** disappearing groundwater
 - **Agricultural:** dry soil
 - **Socioeconomic:** economic response to a drought



Severity of drought in Nassau County, from National Drought Mitigation Center, 2020

Drought

- Recent Occurrences:
 - Several periods of minor to severe drought in the last 20 years



History of drought in Nassau County

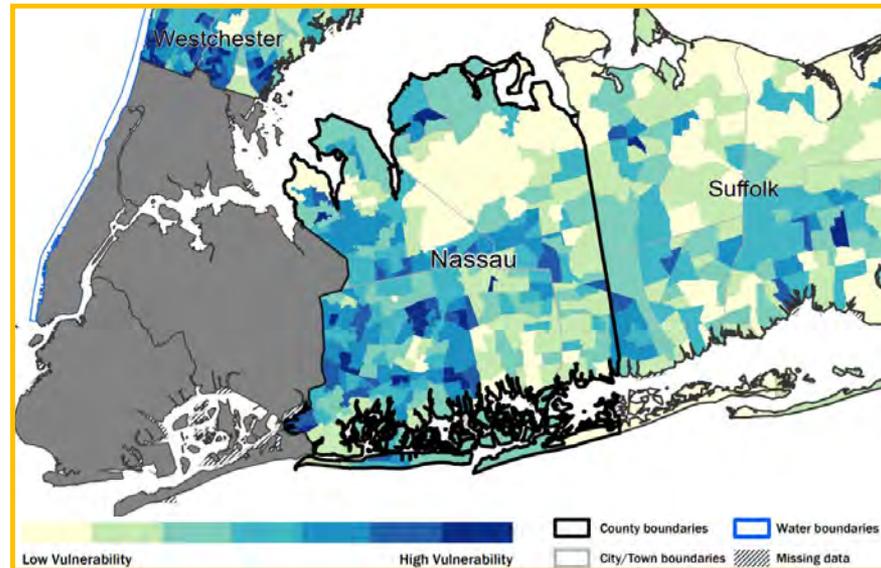
Category	Description
D0	Abnormally Dry
D1	Moderate Drought
D2	Severe Drought
D3	Extreme Drought
D4	Exceptional Drought



Extreme Temperatures

Likely

- Types:
 - **Extreme Heat:** Three hours over 75°F on two consecutive days
 - **Extreme Cold:** -35°F or colder
- Recent Occurrences:
 - Extreme heat has occurred **five times** between 2010 and 2020
 - Extreme cold has not occurred. Some nights have reached -20°F



Heat Vulnerability Index, Nassau County, from 2010 Census Bureau

Hail

Likely

- Recent Occurrences:
 - Between 2010 and 2020, Nassau County experienced **27 hail events, 18 of which were severe** (quarter-sized or bigger)



Example of grapefruit-sized hail

Description	Diameter (inches)
Pea	0.25
Mothball	0.50
Penny	0.75
Nickel	0.88
Quarter	1.00
Gold Ball	1.75
Tennis Ball	2.50
Baseball	2.75
Teacup	3.00
Softball	4.00
Grapefruit	4.50

Hurricane and Tropical Storms

Likely

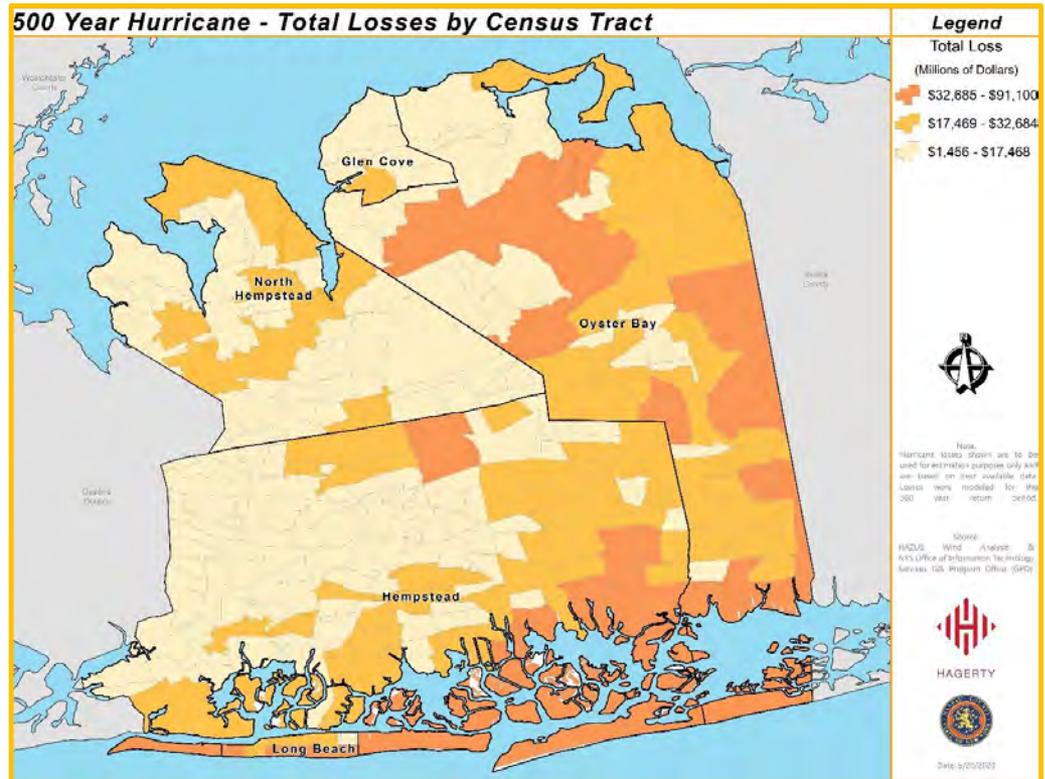
- Types:
 - **Tropical Storm:** sustained winds of at least 39 mph
 - **Hurricane:** sustained winds of at least 74 mph
- Recent Occurrences:
 - Nassau County was greatly impacted by **Hurricanes Isabel, Frances, Bill, Irene, and Sandy** in the last 20 years.

Category	Wind speed	Expected Damages
1	74-95 mph	Damage to roofs, vinyl siding, shingles, and gutters. Tree branches snap. Power outages could last several days.
2	96-110 mph	Well-constructed frame homes sustain major roof and siding damage. Near-total power loss expected.
3	111-129 mph	Major damage to well-built frame homes. Uprooted trees block roads. Electricity and water unavailable for several days to weeks.
4	130-156 mph	Well-built houses lose most of their roofs and walls. Power poles fall. Power outages last weeks to months.
5	157+ mph	Most framed homes destroyed. Most of the area uninhabitable for months.



Hurricane: Vulnerability Assessment

Estimated building-related losses from a 500-year hurricane total nearly **\$5 billion**.



Lightning

Likely

- Recent Occurrences:
 - Between 2010 and 2020, the County experienced **12 significant lightning events** that resulted in **5 injuries** and cost \$73,500



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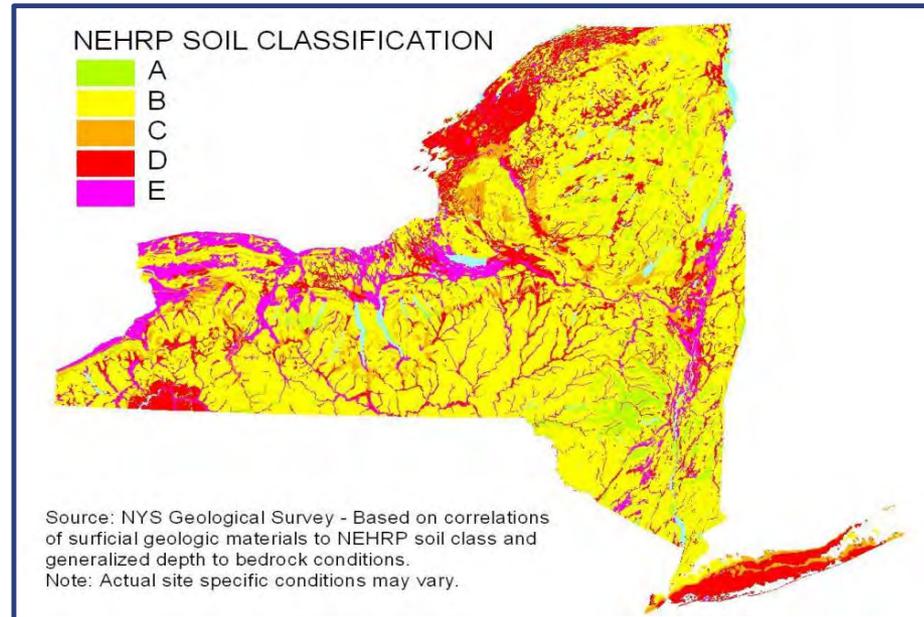
Text **HAGERTYPREPA777** to **22333** once to join

What additional information should we include in these hazard profiles?

Ground Failure

Unlikely

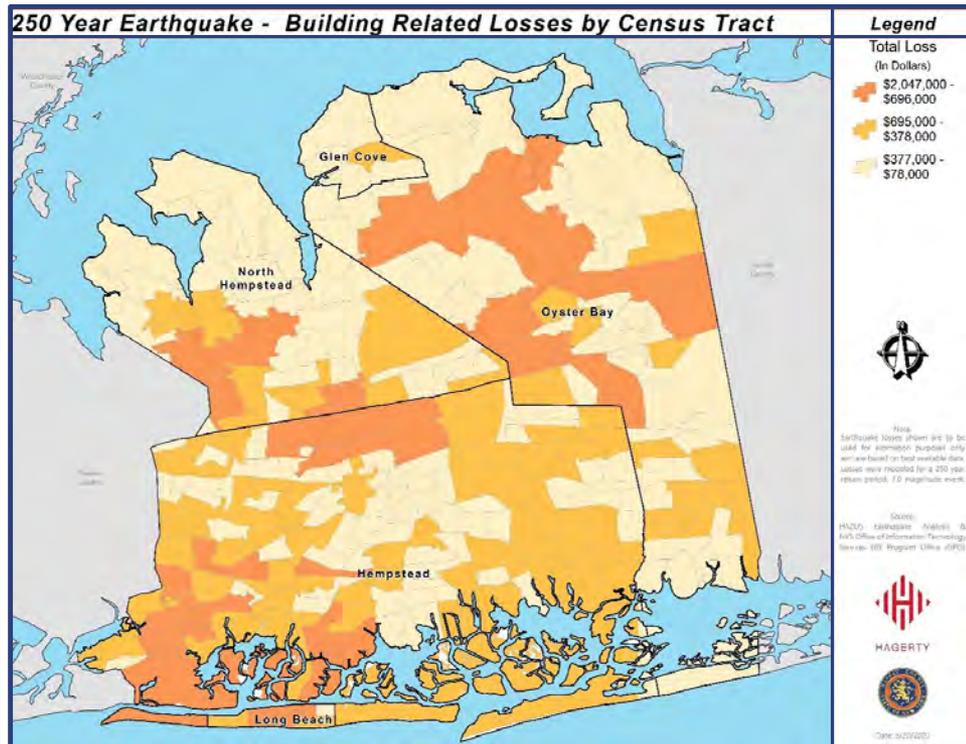
- Types:
 - Earthquake
 - Landslide
 - Land subsidence (sinkholes)
- Recent Occurrences:
 - No earthquakes
 - Landslide in 2014
 - Localized reports of land subsidence



D and E soils magnify the effects of earthquakes, whereas A and B soils reduce them.

Ground Failure: Vulnerability Assessment

Estimated building-related losses from a 250-year earthquake are nearly **\$1.8 billion**.



Tornadoes

Unlikely

- History in Nassau County:
 - No occurrences in the last 10 years
 - 8 reported events since 1950
- Vulnerability:
 - Based on reported previous occurrences, tornados estimated to cause an average of \$49,000 in damage annually

EF Rating	Wind speed	Expected Damages
0	65-85 mph	Broken branches, some damaged roofs.
1	86-110 mph	Mobile homes overturned. Loss of exterior doors. Windows break.
2	111-135 mph	Roofs torn off well-constructed houses. Foundations shifted. Cars lifted off the ground
3	136-165 mph	Entire house stories destroyed. Trains overturned. Trees debarked.
4	166-200 mph	Well-constructed houses completely leveled. Cars thrown.
5	Over 200 mph	Strong frame houses leveled off foundations. Automobiles thrown through the air over 100 yards.



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Text **HAGERTYPREPA777** to **22333** once to join

What additional information should we include in these hazard profiles?

Types of Mitigation Projects

Risk Review and Mitigation Strategy Webinar



Local Plans and Regulations

Steer development away from hazard-prone areas

For example:



Comprehensive plans



Land use ordinances



Community rating system



Structural Projects

Modify existing structures to protect them from hazards

For example:



Elevation



Utility undergrounding



Flood walls

Natural Systems Protection

Minimize damage and preserve the function of natural systems

For example:



Erosion control



Forest management

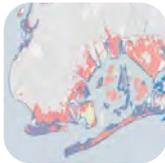


Wetland restoration

Education Programs

Inform and educate community about hazards and potential ways to mitigate them

For example:



Digitizing risk maps



Mandating real estate disclosure



Mental health first aid classes



Preparedness and Response Actions

Eliminate or reduce long-term risk through continuous preparation and mitigation activities

For example:



Mutual aid agreements



Upgrade communication capability



Upgrade citizen notification

In the last five years, what mitigation projects have been completed in your community?

Structural elevations

Property acquisition and buyout

Building code enforcement

Adopting higher standards for building code

Education and outreach to homeowners and business owners on personal mitigation measures

Utility elevation

Retrofits

Green infrastructure

Floodplain and stream restoration

Funding for Mitigation

Risk Review and Mitigation Strategy Webinar



Funding for Mitigation Activities

FEMA Hazard Mitigation Assistance:

- Hazard Mitigation Grant Program (HMGP)
- Building Resilient Infrastructure and Communities (BRIC) – formerly Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)

Other Funding:

- Section 406 – Hazard Mitigation Funding Under Public Assistance
- Community Development Block Grant – Disaster Recovery (CDBG-DR)
- State specific mitigation grant programs (e.g., local match support, state specific disaster declarations)
- Non-governmental organization funding
- Private funding

FEMA HMA Funding

The majority of mitigation funding comes from FEMA's Hazard Mitigation Assistance (HMA) program, which includes:

Hazard Mitigation Grant Program

- Provides funding to support long-term hazard mitigation measures post-disaster
- Made available after a federal disaster declaration and dependent on the cost of the disaster

Building Resilient Infrastructure and Communities

- Provides annual funding to support long-term hazard mitigation measures
- Funded by a 6% set-aside from federal post-disaster grant funding
- Previously PDM program

Flood Mitigation Assistance

- Provides annual funding to support flood mitigation
- Mitigates risk to NFIP insured properties

Hazard Mitigation Grant Program

- Authorized by Section 404 of the Stafford Act
- Can be made available after a Presidential Major Disaster Declaration
- Programmatic requirements can drive project development:
 - Cost effectiveness
 - Feasibility and effectiveness
 - Hazard mitigation plan ✓
 - Environmental planning and historic preservation
 - National flood insurance program



Since 1989, there have been
1,669 Major Disaster Declarations
resulting in the availability of
\$20.7 billion
Hazard Mitigation Grant Program funds

Data current as of May 2020

Building Resilient Infrastructure and Communities

- Authorized by the Disaster Recovery Reform Act (DRRA) Section 1234 (amending Section 203 of the Stafford Act authorizing PDM)
- Funded by a 6% set-aside from federal post-disaster grant funding
- States with major disaster declaration in the last seven years are eligible
 - Due to COVID-19, all States will be eligible
- New program – notice of funding available in August/September 2020
- Additional programmatic requirements:
 - Reduce / eliminate risk and damage from future natural hazards
 - Meet latest two consensus codes (i.e. 2015 or 2018)



BRIC vs. PDM

- Existing activities as outlined in the HMA guidance are still eligible
- Additional eligibility includes:
 - Project scoping
 - Building code projects
 - Additional wildfire and wind implementation
 - Earthquake early warning

The BRIC program will:

Set clear priorities

- Lifelines and infrastructure projects
- Building codes
- Shared partnerships
- Innovative

Build capacity

- Capacity building activities
- Technical assistance
- Mitigation Action Portfolio

Increase flexibility

- Reduce limitations
- Increase caps
- Allows pre-award scoping

Streamline processes

- New application process
- Project extensions
- Phased projects



Community Lifelines

Lifelines are vital services communities use. BRIC mitigation grants can go towards projects that make lifelines more resilient.



Community Lifelines

Lifeline-focused mitigation projects will support community stabilization after a disaster and prevent cascading impacts.



Designing and building **water storage** for use during water outages.



Flood-proofing local hospitals to reduce the risk of disruption during response.



Undergrounding of utility lines to mitigate from wind and other hazards



Improving **stormwater drainage system** capacity to limit transportation disruption

When poll is active, respond at PollEv.com/hagertyprepa777

Text **HAGERTYPREPA777** to **22333** once to join

What more do you want know about BRIC funding?

Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app

Flood Mitigation Assistance

- Authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended
- Goal of program is to reduce flood risk of repetitive loss (RL) and severe repetitive loss (SRL) properties insured by the National Flood Insurance Program (NFIP)

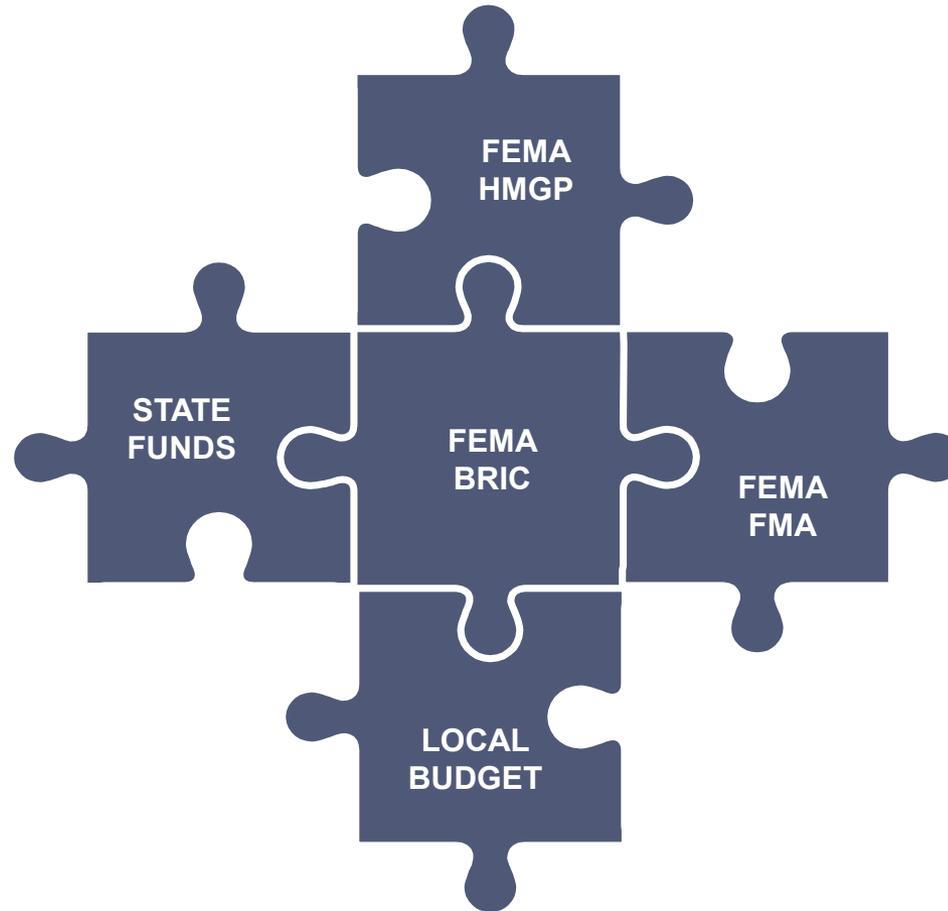


Other Funding Sources

- Section 406 – Hazard Mitigation Funding Under Public Assistance
- Community Development Block Grant – Disaster Recovery (CDBG-DR)
- State specific mitigation grant programs (e.g., local match support, state specific disaster declarations)
- Non-governmental organization funding
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Funding to Create Resilience is Complex

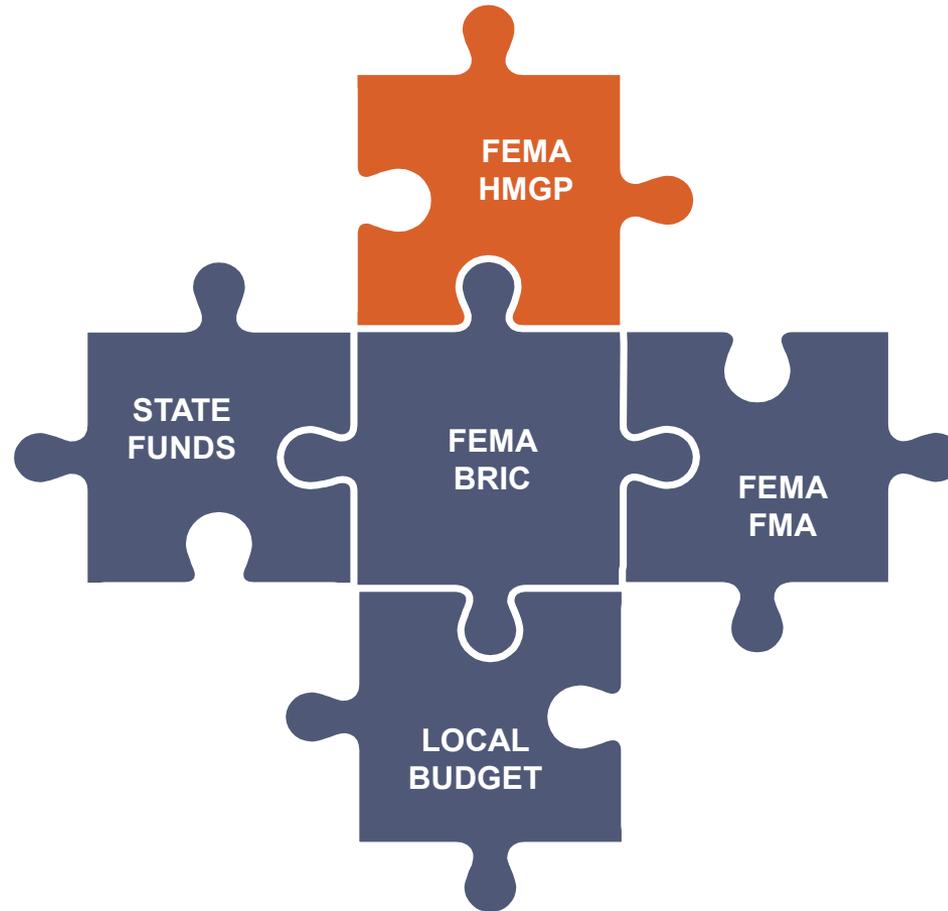


Funding to Create Resilience is Complex

Eligible Activity	HMGP	BRIC	FMA
Generators	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Structure Elevation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Post-Disaster Code enforcement	<input checked="" type="checkbox"/>		
Green Infrastructure	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Structure Relocation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Advance Assistance	<input checked="" type="checkbox"/>		
Flood Diversion and Storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hazard Mitigation Planning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Technical Assistance			<input checked="" type="checkbox"/>
Management Costs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



Funding to Create Resilience is Complex



Funding Considerations for Mitigation Planning

- Federal cost share will greatly reduce the cost of mitigation measures
- Local cost share can become a cost-burden (especially post-disaster)
- Strategic identification can support development of an implementable plan



Developing your Mitigation Strategy

Risk Review and Mitigation Strategy Webinar



What is a Mitigation Strategy?

The projects and actions your community will take to mitigate the risks posed to your community's people, property, infrastructure, and natural environment.

Your mitigation strategy should:

- Reduce long-term risk to natural hazards
- Reflect the values and priorities of the community
- Addresses current and future threats



Mitigation Strategy Development

Step 1:

Review and document progress on mitigation projects

Step 2:

List all proposed mitigation activities

Step 3:

Develop at least two mitigation action worksheets

- For jurisdictions with special flood hazard areas, one action must address flood



Step 1: Review and Document Progress on Mitigation Projects

- Review the **2014 mitigation action spreadsheet** and report progress on implementation
 - Note which actions should be removed or modified to carry forward
- **Document any other mitigation projects completed** by your jurisdiction in the last 5 years, on this spreadsheet.



Step 2: List All Proposed Projects

- Using the blank **Proposed Projects spreadsheet**, populate it with the projects that your jurisdiction would like to pursue in the next five years.
- This may include projects not completed in the 2014 plan, but that are still good ideas to carry forward.



Step 2: List All Proposed Projects

PROPOSED PROJECTS													
*Projects related to Critical Facilities (CF) will protect the facility to the 500-year event or worst damage scenario, whichever is greater.													
Proj #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	CF?*	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority

Project Name and Number

- This should be a unique identifier for the project. If the project was included in a previous plan and is being carried over, the identifier should be consistent or reference the previous one.

Goal and/or Objective being met

- The project must be consistent with a goal or objective identified in the plan.

Hazard to be mitigated

- Identify the Hazard to be mitigated.

Description of the Problem

- Provide a brief description of the hazard's impact to the community, both previous damages and/or potential damages.



Step 2: List All Proposed Projects

PROPOSED PROJECTS													
*Projects related to Critical Facilities (CF) will protect the facility to the 500-year event or worst damage scenario, whichever is greater.													
Proj #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	CF?*	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority

Description of the Solution (Project Description)

- Provide a brief description of the proposed project, including location, scope of work (including studies/assessments required or already performed), and any known environmental or historic preservation concerns that may arise upon implementation.

Whether or not the project is related to a Critical Facility

- Is this project related to a critical facility? Yes/No. As sampled above, any project related to a critical facility must assure that the facility will be protected to the 500-year event or greatest damage scenario, to meet State Standard F2.

Environmental Planning and Historic Preservation (EHP) Issues

- Note if this project may potentially be subject to an environmental planning, compliance, and review process

Estimated Timeline

- Identify the time required for completion of the project upon implementation.

Lead Agency responsible for implementation

- Identify the lead agency or department responsible for implementation.



Step 2: List All Proposed Projects

PROPOSED PROJECTS													
*Projects related to Critical Facilities (CF) will protect the facility to the 500-year event or worst damage scenario, whichever is greater.													
Proj #	Project Name	Goal/Objective being Met	Hazard to be Mitigated	Description of the Problem	Description of the Solution	CF?*	EHP Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority

Estimated Costs

- Provide an estimated cost for implementation. Rough dollar figures are ideal, but if unknown, a specified range is acceptable.

Estimated Benefits

- Provide a description of the estimated benefits, either quantitative and/or qualitative.

Potential Funding Sources

- Identify potential funding sources for implementation, which will be supported by a list as required in State Standard F8; and

Priority

- Identify the prioritization of this project as determined by a methodology established by the community.



Step 3: Mitigation Action Worksheets

- Must complete **minimum of two (2) NYS DHSES Action Worksheets** for jurisdiction's highest priority projects
 - One must address flooding for communities that have special flood hazard areas
- New York State Department of Homeland Security and Emergency Services (DHSES) administers **3 mitigation grant programs**:
 - HMGP
 - BRIC (formerly PDM)
 - FMA
- Letters of Intent (LOI) for projects more fully developed in the NYS DHSES Action Worksheets will **rank higher and be prioritized** for funding over those that are not

XXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

(Name of Jurisdiction)
NYS DHSES Action Worksheet

Project Name:			
Project Number:			
Hazard of Concern:		Risk / Vulnerability	
Description of the Problem:			
Description of the Solution:		Action or Project Intended for Implementation	
Is this project related to a Critical Facility?		Yes	No
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	Estimated Benefits (dollar avoided):		
Useful Life:	Estimated Cost:		
Plan for Implementation:			
Prioritization:	Percent Transitions for Implementation:		
Estimated Time Required for Project Implementation:	Potential Funding Sources:		
Responsible Organization:	Local Planning Mechanisms to be Used in Implementation, if any:		
Three Alternatives Considered (including No Action)			
Alternative:	Action	Estimated Cost	Evaluation
	No Action	\$0	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

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Step 3: Mitigation Action Worksheets

XXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

Office of Land Use

Project Name: NYS DHSES Action Worksheet

Project Number: Risk / Vulnerability

Hazard of Concern: Risk / Vulnerability

Description of the Problem:

Action or Project Needed for Implementation

Description of the Solution:

Is this project related to a Critical Facility? Yes No N/A

If yes, the project must relate to projects in the 100-year flood zone or designated coastal erosion, coastal, shoreline or project.

Level of Protection:	Estimated Benefits:
Flood Loss:	Other Benefits:
Estimated Cost:	

Plan for Implementation

Priority:	Design Team and/or Consultant:
Estimated Time Available for Project Implementation:	Potential Funding Source:
Responsible Organization:	Local Planning Mechanism for Use in Implementation, if any:

Table Information: Completed (Including No Action)

Action:	Known by Date:	Estimated Cost:	Estimate:

Project Status for plan maintenance

Date of Status Report:

Status of Project:

Update Evaluation of the Problem and its Causes:

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NYS DHSES Action Worksheet	
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.
Risk / Vulnerability	
Hazard of Concern:	Identify the hazard being addressed with this action.
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.



Step 3: Mitigation Action Worksheets

Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		



Step 3: Mitigation Action Worksheets

XXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

XXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

Project Name: _____
 Project Number: _____
 District or Council: _____
 Description of the Problem: _____
 Action of Project/Itemized for Implementation: _____
 Description of the Solution: _____

Is this project related to a critical hazard? Yes No
 (If yes, the project must be listed in project in the 100-year flood area or the critical areas design contours, whichever is greater)

Cost of Project: _____ Estimated Benefit: _____
 Other: _____ Other: _____

Plan for Implementation

Prioritization:	Desired Timeframe for Implementation:	Potential Funding Sources:	Local Planning Mechanisms to be Used in Implementation, if any:
Estimated Time Required for Project Implementation:			
Responsible Organization:			

Project Report (for plan maintenance)

Date of Report: _____
 Report of Progress: _____
 Update Evaluation of the Problem and/or Solution: _____

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Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.



Step 3: Mitigation Action Worksheets

XXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

Title of Project/Activity

Project Name: _____
 Project Number: _____
 Name of Contact: _____
 Description of the Problem: _____
 Action of Project/Activity for Implementation: _____

Is this project related to a natural hazard? Yes No

Is this project aimed at reducing or preventing the loss of life and/or property damage (including to property)? Yes No

Level of Protection: _____ Estimated Benefits: _____
 Cost/Life: _____ (over 10 years): _____

Plan for Implementation

Priority/Status: _____ Project Start Date for Implementation: _____
 Estimated Time Required for Project Implementation: _____ Potential Funding Source: _____
 Responsible Organization: _____ Local Government Organization to be Used in Implementation: _____

Three Alternatives Considered (including No Action)

Alternative:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Alternative 1 – Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 – Brief Description		Include a description of pros/cons of Alternative 2.

Date of Report: _____
 Report of Progress: _____
 Update to Evaluation of the Problem and/or Solution: _____

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Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Alternative 1 – Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 – Brief Description		Include a description of pros/cons of Alternative 2.



Step 3: Mitigation Action Worksheets

XXXXXX County Multi-Jurisdictional Hazard Mitigation Plan

Phase of Implementation

Project Name: _____
 Project Number: _____
 Phase of Concern: _____
 Description of the Problem: _____
 Description of the Solution: _____
 Action of Project Needed for Implementation: _____

Is this project related to a critical hazard? Yes No
 (If yes, the project must be listed in project in the 100-year flood area or the area between design contours, whichever is greater)

Estimated Benefits: _____
 Estimated Costs: _____

Plan for Implementation

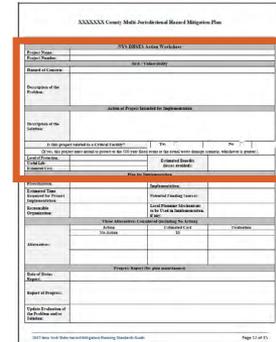
Priority Rating: _____
 Estimated Time Required for Project Implementation: _____
 Responsible Organization: _____
 Status: Active Inactive
 Date of Status Report: _____
 Report of Progress: _____
 Update Evaluation of the Problem and/or Solution: _____

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Progress Report (for plan maintenance)	
Date of Status Report:	This section should be completed during plan maintenance/evaluation.
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.



Worksheet Example #1



NYS DHSES Action Worksheet			
Project Name:	Flooding at the intersection of Wall Street and Clifton Country Road		
Project Number:	TCP-21		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Wall Street meets Clifton Country Road where the latter runs through Clifton Country Mall, a regional economic hub. A Google map of the location is included on the next page. The town identified this location as a flood problem some years back and initiated an engineering study with the end goal of expanding the existing retention pond and installing better flood controls.		
Action or Project Intended for Implementation			
Description of the Solution:	The proposed project includes redesigning the outlet structure, adding a new overflow culvert, and cleaning the pond to maximize storage capacity of the basin. Downstream culvert systems have been evaluated to determine if the improvements will impact the downstream culverts capacity.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	100-year flood event	Estimated Benefits (losses avoided):	Protect travelers and business property. Ensure the ongoing viability of a town economic center.
Useful Life:	75-100 years		
Estimated Cost:	\$300,000 – 400,000		

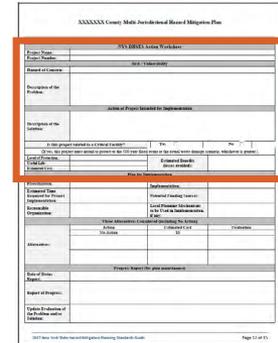


Worksheet Example #1

Plan for Implementation			
Prioritization:		Desired Timeframe for Implementation:	Short-Term
Estimated Time Required for Project Implementation:	1-2 years	Potential Funding Sources:	FEMA Flood Mitigation Assistance; Emergency Watershed Protection Program; USDA-NRCS Watershed Protection and Flood Prevention Program; Water Quality Improvement Grant; General Budget
Responsible Organization:	Town Highway Department with support from mall owners	Local Planning Mechanisms to be Used in Implementation, if any:	Stormwater Management Plan
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Ongoing flooding of roadway leading to a major economic center. Potential loss of income, damage to travelers and to business property.
	Phased or partial realization of plan: redesigning outlet structure and adding a new culvert or cleaning pond	Unknown	Pros: Lower cost; leverage funding to realize highest impact activity. Cons: Partial realization of plan may impact downstream culvert capacity and may fail to mitigate flooding.
	Renewed survey and needs assessment to determine best flood control measures.	Unknown	Pros: Provides clarity regarding proposed measures and their outcomes. Cons: Delays action and implementation of flood mitigation measures; additional survey or needs assessments may be redundant to previous studies.
Progress Report (for plan maintenance)			
Date of Status Report:	November 2018		
Report of Progress:	Through the NYSDEC the Town of Clifton Park (TOCP) has obtained a Water Quality Improvement Program Grant. The review of the plans and reports are ongoing between NYSDEC and the Towns Designated Engineer (TDE). The TDE has submitted their latest report to NYSDEC on 7/27/18. There were two teleconferences with NYSDEC, TDE, and TOCP on 8/3/18 & 8/29/18. The NYSDEC did not want the weir boards as part of the stormwater controls. The TDE wanted to know the exact elevation of the existing water line on both sides of Clifton Country Road before moving forward with the design change. The TOCP Water Department located the elevations of the water line on 9/28/18. The TDE is now in the process of modifying the outlet controls.		
Update Evaluation of the Problem and/or Solution:			



Worksheet Example #2



NYS DHSES Action Worksheet			
Project Name:	Education and Outreach Before and After Flood		
Project Number:	SC-28		
Risk / Vulnerability			
Hazard of Concern:	Flood		
Description of the Problem:	People may be unaware of actions they should take to protect themselves and their pets prior to a flood. They also may be unaware of the health hazards that can occur after a flood.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide outreach through fairs, public messaging, and education materials and talks.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	100-year	Estimated Benefits (losses avoided):	High
Useful Life:	Ongoing		
Estimated Cost:	Low		



Worksheet Example #2



Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediately
Estimated Time Required for Project Implementation:	Short-term (1 to 5 years)	Potential Funding Sources:	Grants/Volunteering Programming
Responsible Organization:	Saratoga County Department of Public Health	Local Planning Mechanisms to be Used in Implementation, if any:	Emergency Preparedness Plan, Outreach, Volunteer Programming
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Website information	0	While this tool enables the County to be able to see who interacted, it is not interactive.
	Public messaging through social media	0	Depends on people with computers and use of social media.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Worksheet Example #3



NYS DHSES Action Worksheet			
Project Name:	Special Needs Registry		
Project Number:	SC-29		
Risk / Vulnerability			
Hazard of Concern:	Special Needs Registry – Public Education and Revamping to make current (all hazards)		
Description of the Problem:	General public is not aware of this registry. Not everyone that should be on the list is on it. Additionally, some individuals may have moved or passed away. They need to be removed from the list.		
Action or Project Intended for Implementation			
Description of the Solution:	Utilize County Social Services to get people registered in the database. Develop method to maintain and remove individuals from the list.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Special needs registry will remain current.
Useful Life:	N/A		
Estimated Cost:	County Funding		



Worksheet Example #3

Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	2019
Estimated Time Required for Project Implementation:	1.5 years	Potential Funding Sources:	County Budget
Responsible Organization:	Office of Emergency Services	Local Planning Mechanisms to be Used in Implementation, if any:	County Office for the Aging, County Public Health Office, and public outreach
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	End registry	\$0	Leaves special needs population vulnerable
	Begin new registry	\$0	Lose all records – current and outdated
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



When poll is active, respond at Pollev.com/hagertyprepa777

Text **HAGERTYPREPA777** to **22333** once to join

**What more information do you want about
filling out the worksheets?**

Next Step and Q&A



Key Upcoming Events

June 15 – July 20

Public Survey goes Live

Elicit feedback from the whole community

June 25 – July 16

Jurisdictional Consultation Calls

Verify your jurisdiction's annex and mitigation strategy

August 20

Planning Committee Mitigation Strategy Review Webinar

Offer feedback on your draft mitigation strategy



Jurisdictional Consultation Calls

- **One-time consultation calls** available with Hagerty for Planning Committee representatives of the **towns, cities, and villages**
- Your chance to **validate the information** needed for your jurisdiction's annex, review your jurisdiction's mitigation actions, and get your questions answered
- Check your email to book your appointment between **June 25th and July 16th**
- Convene your jurisdiction's team **ahead of the call** to:
 - Review past mitigation actions
 - Document your proposed list of mitigation actions
 - Fill out your two mitigation action worksheets

For the County, Susan will contact non-jurisdictional representatives on an individual basis.



Addressing Sheltering and Displacement

Plan for Displaced Residents

The plan must:

- List viable locations for temporary housing compliant with NYS Uniform Fire Prevention and Building Code
- Include a letter from the local floodplain administrator certifying viability or listing any actions required to ensure conformance

Plan for Evacuation and Sheltering Needs

The plan must document:

- Evacuation routes and procedures
- Location of shelters
- How these plans are accessible and available to the public



Nassau County Needs Your Help!



We are looking for volunteers to help support our Sheltering Capability. Especially during COVID-19, **we want to ensure that we can shelter residents if there were a need to evacuate.** With social distancing and other guidelines in place **we need additional assistance in our shelters!**

Please let us know if you have one, two, or more volunteers that are interested in receiving shelter training and might be available when the need arises! We have included a space for you to provide us this information when you sign up for your Consultation Call.

Next Steps

Planning Committee - look out for an email that contains instructions to:

- 1. Schedule a Jurisdictional Consultation Call with Hagerty**
- 2. Review and update the 2014 mitigation actions spreadsheet**
- 3. Identify all proposed mitigation projects**
- 4. Fill out at least two mitigation action worksheets**
- 5. Advertise the public survey to constituents**
 - Hagerty will provide sample wording for social media posts

To have your Jurisdictional Consultation, submit your updates to the 2014 Mitigation Actions, list of Proposed Mitigation Projects, and two Mitigation Action Worksheets to [this link](#) at least 72 hours in advance.



Questions?



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Michelle Bohrson

(609) 558-4878

michelle.bohrson@hagertyconsulting.com

6/11/20 Risk Review and Mitigation Strategy Webinar Attendee List

Last	First	Organization
Alfano-Hardy	Maria	Village of Bayville
Biehayn	Rosemarie	Village of Stewart Manor
Bohrson	Michelle	Hagerty Consulting
Brown	Shawn	Town of North Hempstead
Bunnell	Keith	Village of Williston Park
Castro	Gerry	Village of Lawrence
Celender	Jean	Village of Great Neck Plaza
Clarke	Shannon	New York State Division of Homeland Security & Emergency Services
Cole	Elizabeth	Long Island Regional Planning Council
Crean	Kevin	Nassau County Office of Community Development
Cribbin	Robert	Village of Lynbrook
Daliposki	Sam	Village of Roslyn
Davatzes	Julia	Hagerty Consulting
Devaney	Thomas	Town of North Hempstead
Donno	Barbara	Village of Plandome Manor
Farrell	Pat	Village of Lake Success
Garcia	Juan	Village of East Rockaway
Ginnane	Kevin	Village of Floral Park
Golio	Michael	Nassau County Sheriff's Department
Gootman	Stephanie	FEMA Region II
Hubbard	John	Village of Cove Neck
Iannucci	Pasquale	Village of Westbury
Johnson	Diana	Nassau County Department of Human Services
Jurcsak	Michael	Village of Russell Gardens
Kalimian	Albert	Village of Matinecock
Kiernan	Chrissy	Village of Baxter Estates
Kreitzman	Ralph	Nassau County Village Officials Association
Kugler	Josh	Village of Mill Neck
Kussoff	Dina	Village of Roslyn Harbor
Levkowitz	Michael	Hagerty Consulting
Lobaccaro	Marianne	Village of North Hills
Long	Mary	Village of South Floral Park
Macri	Robert	Village of Massapequa Park
Marcus	Renee	Village of Floral Park
Marino	Anthony	Village of Malverne
Marks	Nicole	Nassau County Office of Emergency Services Port Washington Manhasset Office of Emergency Management
Martinez	Correne	Management
Massaro	Louis	Village of Great Neck
Mazurkiewicz	William	Village of Thomaston
McDonough	Tom	Town of North Hempstead
McGinty	Michael	Village of Island Park
McKenna	Sydney	Hagerty Consulting

Monitz	Gary	FEMA Region II
Mullen	Thomas	Village of Upperbrookville
Nemshin	Jeff	Village of Laurel Hollow
Neubert	James	Village of Great Neck
Neubert	Jim	Village of Great Neck
Ortize	Chrissy	City of Glen Cove Code Enforcement
Palmer	Darcia	Village of Garden City
Palumbo	Lenny	Village of Mineola
Pape	Emil	Village of Bellerose
Parise	Frank	Village of Cedarhurst
Park	Susan	Nassau County Office of Emergency Services
Pilczak	Bohdan	Nassau County Fire Marshall's Office
Powers	Edward	Town of Hempstead
Powers	Ed	Town of Hempstead
Ridgway	Brian	Village of Old Westbury
Roca	Frank	Village of Valley Stream
Rosenbaum	Randall	Village of Flower Hill
Russo	Joseph	Village of Muttontown
Schneider	Brian	Nassau County Department of Public Works and Parks
Shatzkamer	Ronnie	Village of Flower Hill
Spina	Robert	Village of Brookville
Stanco	Domenick	Village of Garden City
Tenenbaum	Francois	Village of Woodsburgh, Village of Hewlett Bay Park, and Village of Hewlett Neck
Viana	David	Nassau County Department of Public Works
von Brieson	Edward F.	Village of Matinecock
Weber	Katie	Hagerty Consulting
Zitani	Brian	NYS Floodplain and Stormwater Managers Association

Risk Review and Mitigation Strategy Webinar

June 11, 2020 | 10 to 11:30 a.m. EDT

Virtual Meeting

Introduction

The meeting began with brief introductions by Sydney McKenna and Michelle Bohrson of Hagerty Consulting (Hagerty). They welcomed the attendees and gave a brief overview of the agenda for the meeting. McKenna spoke to the importance of hazard mitigation in developing resilient communities by helping them assess their risks to natural hazards and addressing existing vulnerabilities.

S. McKenna reviewed the planning process to date, sharing progress made on the plan update and listing upcoming meetings and deliverables. Notable items in the schedule are as follows:

- June 12, 2020: Hazard Mitigation Stakeholder Webinar
- June 15 – July 20: Public Survey
- June 25 – July 16, 2020: Individual Jurisdictional Consultations
- August 2020: Complete draft of the Hazard Mitigation Plan
- September 2020: Complete full draft of the Hazard Mitigation Plan and commence Planning Committee review period
- October 2020: Submit Hazard Mitigation Plan to New York State for review, hold a public meeting or webinar, and start the public comment period
- November 2020: Submit Hazard Mitigation Plan to FEMA Region II
- December - February 2021: Approval pending adoption and adoption of Hazard Mitigation Plan

Risk Assessment Review

Risk Assessment Findings

S. McKenna discussed the research, data sources, and methodology used to develop the risk assessment. The methodology has three parts: **hazard identification**, **hazard probability**, and **hazard impact**. Hazard identification determines hazards relevant to the area. Hazard probability quantifies the likelihood of that hazard in future. In this project, hazard probability is categorized as **highly likely** (occurs more than once a year), **likely** (occurs once every five years), or **unlikely** (occurs less than once every five years). **Hazard impact** quantifies the impacts of hazards. Hagerty used the programs Hazard New York (HAZNY) and Hazus to create the risk assessment. The detailed results will be made available in the Plan.

The results of the hazard probability analysis are as follows.

- Highly likely hazards
 - Coastal hazards (riptides, erosion, wave action, storm surge)
 - Flooding
 - Severe winter weather
 - Straight-line wind
- Likely hazards
 - Drought
 - Extreme temperatures
 - Hail
 - Hurricanes and tropical storms
 - Lightning
- Unlikely hazards
 - Ground failure (earthquakes, landslides, sinkholes)
 - Tornadoes

Risk Assessment Feedback

Attendees were asked to contribute any feedback they had on the identified hazards and hazards in general. Attendees responded with concerns of four hazards: pandemic/disease, flooding due to suburban sprawl and lack of green space, microbursts, and earthquakes. They mentioned two notable hazard events: Village of Great Neck microburst in June 2010 and an earthquake on August 23, 2011.

Types of Mitigation Projects

M. Bohrson reviewed five different types of mitigation projects that can be implemented in communities.

- **Local plans and regulations** help steer development away from hazard-prone areas. Examples of this type of project are comprehensive plans, land ordinances, and community rating systems.
- **Structural projects** modify existing structures to protect them from hazards. Examples of this type of project are building elevations, floodwalls, and placing utilities underground.
- **Natural systems protections** minimize damage and preserve the function of natural systems. Examples of this type of project are erosion control, forest management, and wetland restoration.
- **Education programs** are important in informing and educating the community about hazards and how to mitigate their impacts. Examples of this type of project are digitizing risk maps, mandating real estate disclosures, and mental health first aid classes to help survivors cope with the impact of disasters.
- **Preparedness and response actions** eliminate or reduce long-term risk through continuous activities. Examples of this type of project are mutual aid agreements, upgrading communication systems, and upgrading citizen notification systems.

Funding for Mitigation

FEMA Hazard Mitigation Assistance

M. Bohrson reviewed two major types of mitigation funding sources. The first, FEMA Hazard Mitigation Assistance (HMA), includes the **Hazard Mitigation Grant Program (HMGP)**, **Building Resilient Infrastructures and Communities (BRIC)**, and **Flood Mitigation Assistance (FMA)**. M. Bohrson spoke in-depth about the requirements of each program.

HMGP supports funding for long-term hazard mitigation post-disaster the amount of funding depends on the size of the disaster. BRIC replaces the Pre-Disaster Mitigation (PDM) Program and provides annual funding for long-term hazard mitigation measures. It has a broader scope of activities eligible for funding and emphasizes funding for **community lifelines**. Community lifelines are vital services that a community uses, such energy or communications, and BRIC funding can support making these lifelines more resilient. Examples of eligible activities are undergrounding utility lines and improving stormwater drainage system capacities. The third type of assistance, FMA, provides annual funding for flood mitigation measures.

Specifics about each of these programs, how they differ, and the requirements of each are included in the presentation slides, which will be made available to meeting attendees.

Other Funding Sources

The second grouping of funding sources are **Section 406 Hazard Mitigation Funding Under Public Assistance, Community Development Block Grant – Disaster Recovery (CDBG-DR), state-specific mitigation grant programs, non-governmental organizational funding, and private funding**. M. Bohrson emphasized how understanding different types of funding sources is important in developing a comprehensive funding strategy to support mitigation efforts.

Developing Your Mitigation Strategy

S. McKenna defined **mitigation strategies** as the projects and actions a community takes to mitigate risks. Mitigation strategies should reduce long-term risks to natural hazards, reflect the values and priorities of the community, and address current and future threats. She discussed the upcoming **public survey** that will be used to collect input from the public. She also discussed the next steps of the project, in which the **participating jurisdictions will be documenting past mitigation actions and proposing new mitigation projects in their communities**. Towns, villages, and cities will have upcoming jurisdictional consultation calls with Hagerty to discuss their proposed plans.

Nicole Marks (Director of Emergency Management at the Nassau County Office of Emergency Management) addressed sheltering and displacement in Nassau County. She noted that there is a need for additional assistance in the shelters and for more volunteers to receive shelter training. Attendees should look to identify individuals who might be interested in receiving shelter training.

Next Steps and Q&A

Next Steps: Planning Committee

- Distribute the **public survey** online and through social media using the template language attached.
- Identify persons who may be interested in receiving **shelter training**.

Next Steps: Towns, Villages, and Cities

- Schedule a **jurisdictional consultation call** using the provided link.
- Before your jurisdictional consultation call, gather your team and **review the following projects and attachments**:
 - Step 1: Review and document progress on existing mitigation projects.
 - Use the **2014 Mitigation Action Spreadsheet** to review your jurisdiction's actions from the previous plan and fill in the required fields to document your progress.
 - Document any other mitigation projects you have completed since 2014 in that spreadsheet.
 - Step 2: List all proposed mitigation projects.
 - Use the **Proposed Project Spreadsheet** to fill in your ideas for mitigation projects to complete in the next five years.
 - Step 3: Elaborate on at least two mitigation projects.
 - Use the **Mitigation Action Form** to fill out at least two mitigation actions for projects that you want included in the updated hazard mitigation plan. These projects should aim to reduce long-term risk to natural hazards, including structural and non-structural (e.g., planning) projects.
 - If your jurisdiction is specifically in a flood hazard area, one of your actions must be related to flooding.
 - Step 4: **Submit all documents** at least 72 hours before your jurisdictional consultation call. A link will be provided to you.

Poll Everywhere Results

In the last five years, what mitigation projects have been completed in your community?	
Building code enforcement	4
Structural elevations	4
Education and outreach to homeowners and business owners on personal mitigation measures	3
Floodplain and stream restoration	1
Adopting higher standards for building code	1

What more do you want know about BRIC funding?
Is BRIC funding strictly for structural mitigation projects?
BRIC is supposed to cover pre-development/planning cost were PDM didn't?

What more information do you want about filling out the worksheets?
Who can I reach for assistance when filling out the worksheets?

What additional information should we include in these hazard profiles?
Nassau County had a measurable earthquake 8-23-2011
flooding due to urban sprawl and lack of green space
Village of Great Neck microburst June 2010 cost just village @\$400k
Pandemic

Stakeholder Webinar

June 12, 2020, 11:00 AM - 12:00 PM

1. Stakeholder Webinar Invitation
2. Stakeholder Webinar Agenda
3. Stakeholder Webinar Presentation
4. Stakeholder Webinar Attendees List
5. Stakeholder Webinar Meeting Summary



Register Now!

*You are invited to attend the **Stakeholder Webinar on June 12, 2020 from 11 AM - 12 PM** to learn more about the **Nassau County Multi-Jurisdictional Hazard Mitigation Plan.***

[Click here to register for the webinar](#)

On the webinar, we will provide an overview of the hazard mitigation plan update process, review some of the major changes since the last plan, and discuss the hazards and risks that threaten Nassau County. The webinar will also provide opportunities to give feedback on the plan update. Your participation is encouraged!

If you have any questions, please contact Susan Park at (516) 573-9642 or spark@nassaucountyny.gov.



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Stakeholder Webinar for Nassau County Multi-Jurisdictional Plan Update

June 12, 2020 | 11:00 AM – 12:00 PM

This webinar will be broadcast through Zoom. Please register ahead of time to receive information about how to join. Click [here](#) or visit this website to register: <https://tinyurl.com/yb28a9yn>

Time	Item Details
11:00 AM	Introduction and Project Background
11:10 AM	Your Role in Hazard Mitigation
11:20 AM	Overview of a Hazard Mitigation Plan Update
11:30 PM	Mitigating Risk in Nassau County
11:50 AM	Next Steps and Q&A

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at hazardmitigation@nassaucountyny.com



HAGERTY

Hazard Mitigation Stakeholder Webinar

Nassau County, New York

June 12th, 2020



HAGERTY

Introduction and Project Background



Agenda

Time Agenda Item

11:00 a.m.	Introduction and Project Background
11:10 a.m.	Your Role in Hazard Mitigation
11:20 a.m.	Overview of a Hazard Mitigation Plan Update
11:30 a.m.	Mitigating Risk in Nassau County
11:50 a.m.	Next Steps and Q&A





HAGERTY

Sydney McKenna

Project Manager

Hagerty Consulting

sydney.mckenna@hagertyconsulting.com



About Hagerty Consulting



2001

Founded in
Evanston, IL



130+

Full-time
professionals



Successfully guided states,
regions, jurisdictions, and
transit agencies through
compliant and inclusive
hazard mitigation plan
updates.



Since 2001

Supported the nation's
largest disaster recovery
efforts, including 9/11,
Katrina, Sandy, Harvey,
CA Wildfires, as well as
dozens of others.



**Experienced in all
federal grant programs**
Including FEMA PA, CDL,
HMGP, HUD CDBG-DR,
FHWA, etc.



When poll is active, respond at Pollev.com/hagertyprepa777

Text **HAGERTYPREPA777** to **22333** once to join

Where in Nassau County are you from?

Who do you represent?

Government

Business

Non-profit

Institute of Education

Community Member

Other

About the Hazard Mitigation Plan Update



Goals and Objectives for the Plan Update

Leverage current standards, regulations, guidance, and hazard information to ensure the Nassau County Multi-Jurisdictional Hazard Mitigation Plan meets and exceeds New York State and Federal Emergency Management Agency (FEMA) requirements.



Nassau County Map
[Source](#)



Long Beach, NY – Damage after Superstorm Sandy
2012
[Source](#)



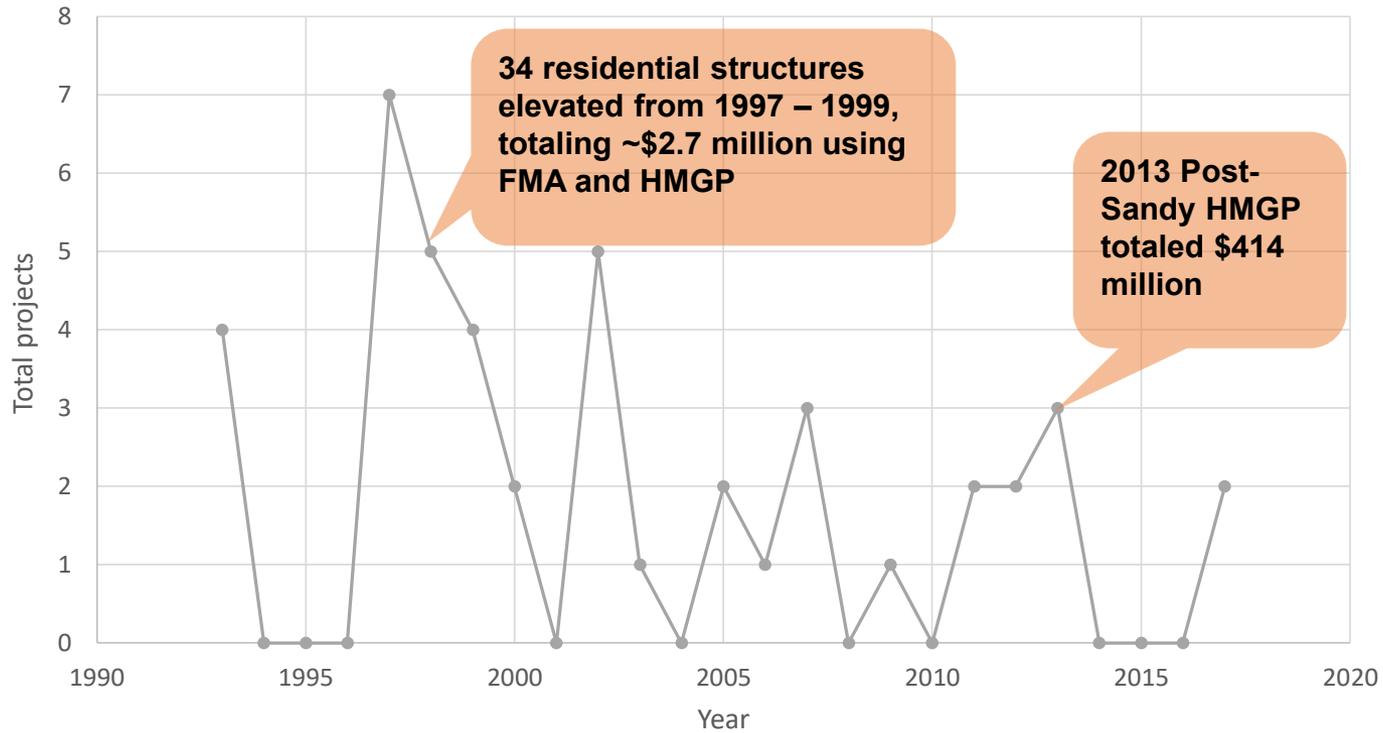
Benefits of Hazard Mitigation Planning

- **Required** under [Disaster Mitigation Act](#) of 2000
- Ensures continued **FEMA post-disaster funding**
 - [Public Assistance](#) (PA) for Permanent Work projects
 - [Fire Management assistance Grants](#) (FMAG)
 - [Hazard Mitigation Grant Program](#) (HMGP)
 - [Building Resilient Infrastructure and Communities](#) (BRIC)
 - [Flood Mitigation Assistance](#) (FMA)
- **Investment in your community's future** safety and sustainability
- **Educate the public and community officials** about hazard risks and vulnerabilities of people, property, and infrastructure
- **Stronger partnerships** among community stakeholders



Hazard Mitigation Grants

Hazard Mitigation Assistance Projects in Nassau County



Historical Context



2014 Nassau County Multi-Jurisdictional Hazard Mitigation Plan

[Source](#)

2007: Nassau County makes its first Hazard Mitigation Plan

2014: Nassau County updates the Plan

2020: Nassau County prepares to update the Plan again



What was your involvement with the last Plan update?

Attended meetings

Submitted mitigation actions

Provided feedback on a draft

Read the Plan

2021 Plan Outcomes

The **base plan** will be updated to include:

- ✓ A countywide **assessment of risk to natural hazards**
- ✓ Countywide **goals for mitigation** that align with current county and state priorities
- ✓ A **roadmap for maintaining the plan** over the next five years, including evaluation of mitigation projects and continued public participation



2014 Nassau County Multi-Jurisdictional Hazard Mitigation Plan
[Source](#)

2021 Plan Outcomes

Each jurisdiction will have its own annex to the base plan that includes:

- ✓ Geography, demographics, and development
- ✓ Hazard history and vulnerabilities
- ✓ Critical facilities
- ✓ Capabilities
- ✓ Mitigation projects
- ✓ National Flood Insurance Program summary



Hazard Mitigation Planning Process

The Hazard Mitigation Planning Process is **continuous and iterative.**



State and Local Planning Requirements

The chart below shows the requirements as they appear on the plan review tool used by NYS DHSES and FEMA Region II to determine whether or not a submitted plan meets federal and state requirements.

1. REGULATION CHECKLIST	Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS – NYS DHSES HAZARD MITIGATION PLANNING STANDARDS.			
These are required actions for plans developed with NYS DHSES-administered funds.			
F1. Does the plan document how stakeholders were invited to participate at each phase of the planning process and provide a summary of feedback?			
F2. Do jurisdictions identify critical facilities, assess vulnerabilities and ensure protection to a 500-year flood event or worst case scenario?			
F3. Do jurisdictions containing an SFHA identify: a. potential sites for the placement of temporary housing units for residents displaced by disaster, and b. potential sites within the jurisdiction suitable for relocating houses out of the floodplain, or building new houses once properties in the floodplain are razed?			
F4. Do jurisdictions identify: a. routes and procedures to evacuate citizens prior to and during an event; and b. shelters for evacuated citizens, to include provisions for a range of medical needs, accommodation for pets, and compliance with the Americans with Disabilities Act (www.ada.gov/)?			
F5. Do jurisdictions identify mitigation projects completed since the approval of the previous mitigation plan (or within the last five years)?			
F6. Does the plan include an annex for every jurisdiction within the County's boundaries?			
F7. Within each jurisdictional annex, are: a. projects developed in accordance with the NYS DHSES Proposed Projects Table; and b. two (2) NYS DHSES Action Worksheets provided?			
F8. Does the plan include a list of potential funding sources?			
F9. Does the plan assess how climate change may affect vulnerability to hazards, propose actions to address this, and discuss sea level rise (if applicable)?			
F10. Was the draft plan posted for public comment?			
Note: The applicant is required to address the 2018 NYS DHSES Hazard Mitigation Planning Standards as required actions for a hazard mitigation plan developed with funds administered by NYS DHSES.			
ELEMENT F: REQUIRED REVISIONS			
<i>Please see opportunities for improvement</i>			

New York State Hazard Mitigation Planning Standards
[Source](#)

APPENDIX A: LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The [Regulation Checklist](#) provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The [Plan Assessment](#) identifies the plan's strengths as well as documents areas for future improvement.
- The [Multi-jurisdiction Summary Sheet](#) is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	Title of Plan:	Date of Plan:
Local Point of Contact:	Address:	
Title:		
Agency:		
Phone Number:	E-Mail:	

State Reviewer:	Title:	Date:

FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

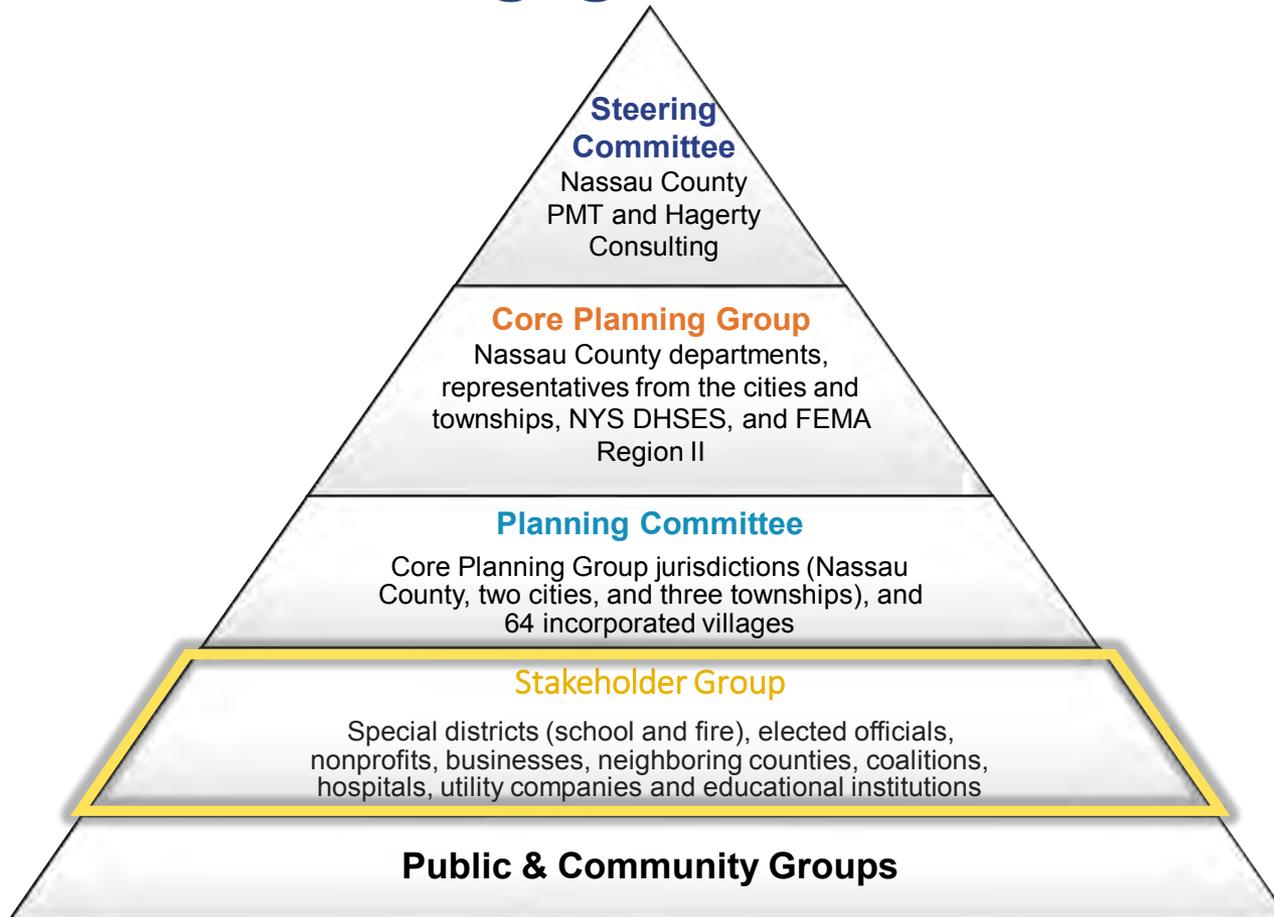
FEMA Local Mitigation Plan Review Guide
[Source](#)



Your Role in Hazard Mitigation

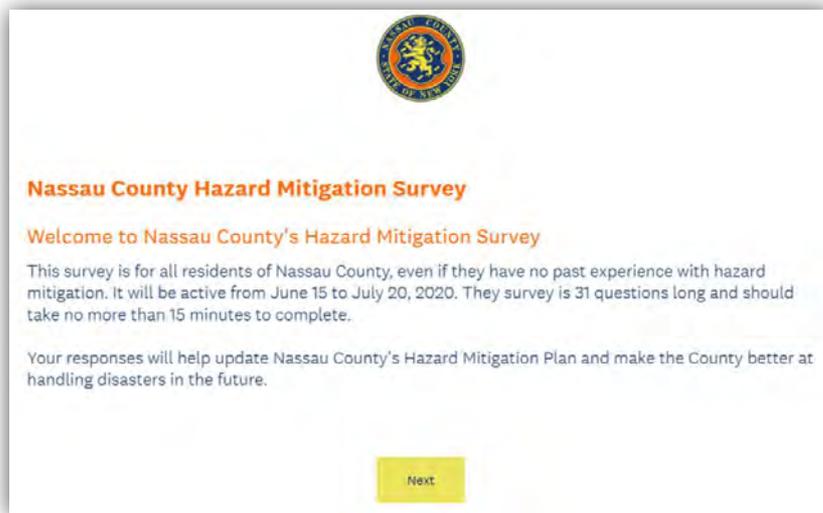


Stakeholder Engagement



Public Survey

- We want community input in the Hazard Mitigation Process
- The survey should go live mid-June
- The more people who take it, the better, so spread the word!



Ways to Participate



Attend webinars



Fill out the public survey



Spread the word on the public survey



Review and provide comments on the draft plan during the public comment period



Talk to your jurisdiction's Planning Committee representative to share ideas



Which method of participation are you most excited about?

Participating in webinars

Filling out the public survey

Spreading the word about the survey

Reviewing and providing comments
on the draft

Contacting your Planning Committee
representative with thoughts

Key Dates and Milestones

**Live June 15 to
July 20, 2020**

Public Survey

Elicit feedback
from the whole
community

October 1, 2020

**Public Meeting/
Webinar**

Review the final
draft plan

October 1 – 30, 2020

**Public Review
Period**

Comment on
the Plan



Mitigating Risk in Nassau County



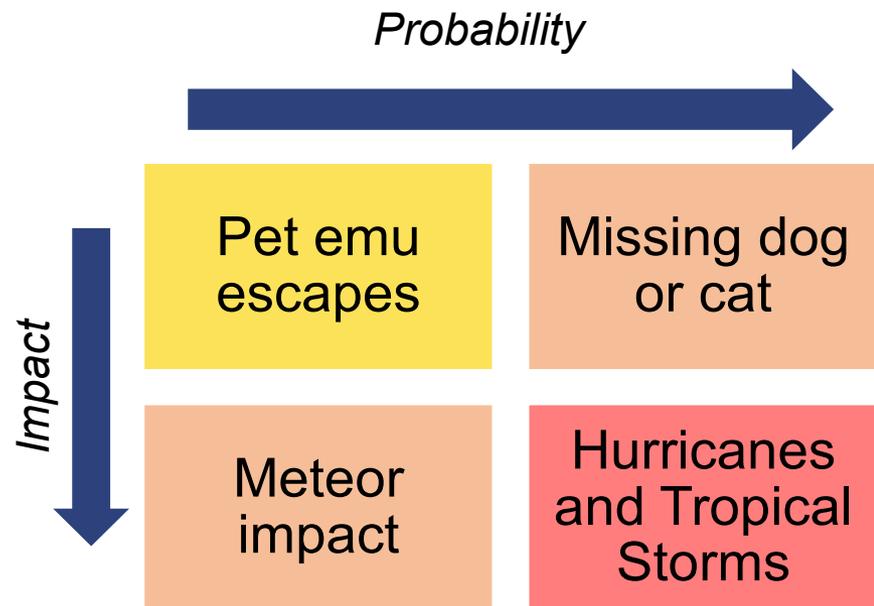
Risk Assessment

A risk assessment looks at the **probability of a hazard** and its **potential impact** to determine the overall risk of the hazard.

A risk assessment tells us

- What hazards to expect
- What buildings and areas are most likely to get damaged
- Where vulnerable populations live

Risk assessments help us prepare for future disasters.



Which of these hazards do you think is most likely in Nassau County?

Hail

Earthquake

Tornado

Tsunami

Wildfire

Probability of Natural Hazards in Nassau County

Highly Likely

- Coastal Hazard
- Flooding
- Severe Winter Weather
- Straight-Line Wind

Likely

- Drought
- Extreme Temperatures
- Hail
- Hurricanes and Tropical Storms
- Lightning

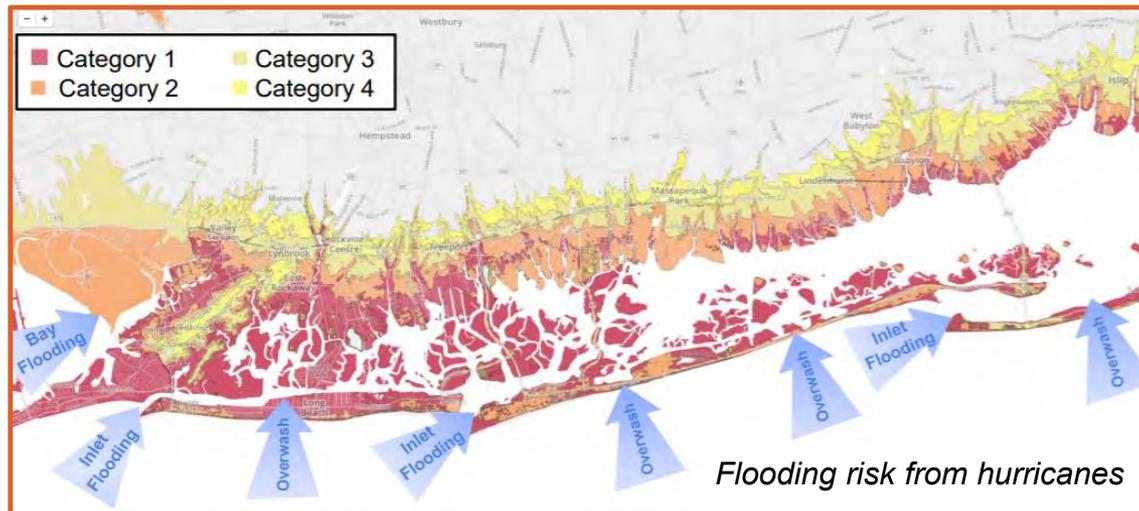
Unlikely

- Ground Failure
- Tornadoes

Flooding

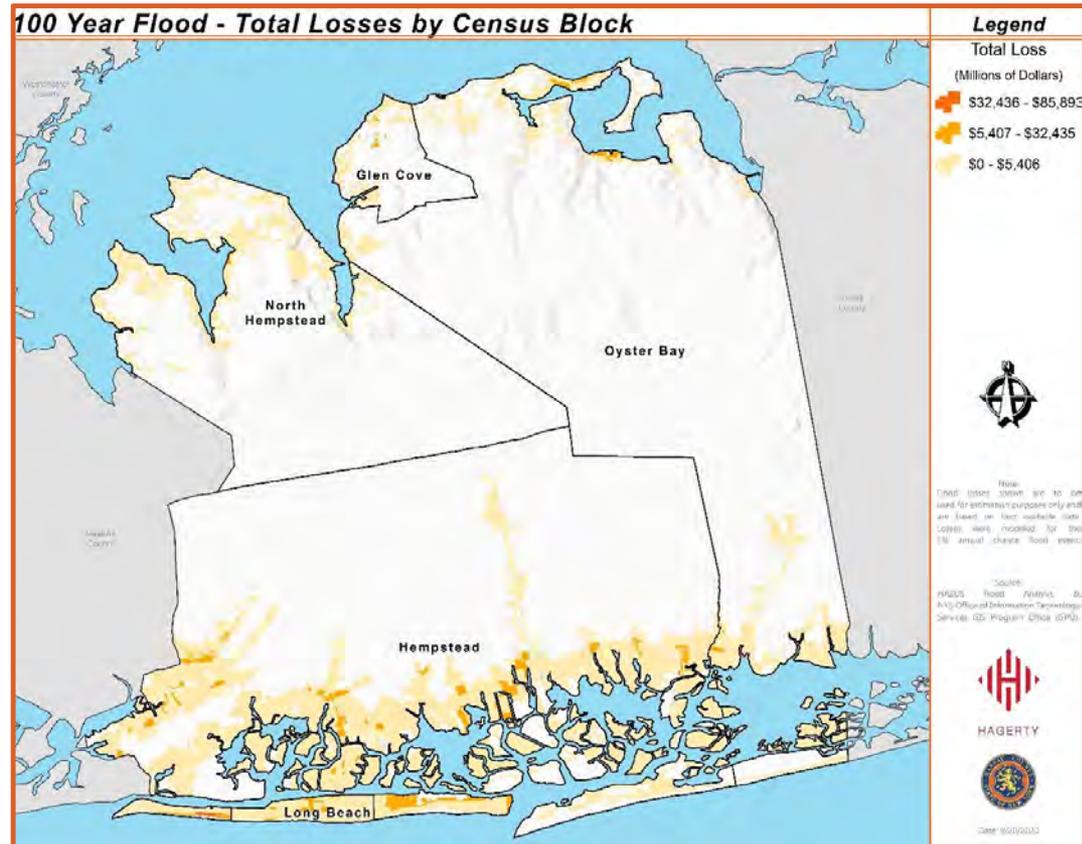
Highly Likely

- Floodplains:
 - 100-year floodplains have a 1% chance of flooding each year
 - 500-year floodplains have a 0.2% chance of flooding each year
- Recent Occurrences:
 - Between 2015 and 2020:
 - 55 total floods
 - 21 flash floods
 - 33 coastal floods

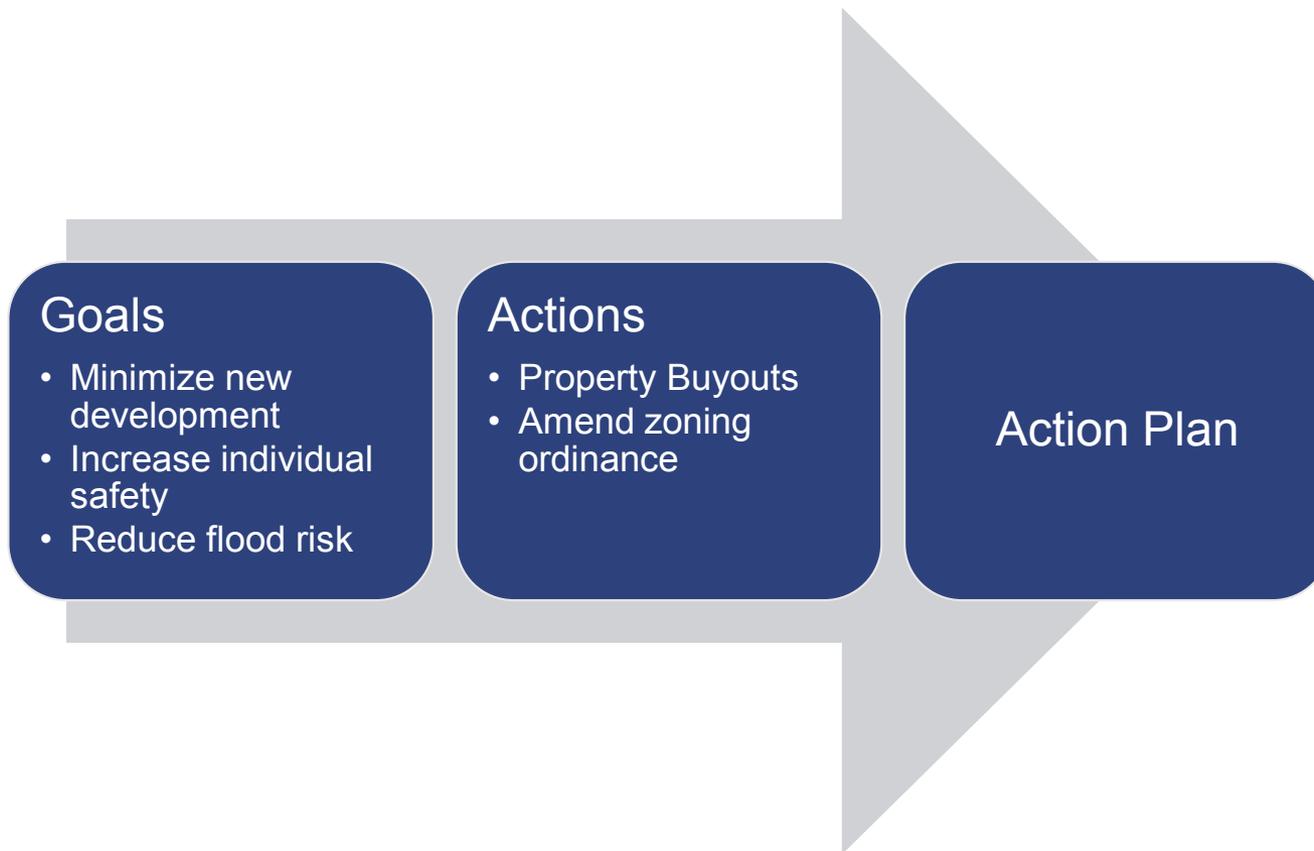


Flooding: Vulnerability Assessment

Losses associated with a 100-year flood total **nearly \$3.2 billion.**



Components of a Mitigation Strategy



Mitigation Actions

A **mitigation action** is a specific action, project, activity, or process taken to **reduce or eliminate long-term risk** to people and property from hazards and their impacts.

- Uses hazard identification and risk assessment to inform the development of actions that address current and future threats
- Informed by the capabilities (competencies, skills, and resources) that the local or state government possesses



Types of Mitigation Actions

Types of mitigation actions that **reduce long-term vulnerability** include:

Natural systems protection



Preparedness and response actions



Structural projects



Local plans and regulations



Education programs



Mental Health First Aid Kit

Just as CPR teaches you to help someone having a heart attack, **mental health first aid teaches you to help someone having a mental health crisis.**

Nassau County's Mental Health First Aid class:

- Is offered to everyone **free of charge**
- Teaches **common signs of mental illness** and substance abuse
- Empowers you to give **reassurance and information** to people in crisis



What actions have you taken to protect yourself and others from hazards?

Created an emergency plan

Stocked a go-bag or shelter-in-place bag

Floodproofed your home

Installed flood vents

Elevated your house

Added storm drains or gutters to your house

Next Steps and Q&A



Whole Community



Public Survey

Survey goes live on June 15th
Take the survey and share it
through your contacts!



Reach Out

Reach out to
hazardmitigation@nassaucountyny.gov
with your ideas and concerns – we want to
hear them!



Questions?





HAGERTY

Susan Park

Director of Recovery

Nassau County Office of Emergency Services

hazardmitigation@nassaucountyny.com

Sydney McKenna

Project Manager

Hagerty Consulting

Sydney.McKenna@hagertyconsulting.com



Hazard Mitigation Stakeholder Meeting

June 12, 2020 | 11 a.m. to 12 p.m. EDT

Virtual Meeting

Introduction

The meeting began with a welcome to the meeting attendees and a brief introduction by Sydney McKenna. She introduced Hagerty Consulting and provided an overview of the agenda for the meeting.

About Hazard Mitigation Plan Update

S. McKenna provided an overview of the hazard mitigation plan update. This project ensures that communities have access to FEMA post-disaster funding programs. The updated plan is an **investment in the community's future**, an opportunity to **educate the public and community officials** about hazard risks and vulnerabilities, and an opportunity to **build stronger partnerships** among community stakeholders. S. McKenna reviewed previous iterations of the Nassau County's Hazard Mitigation Plan and explained these components of the updated plan:

- Countywide assessment of risk to natural hazards;
- Countywide goals for mitigation that align with county and state requirements;
- A roadmap for maintaining the plan over the next five years; and
- Annexes for each jurisdiction (plans specific to the community).

She also reviewed the components of the hazard mitigation planning process and state and local planning requirements.

Your Role in Hazard Mitigation

The stakeholder engagement levels in the Plan include the Steering Committee, Core Planning Group, Planning Committee, Stakeholder Group, and Public and Community Groups. The meeting attendees represent the stakeholder group as members of the community (special districts, private nonprofits, businesses, and neighboring counties). A public survey, which goes live on June 15, will be an important contribution to stakeholder engagement.

S. McKenna presented five ways that the stakeholder group can participate:

- Attend webinars;
- Fill out public survey;
- Spread the word on the public survey;
- Review and provide comments on the draft plan during the public comment period; and
- Talk to their jurisdiction's planning committee representative to share ideas.

The key dates and milestones for this project are:

- June 15 - July 20: Public survey is live;
- October 1: Public meeting/webinar to review the final draft of the Plan; and
- October 1 - 30: Public review period to comment on the Plan.

Mitigating Risk in Nassau County

Hazard Probability and Impact

S. McKenna reviewed the process to assess risk in Nassau County. A risk assessment looks at the probability of a hazard and its potential impact to determine the overall risk. It identifies what hazards to expect, what buildings and areas are most likely to get damaged, and where vulnerable populations live. To assess the risk of hazards in Nassau County, the project team has reviewed hazards in previous plans and discussed changing community hazards and concerns.

In this project, hazard probability is categorized as **highly likely** (occurs more than once a year), **likely** (occurs once every five years), or **unlikely** (occurs less than once every five years). The results of the hazard probability analysis are as follows.

- Highly likely hazards
 - Coastal hazards (riptides, erosion, wave action, storm surge)
 - Flooding
 - Severe winter weather
 - Straight-line wind
- Likely hazards
 - Drought
 - Extreme temperatures
 - Hail
 - Hurricanes and tropical storms
 - Lightning
- Unlikely hazards
 - Ground failure (earthquakes, landslides, sinkholes)
 - Tornadoes

S. McKenna thoroughly explained the process to qualify the impacts of flooding hazards. These impact assessments were created using Hazards New York (HAZNY) and Hazus. Detailed results will be made available in the Plan.

Mitigation Strategy

The components of the mitigation strategy are goals, actions, and action plans. Mitigation actions are specific activities taken to reduce or eliminate long-term risk based on local level capabilities. Examples of projects that can be implemented in communities are:

- Local plans and regulations;
- Structural projects;
- Natural systems protections;

- Education programs; and
- Preparedness and response actions.

Hagerty highlighted the Mental Health First Aid Kit program in Nassau County, which teaches participants how to help someone having a mental health crisis and is available at no cost to community members.

Next Steps and Q&A

- Take and distribute the **public survey** online and through social media using the template language attached.
- Reach out to hazardmitigation@nassaucountyny.gov with your ideas and concerns.

Meeting Attendees

Name	Organization
Dave Rich	Nassau County
DObrien1	Nassau County
Glenn Schaefering	Northwell Health
Gregory May	Nassau County
Jeremy May	Nassau County
Judy Wieber	SCO Family of Services
Kenneth Heino	Nassau County
Linda Wenze	National Society of Health Coaches
Liz Treston	Unknown
Michael Hahn	Jericho School District
Michael McGuinness	Adelphi University
Nancy Fischer	Nassau County
Scott Strauss	Mineola, NY
Susan Park	Nassau County
Therese Brzezinski	Long Island Center for Independent Living
Tony Tripp	Unknown
Sydney McKenna	Hagerty Consulting
Michelle Bohrson	Hagerty Consulting
Julia Davatzes	Hagerty Consulting
Katie Weber	Hagerty Consulting

*Three other lines were present on the call, but no names were attached.

Poll Everywhere Results

Who do you represent?	
Government	5
Other	1

What was your involvement with the last Plan update?	
Attended meetings	2
Submitted mitigation actions	1

Which method of participation are you most excited about?	
Reading the new plan when it comes out	2
Following Nassau County Emergency Management on social media	1
Reviewing and providing comments on the draft	1
Spreading the word about the survey	1
Filling out the public survey	1

Which of these hazards do you think is most likely in Nassau County?	
Hail	6

What actions have you taken to protect yourself and others from hazards?	
Stocked a go-bag or shelter-in-place bag	4
Elevated your house	1

Public Survey Summary

Survey live from June 12 to July 20, 2020.

Public Survey Results

SURVEY SAMPLE

The Nassau County Hazard Mitigation Outreach Survey was live from **June 12, 2020 to July 20, 2020** on Survey Monkey. It received **277 responses**. The demographic breakdown of the survey sample was predominantly composed of more white respondents than is representative of Nassau County. Ten percent of the County is Asian American and 13% is African American, whereas only 0.4% and 2.8% of the respondents were Asian American and African American, respectively. Also, half of the survey sample was composed of respondents over 65, although only 18% of Nassau County's population is over 65. **A majority (52%) of responses came from four jurisdictions:** Village of Flower Hill (66), Town of Hempstead (32), Valley Stream (30), and Village of Great Neck Plaza (20).

KEY TAKEAWAYS

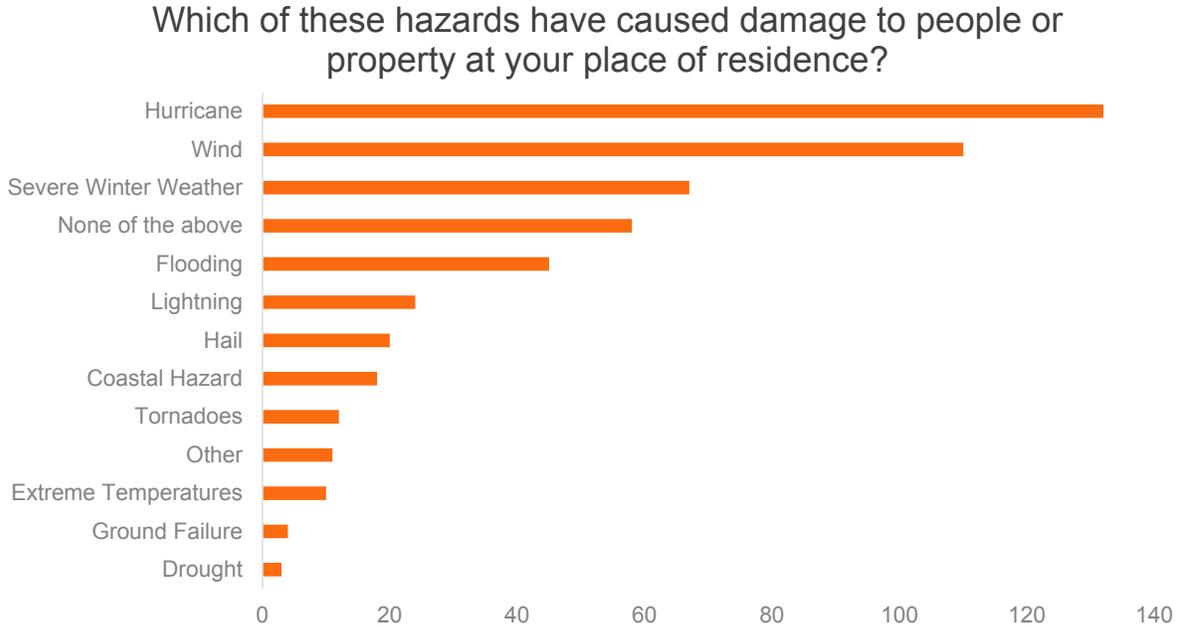
- Respondents **ranked hurricanes and other types of hazards as most concerning and hail and ground failure as the least concerning** (Figure 1). “Other” types of hazards may have ranked so high in part because this survey was administered as the nation was experiencing the coronavirus pandemic and widespread Black Lives Matters protests in the wake of the deaths of George Floyd, Breonna Taylor and Ahmaud Arbery. Specific response options were not provided for either.
- When asked about hazards that concerned them but were not listed, most respondents listed:
 - Pandemics;
 - Fires;
 - Man-made disasters (terrorism, looting and unrest);
 - Trees falling;
 - Difficulty getting people to shelters or evacuating the island if necessary (congestion);
 - Power outages; or
 - Supply chain disruptions that lead to food, electricity, or other shortages.

Figure 1



- The **most experienced hazards were hurricanes, severe winter weather, and wind**. Very few respondents indicated they had experienced drought, hail, or ground failure (Figure 2).¹

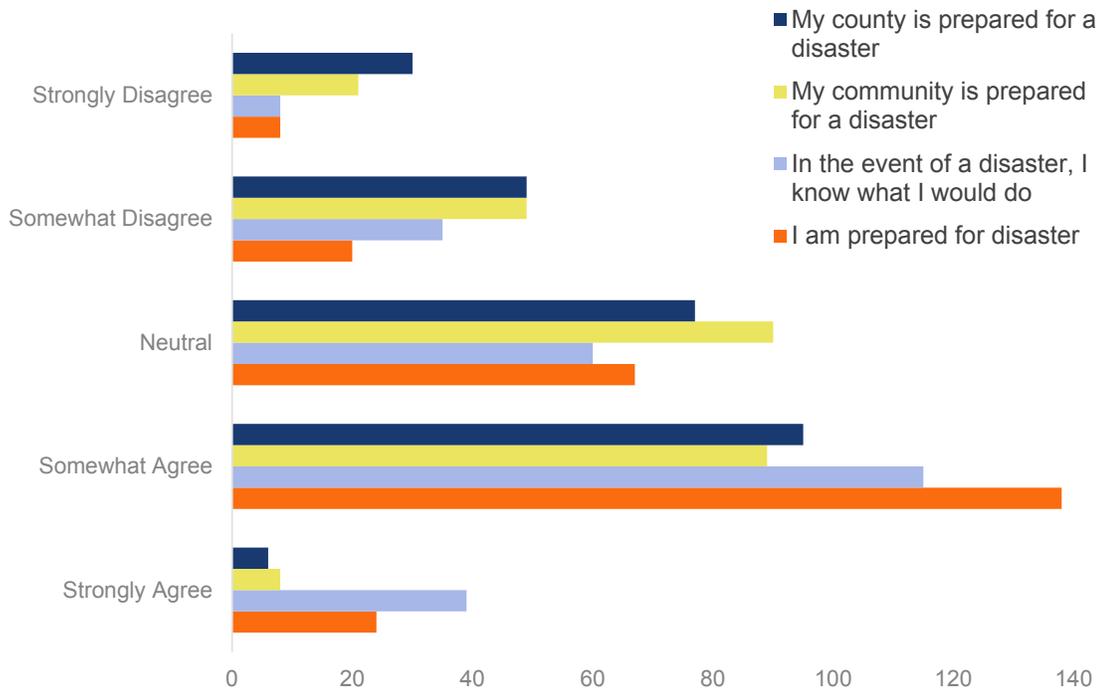
Figure 2



¹ Respondents could select multiple hazards in this section.

- In general, respondents thought they were more prepared for disasters than their county and community (Figure 3).

Figure 3



- **The majority of respondents had modified their property to make it safer (Figure 4). Besides the listed options (Figure 5), the most common modifications were buying generators or installing French drains.**

Figure 4

Have you made improvements to protect your property from natural hazards?

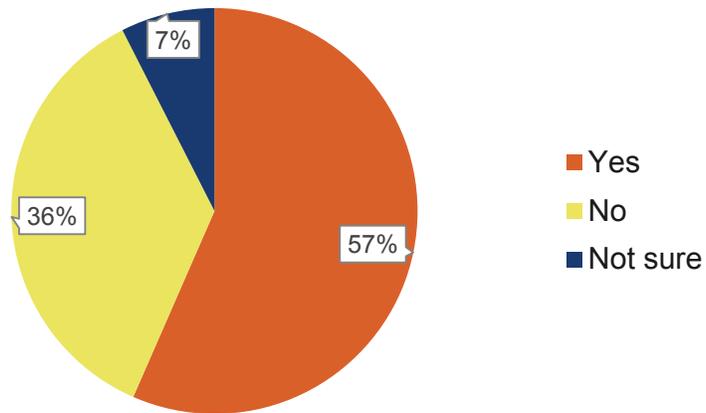
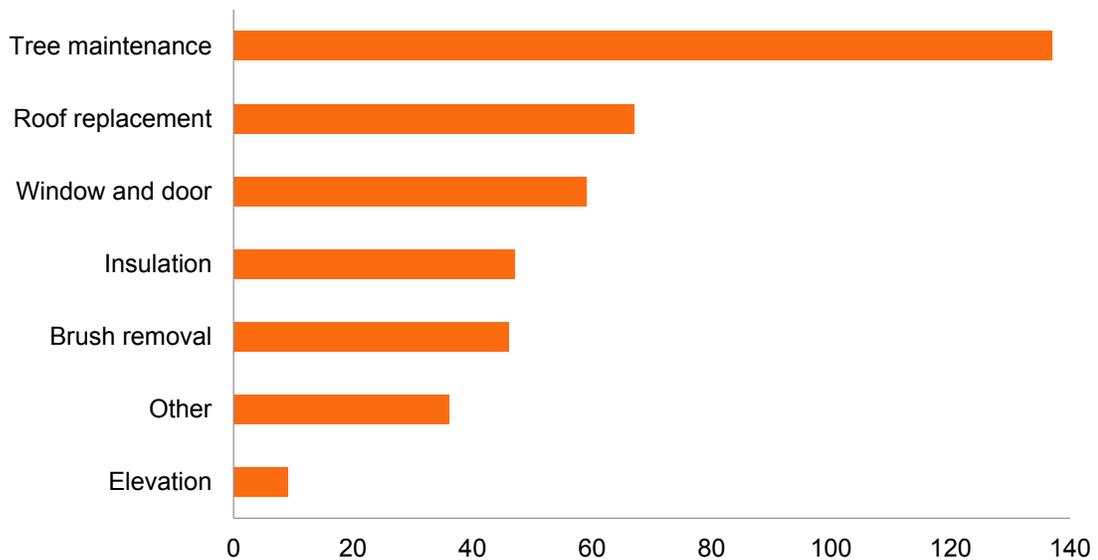


Figure 5

What improvements have you made?



- **Fewer than 20% of respondents knew they had flood insurance** (Figure 6). The most common reason not to have flood insurance was **living on high ground** (Figure 7). The most common explanation for respondents who selected other was not living in a flood zone.

Figure 6

Do you have flood insurance?

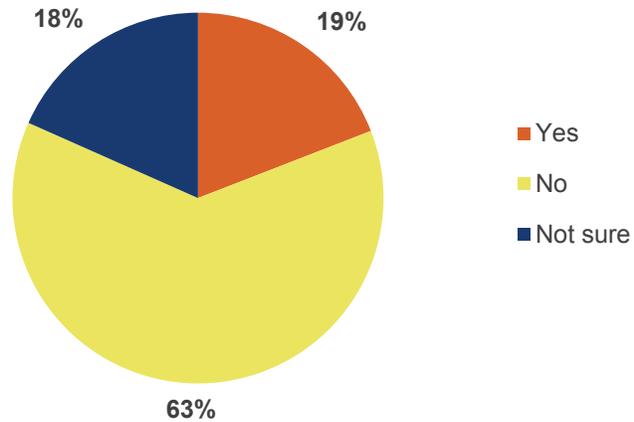
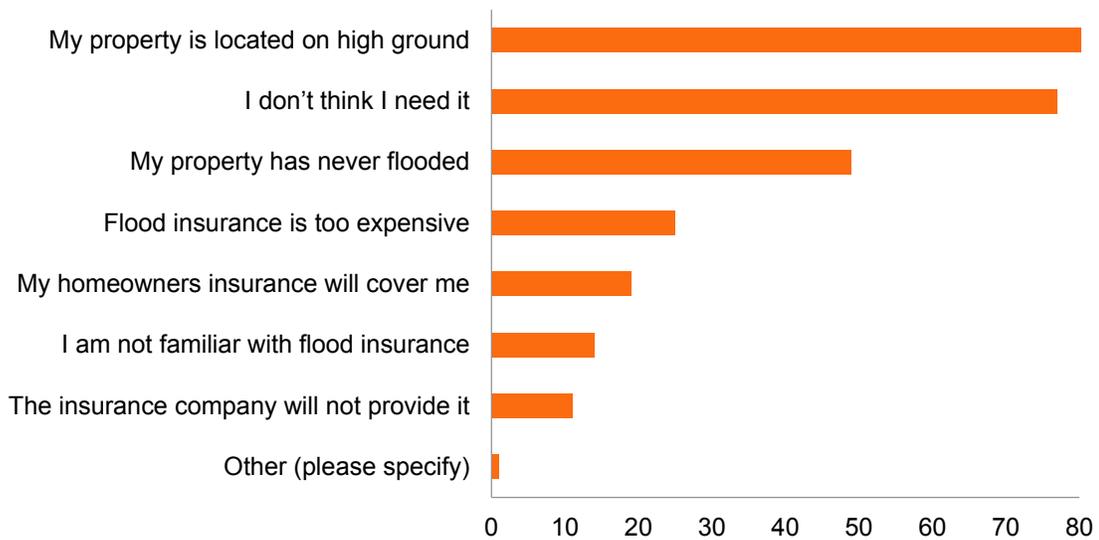


Figure 7

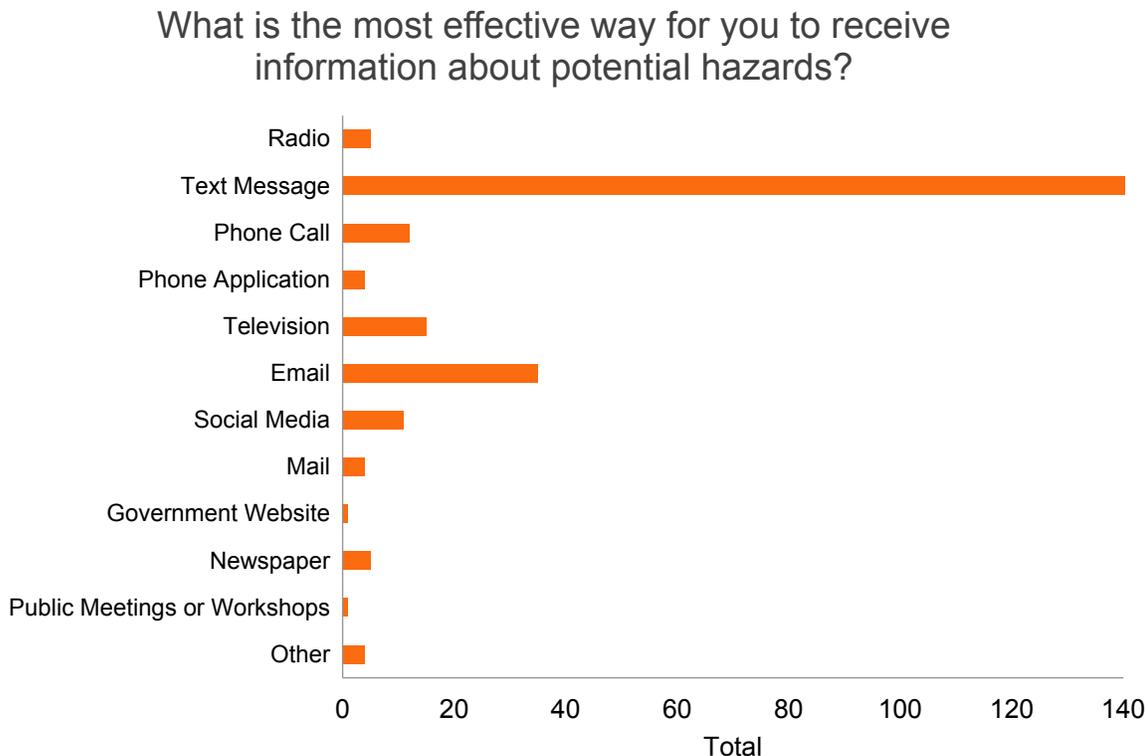
Why don't you have flood insurance?



- When asked if they had anything to add about suggestions for ways Nassau County could prepare for future disasters, respondents identified a wide variety of actions, including:
 - Publicizing plans so the community knows what to expect during a disaster;
 - Communicate with the public more during, before, and after disasters;
 - Respondents suggested many options, including an app, text alerts, email updates, a website, and distributing paper copies of evacuation routes
 - Building resilience into electrical infrastructure through mitigation projects and investment in modern upgrades to the grid, including:
 - Burying powerlines underground;
 - Purchasing generators for key facilities; and
 - Increasing incentives for solar and wind power.
 - Continue offering Community Emergency Response Training (CERT) and other preparedness centered classes.
- Many respondents **referenced Hurricane Sandy as the basis for their suggestions**. A common suggestion related to this event was for Nassau County to improve coordination with Federal Emergency Management Agency (FEMA) officials and local utilities post-disaster.

- By far, the **most effective way to reach respondents is through text**, followed by email (Figure 8).² Many respondents expressed the need for better county-wide communication about disasters and texting is likely the most effective way to meet that need.

Figure 8



- **96** respondents **provided their email addresses** to receive updates about the hazard mitigation process. A few also respondents also requested updates on the results of the survey.

² Respondents could select multiple options on this question.

Jurisdictional Consultation Calls

Calls held from June 25 to July 16, 2020.

1. Jurisdictional Consultation Calls Invitation
2. Jurisdictional Consultation Calls Agenda
3. Jurisdictional Consultation Calls Schedule



Dear Planning Committee,

Thank you for attending the Risk Review and Mitigation Strategy webinar on June 11th. The meeting summary, presentation, and recording for the webinar are available in the attachments below. Opportunities like this are a great way for us to stay engaged on the Nassau County Hazard Mitigation Plan Update project, especially in a virtual setting.

Please distribute the [public survey](#) online and through social media using this [template language](#). The survey goes live on **June 15th** and will be open until July 20th!

[Click here to take the Public Survey](#)

Cities, Towns, and Villages, over the next few weeks, please move forward with the following tasks:

Schedule a [Jurisdictional Consultation Call](#).

As a valued partner of the Nassau County Hazard Mitigation Plan update, this meeting is when you will speak with our consultants to derive mitigation actions based on the data you have provided in your jurisdictional annex. This is an opportunity to place your jurisdiction in the best possible position to receive federal hazard mitigation funding for future mitigation projects and policies.

[Click here to schedule your Jurisdictional Consultation Call](#)

Before your Jurisdictional Consultation Call, gather your team to review and work on Steps 1 - 4. Refer to this [Instruction Guide](#) for more information along the way.

Step 1: Review and document progress on existing mitigation projects.

- Use the attached **2014 Mitigation Action Spreadsheet** to review your jurisdiction's actions from the previous plan and fill in the required fields to document your progress.
- Document any other mitigation projects you have completed since 2014 in the same spreadsheet.

Step 2: List all proposed mitigation projects.

- Use the **Proposed Project Spreadsheet** to fill in your ideas for mitigation projects to complete in the next five years.

Step 3: Fill out two Mitigation Action Forms.

- Use the attached **Mitigation Action Form** to fill out at least two mitigation actions for projects that you want included in the updated hazard mitigation plan. These projects should aim to reduce long-term risk to natural hazards, including structural and non-structural (e.g., planning) projects.
- If your jurisdiction is specifically in a flood hazard area, one of your actions must be related to flooding.

Step 4: Submit your documents.

- Submit all documents from Steps 1-3 **at least 72 hours before** your Jurisdictional Consultation Call using the [submission link](#).
- You will also be asked to submit the names of two volunteers who may assist in shelter activities in the event that Nassau County activates a shelter in your area.

Attachments to this email include:

Webinar

[Meeting Notes](#)

[Presentation](#)

[Webinar Recording](#)

Nassau County Hazard Mitigation Plan Update

Jurisdictional Annex Interview Checklist

V/T/C of [Name of Jurisdiction], [Name of Representative]

Meeting Agenda

Topic	Time	Notes
Welcome and Introductions	~3 minutes	
Review of Outstanding Questions related to the <i>Profile Survey, Hazard Review, Capability Assessment, or NFIP forms</i> » <i>If this discussion lasts the full 15 minutes, it will likely be necessary to either extent the call beyond 30 minutes total or to schedule a follow-up call.</i>	5-15 minutes	
Review of State Mitigation Action Sheet 1	5-15 minutes	
Review of State Mitigation Action Sheet 2	5-15 minutes	
Time spent preparing for today's call?		
Additional Questions / Next Steps	~3 minutes	

Jurisdiction	Call Date	Time (ET)	Contact	Contact Email
Atlantic Beach, Village of	Submitted documentation electronically		Steven Cherson	plaza65buildings@aol.com ; steveniche@aol.com
Baxter Estates, Village of	7/15/20	2:00 PM	Chrissy Kiernan	clerk@baxterestates.org
Bayville, Village of	7/15/20	10:30 AM	Maria Alfano-Hardy	malfanohardy@bayvilleny.gov
Bellerose, Village of	No call			
Brookville, Village of	7/10/20	10:30 AM	Robert Spina	robert.spina@ubs.com
Cedarhurst, Village of	6/25/20	10:30 AM	Frank Parise	fp3100@verizon.net
Centre Island, Village of	Submitted documentation electronically		Larry Schmidlapp	larry.schmidlapp@gmail.com
Cove Neck, Village of	7/7/20	10:30 AM	John N Hubbard	hubbardaux@gmail.com
East Hills, Village of	No call			
East Rockaway, Village of	7/8/20	1:00 PM	Juan Garcia	jgarcia@villageofeastrockaway.org
East Williston, Village of	6/26/20	10:00 AM	Marie Hausner	ewillistonclerk@yahoo.com
Farmingdale, Village of	No call		Brian Harty	bharty@farmingdalevillage.com
Floral Park, Village of	7/14/20	10:00 AM	Renee Marcus	rmarcus@fpvillage.org
Flower Hill, Village of	6/29/20	11:00 AM	Ronnie Shatzkamer	yclerk@villageflowerhill.org
Freeport, Village of	Not applicable			
Garden City, Village of	7/9/20	1:30 PM	Domenick A. Stanco	dstanco@gardencityny.net
Glen Cove, City of	7/10/20	2:00 PM	Chris Ortiz	cortiz@glencopepd.org
Great Neck Estates, Village of	7/10/20	3:00 PM	Barbara Dzierney	admin@vgne.com
Great Neck Plaza, Village of	6/30/20	1:00 PM	Jean Celender	majorjean@greatneckplaza.net
Great Neck, Village of	No call		Jim Neubert	jneubert@optonline.net
Hempstead, Town of	7/7/20	9:30 AM	Edward W. Powers	epowers@tohmail.org
Hempstead, Village of	Submitted documentation electronically		George Sandas	gsands@villageofhempsteadny.gov
Hewlett Bay Park, Village of	No call			
Hewlett Harbor, Village of	No call		Michael Ryder	villageclerk@hewlettharbor.org
Hewlett Neck, Village of	No call			
Island Park, Village of	Submitted documentation electronically		Michael McGinty	mmcginty@villageofislandpark.com
Kensington, Village of	No call			
Kings Point, Village of	No call		Gomie Persaud	gopersaud@villageofkingspoint.org
Lake Success, Village of	7/14/20	11:00 AM	Patrick Farrell	plsadmin@optonline.net
Lattingtown, Village of	7/6/20	1:00 PM	Dawn Gresalfi	cgresalfi@aol.com
Laurel Hollow, Village of	7/14/20	2:00 PM	Elizabeth Kaye	clerktreasurer@laurelhollow.org
Lawrence, Village of	7/15/20	1:00 PM	Gerry Castro	gcastro@villageoflawrence.org
Long Beach, City of	7/8/20	10:00 AM	Scott Kemins	skemins@longbeachny.gov
Lynbrook, Village of	7/9/20	3:00 PM	Rob Cribbin	rcribbin@lynbrookvillage.com
Malverne, Village of	7/13/20	3:00 PM	Anthony L. Marino	lihueguy@optonline.net
Manorhaven, Village of	6/25/20	9:00 AM	Sharon Abramski	villageclerksharon@manorhaven.org
Massapequa Park, Village of	6/29/20	12:00 PM	Robert Macri	superintendent@masspk.com
Matinecock, Village of	7/9/20	11:00 AM	Ken Goodman, M.D.	kgoodma2@optonline.net
Mill Neck, Village of	7/8/20	11:30 AM	Josh Kugler	joshkugler14@gmail.com
Mineola, Village of	6/26/20	9:00 AM	Lenny Palumbo	lpalumbo@mineola-ny.gov
Munsey Park, Village of	7/10/20	1:00 PM	Tara Gibbons	tgibbons@munseypark.org
Muttontown, Village of	7/16/20	2:00 PM	Joe Russo	jrusso@muttontownny.gov
Nassau, County of	7/23 and 8/5		David Viana	Dviana@nassaucounty.gov
New Hyde Park, Village of	No call			
North Hempstead, Town of	7/14/20	1:00 PM	Shawn Brown	browns@northhempsteadny.gov
North Hills, Village of	7/6/20	10:00 AM	Marianne Lobaccaro	villageadministrator@villagenorthhills.com
Old Brookville, Village of	No call		Bernie Ryba	village@oldbrookville.net
Old Westbury, Village of	No call		Brian Ridgway	bridgway@vowny.org
Oyster Bay Cove, Village of	7/10/20	9:00 AM	Edward von Briesen	junkervb@rcn.com
Oyster Bay, Town of	7/9/20	10:00 AM	Robert Mangano	rmangano@oysterbay-ny.gov
Plandome Heights, Village of	7/2/20	11:30 AM	Kenneth C. Riscica	mayor@plandomeheights-ny.gov
Plandome Manor, Village of	7/13/20	1:00 PM	Barbara Donno	inspector@plandomemanor.com
Plandome, Village of	No call		Donald Richardson	richdk@aol.com
Port Washington North, Village of	No call			
Rockville Center, Village of	7/16/20	11:30 AM	Kevin Reilly	kreilly@rcvny.us
Roslyn Estates, Village of	No call			

Roslyn Harbor, Village of	7/15/20	3:00 PM	Dina Kussoff	jacy@optonline.net
Roslyn, Village of	No call		Sam Daliposki	sdaliposki@roslynny.gov
Russell Gardens, Village of	7/17/20	11:00 AM	Michael Jurcsak	mikedpw@russellgardens.com
Saddle Rock, Village of	No call			
Sands Point, Village of	7/13/20	11:00 AM	Liz Gaynor	liz@sandspoint.org
Sea Cliff, Village of	7/2/20	9:30 AM	Bruce Kennedy	bkennedy@seacliff-ny.gov
South Floral Park, Village of	7/13/20	2:00 PM	Mary Long	villageclerk383@optimum.net
Stewart Manor, Village of	7/16/20	1:00 PM	Barbara Barciere	barciere@stewartmanor.org
Thomaston, Village of	No call			
Upper Brookville, Village of	7/14/20	3:00 PM	Tracy Lynch	villageclerk@upperbrookville.org
Valley Stream, Village of	7/15/20	9:30 AM	Frank Roca	vsemo@vsvny.org
Westbury, Village of	7/13/20	9:00 AM	Iannucci Pasquale	piannucci@villageofwestbury.org
Williston Park, Village of	7/8/20	9:00 AM	Keith Bunnell	jkain@villageofwillistonpark.org
Woodsburgh, Village of	6/30/20	11:00 AM	Francois Tenenbaum	designbyfrancois@yahoo.com

Planning Committee Mitigation Strategy Review Webinar

August 20, 2020, 10:00 - 11:30 AM

1. Planning Committee Mitigation Strategy Review Webinar Invitation
2. Planning Committee Mitigation Strategy Review Webinar Agenda
3. Planning Committee Mitigation Strategy Review Webinar PowerPoint Presentation
4. Planning Committee Mitigation Strategy Review Webinar Participant List



Register Now!

*The Planning Committee, inclusive of the Core Planning Group, will convene on **August 20, 2020 from 10:00 AM to 11:30 AM for the Mitigation Strategy Review Webinar** to update the Nassau County Multi-Jurisdictional Hazard Mitigation Plan.*

[Click here to register for the webinar](#)

It is essential that you attend this workshop as a representative of a jurisdiction or part of Nassau County participating in the plan update. This webinar will:

1. Review the draft Mitigation Action Plan
2. Collect feedback from the Planning Committee about the Hazard Mitigation Update process thus far
3. Begin discussing the process for local plan adoption
4. Review next steps in the planning process

If you have any questions, please contact Susan Park at (516) 573-9642 or spark@nassaucountyny.gov.



Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Mitigation Strategy Review Webinar Agenda

August 20, 2020 | 10:00 AM – 11:30 AM

This webinar will be broadcast through Zoom. Please register ahead of time to receive information: https://us02web.zoom.us/meeting/register/tZcsce6srj8oHdYsre7aqULOcISvPhiw_T7J

Time	Item Details
10:00 AM	Introduction and Project Review to Date
10:10 AM	Draft Mitigation Action Plan Review
10:40 AM	Plan Adoption Process
11:00 AM	Roadmap to Implementation
11:15 AM	Next Steps and Q&A

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at hazardmitigation@nassaucountyny.com



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Nassau County Multi-Jurisdictional Hazard Mitigation Plan Update

Mitigation Strategy Review Webinar Agenda

August 20, 2020 | 10:00 AM – 11:30 AM

This webinar will be broadcast through Zoom. Please register ahead of time to receive information: https://us02web.zoom.us/meeting/register/tZcsce6srj8oHdYsre7aqULOcISvPhiw_T7J

Time	Item Details
10:00 AM	<p>Introduction and Project Review to Date</p> <p><i>Introduce meeting, facilitators, and attendees. Introduce polling software (if using). Review project progress to date. Mention COVID-19 and recent tropical storm as a call to action for mitigation.</i></p>
10:10 AM	<p>Draft Mitigation Action Plan Review</p> <p><i>Review Mitigation Action Plan. This involves reviewing some elements of the base plan. This also will involve reviewing the work Hagerty and jurisdictions have done for the Annexes. This section will be designed to be interactive, and aim to emphasize how again the right people should be reviewing these documents.</i></p>
10:40 AM	<p>Plan Adoption Process</p> <p><i>Discuss how the plan adoption process occurs. Provide examples of this via case studies</i></p>
11:00 AM	<p>Roadmap to Implementation</p> <p><i>Provide context and examples of what implementation and maintenance of this plan will look like post-adoption</i></p>
11:15 AM	<p>Next Steps and Q&A</p> <p><i>Note key dates.</i></p>

For more information about this process, please contact Susan Park, Nassau County Office of Emergency Services Director of Recovery, at hazardmitigation@nassaucountyny.com



HAGERTY

Mitigation Strategy Review Webinar

Nassau County, New York

August 20, 2020



HAGERTY

Hagerty Consulting



Sydney McKenna

Project Manager



Michelle Bohrson

Deputy Project Manager and
Lead Planner

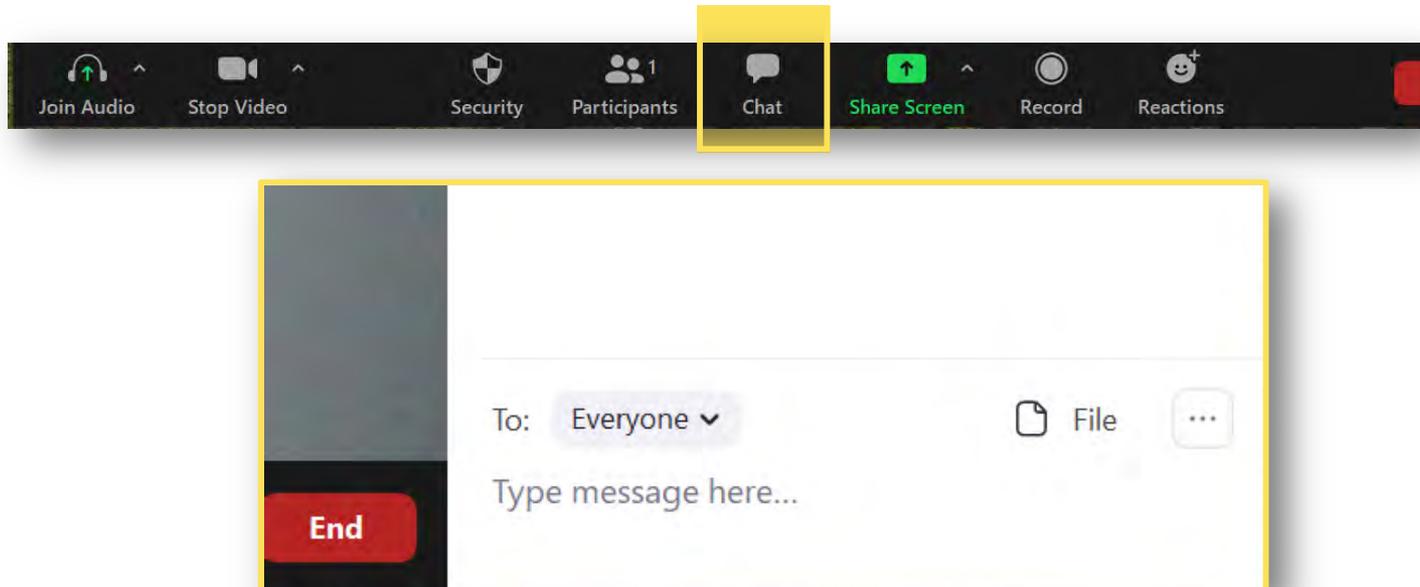


Housekeeping

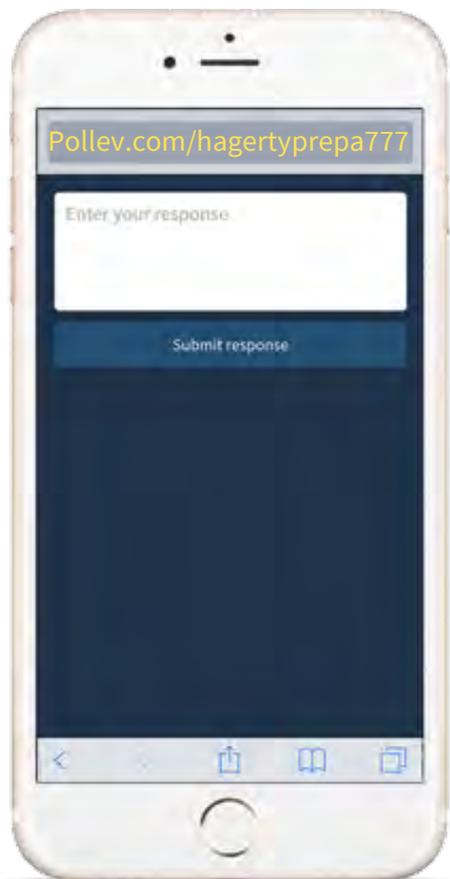
- This meeting is being recorded.
- Phone lines will be muted for the duration of this meeting.
- Use the chat box to ask your questions. We will answer your questions during a Q&A session at the end.
- Please email hazardmitigation@nassaucountyny.gov if joining us on the phone.



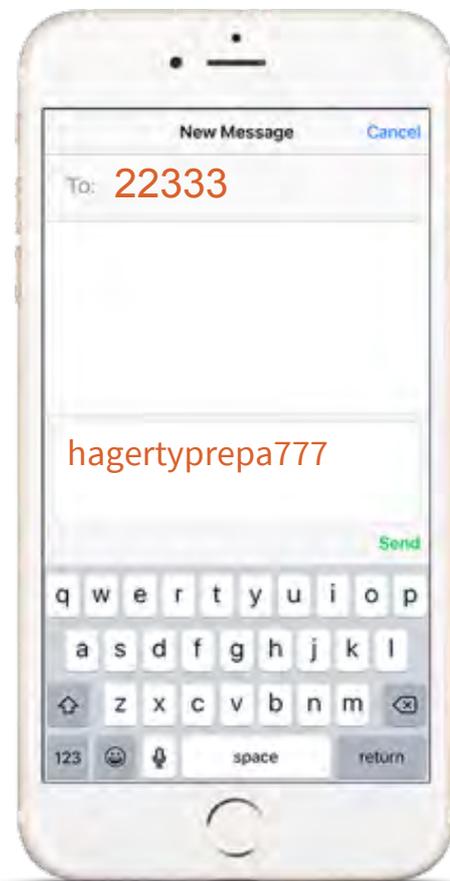
Using Zoom



Poll Everywhere



Web voting



Text voting





How can the public feedback gathering process be improved in the future?



Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app

Agenda

- 1. Introduction and Project Review**
- 2. Draft Mitigation Action Plan Review**
- 3. Plan Adoption Process**
- 4. Roadmap to Implementation**
- 5. Next Steps and Q&A**



Introduction and Project Review



Why is Mitigation Planning Important?



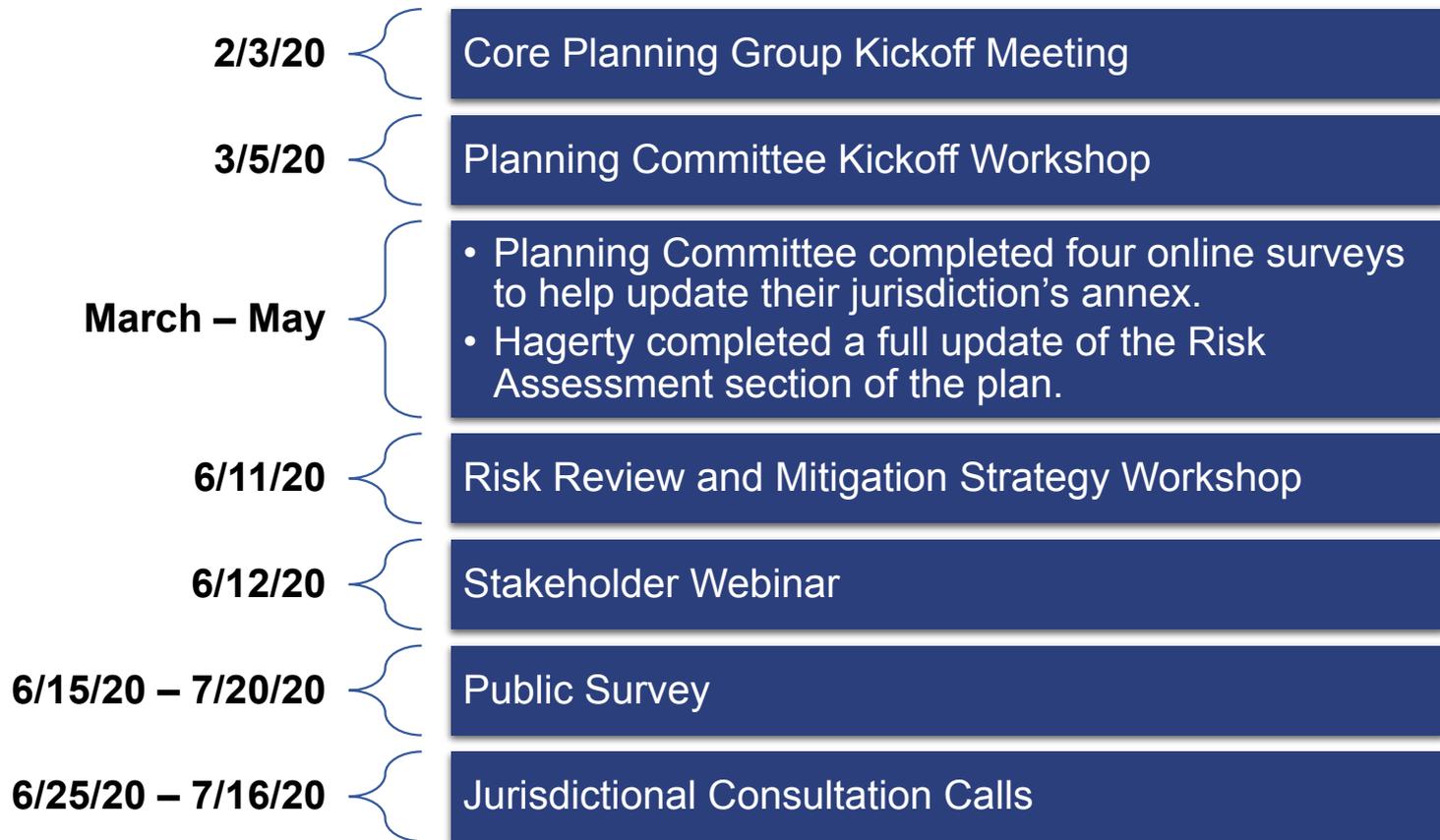
Tropical Storm Isaias

Mitigation Planning for the Future

- Planning and implementing mitigation measures **reduces loss of life and property**.
- **Effectively invest** in your community to reduce risk.
- Become **eligible** for federal mitigation funding opportunities.
- Engage the **Whole Community** in the cycle of emergency management.



Planning Progress to Date



Planning Progress to Date

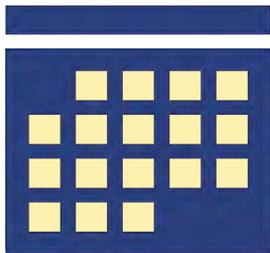


- **51 participating jurisdictions** in the Nassau County Hazard Mitigation Plan Update.
- These jurisdictions make up the **Planning Committee** – which has continued to meet virtually to date.

Project Timeline



Key Upcoming Events



- 8/18 to 8/25** { Submit feedback on Mitigation Action Plan
- 9/8 to 9/22** { Planning Committee reviews the draft Hazard Mitigation Plan
- 9/16** { Plan Review Webinar
- 10/1** { Planning Committee reviews the draft Hazard Mitigation Plan
- 10/1 – 10/31** { Public Webinar and Comment Period

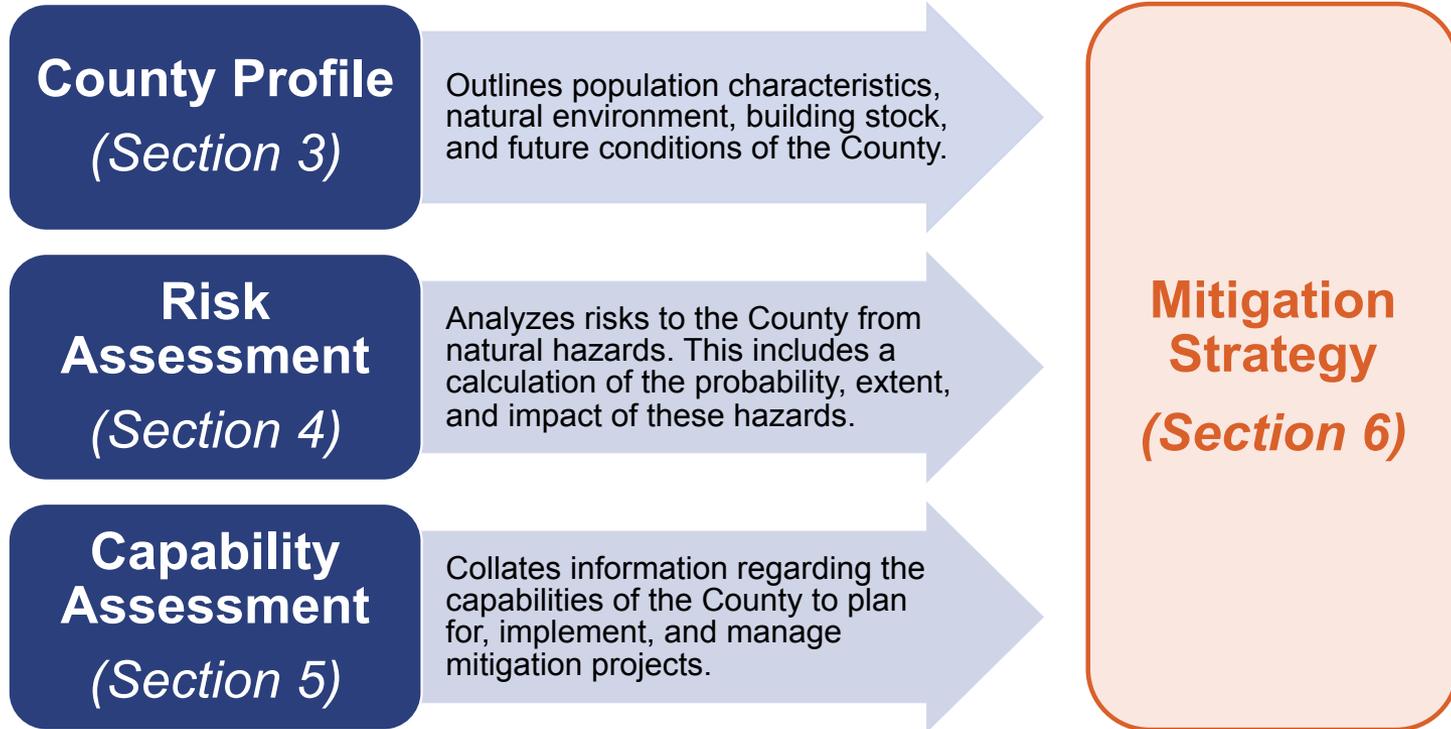


Draft Mitigation Action Plan Review

Risk Review and Mitigation Strategy Webinar



Mitigation Strategy



Mitigation Strategy

Base Plan (Section 6)

- Goals and objectives
- Approach for development of mitigation strategy
- Description of categories in mitigation plan
- Prioritization approach
- Countywide mitigation actions

Jurisdictional Annex

- Progress towards previous mitigation actions
- 2020 mitigation action plan
- DHSES Mitigation Action Worksheets



Mitigation Strategy Goals

1

Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.

2

Build and support local capacity to prepare for, respond to, and recover from disasters.

3

Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.

4

Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.

5

Develop and implement long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems.

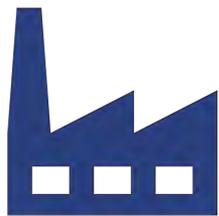
6

Improve coordination between land use and redevelopment planning to encourage safe, economically sound investments.



Mitigation Action Plan

Trends in Action Development



**Utility
Retrofitting**



**Continuity
Planning**



Generators



**Stormwater
Management**

Mitigation Action Plan

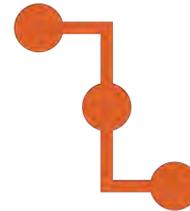
Innovative Action Development



**Green Resilience /
Coastal
Development Zone**



**Hurricane
Preparedness
Education
Program**



Phased Projects



Living Shorelines



**Do your mitigation actions address all of
your community's vulnerabilities to natural
hazards?**



What other ideas do you have for mitigation actions for your community?



Mitigation Action Plan Review



Review Your Jurisdiction's Mitigation Action Strategy!

Each participating jurisdiction can now review their Mitigation Action Strategy, prior to finalization of the Draft Nassau County Hazard Mitigation Plan.

The Jurisdiction Mitigation Action Strategy review period will be **open from August 18, 2020 through August 25, 2020**. To review your jurisdiction's documents:

1. Click the link below to access the SharePoint OneDrive library of Jurisdiction Mitigation Action Strategies.
2. Review the documents in your jurisdictions folder. *Note: you will not be able to edit the documents directly on SharePoint.*
3. Provide any feedback you have directly to Michelle Bohrson via email at michelle.bohrson@hagertyconsulting.com.

Review your jurisdiction's Mitigation Action Strategy between **August 18, 2020 and August 25, 2020**.

Please reach out to **Michelle Bohrson** at **michelle.bohrson@hagertyconsulting.com** if you are having any issues accessing the documents for your jurisdiction.

[Click Here to Access Your Mitigation Action Strategy](#)





What questions do you have about the process for reviewing the mitigation action plan?

Plan Adoption Process



Plan Review Process

It is critical for your jurisdiction to review the plan prior to submission to FEMA to support plan adoption.

- You will be adopting this plan, so review it and confirm the information is complete and accurate.
- Ensure all of the public review and engagement requirements are met for your jurisdiction to adopt the plan.

Approval Pending Adoption



- After DHSES and FEMA review, **FEMA approves** the Plan.
- The County and jurisdictions will receive **Approval Pending Adoption (APA)**.
- Each jurisdiction is **required to adopt** the plan to have a FEMA-approved plan.

Case Study – Village of Bayville 2014 Plan

1. Posted draft Plan online and held a public hearing.

Made comment forms available in person (online now) and published a legal public notice.

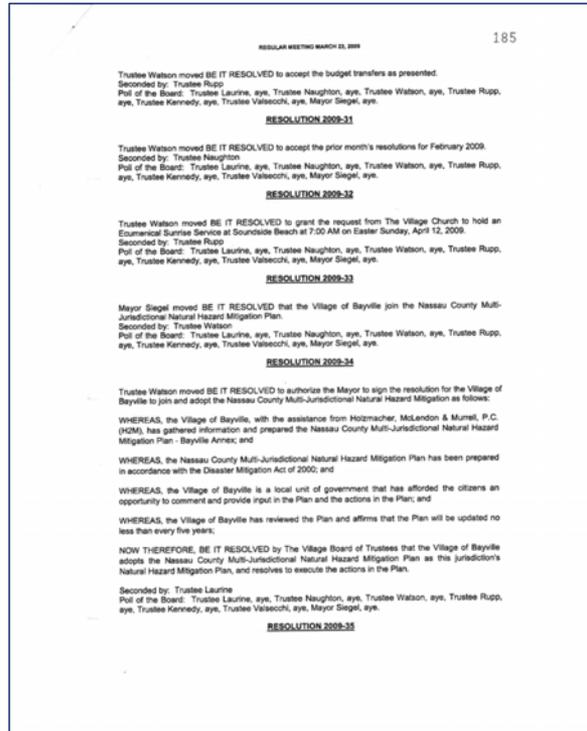
2. Mayor and Board of Trustees passed the resolution.

The resolution was reviewed by FEMA ahead of time. It authorized the mayor to sign the resolution to adopt the HMP.

3. Sent the passed resolution to FEMA.



Typical Adoption Process



Hazard mitigation adoption process fundamentally requires documentation to demonstrate each jurisdiction adopted the plan.





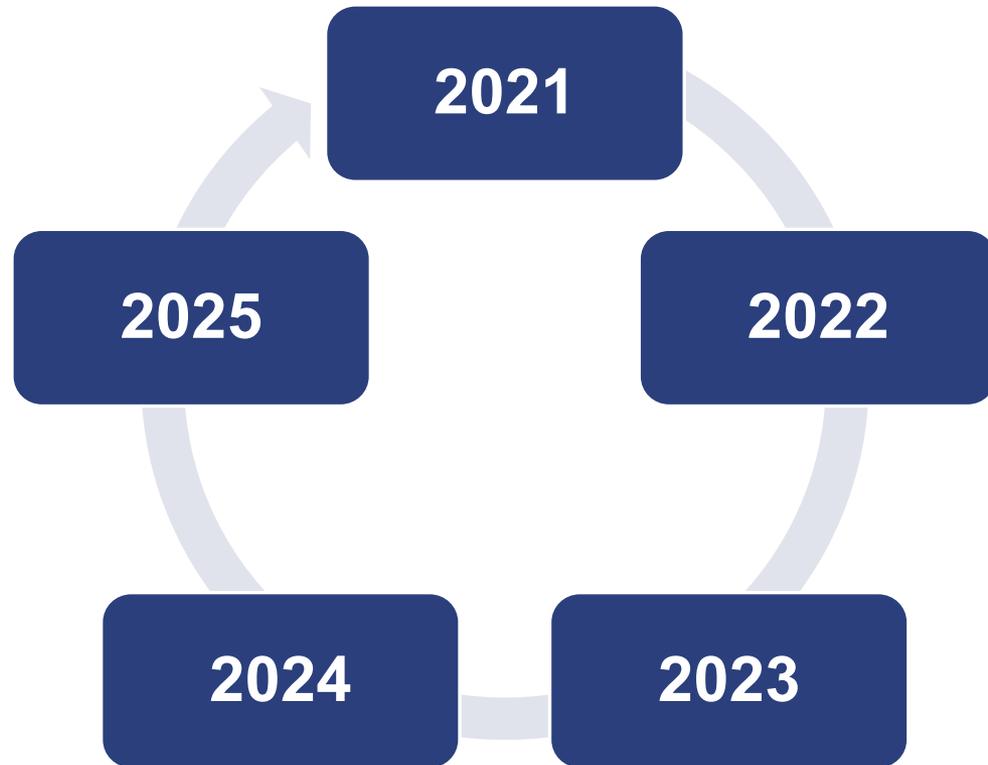
What questions do you have about plan adoption?



What Happens Next?



Mitigation Planning Cycle



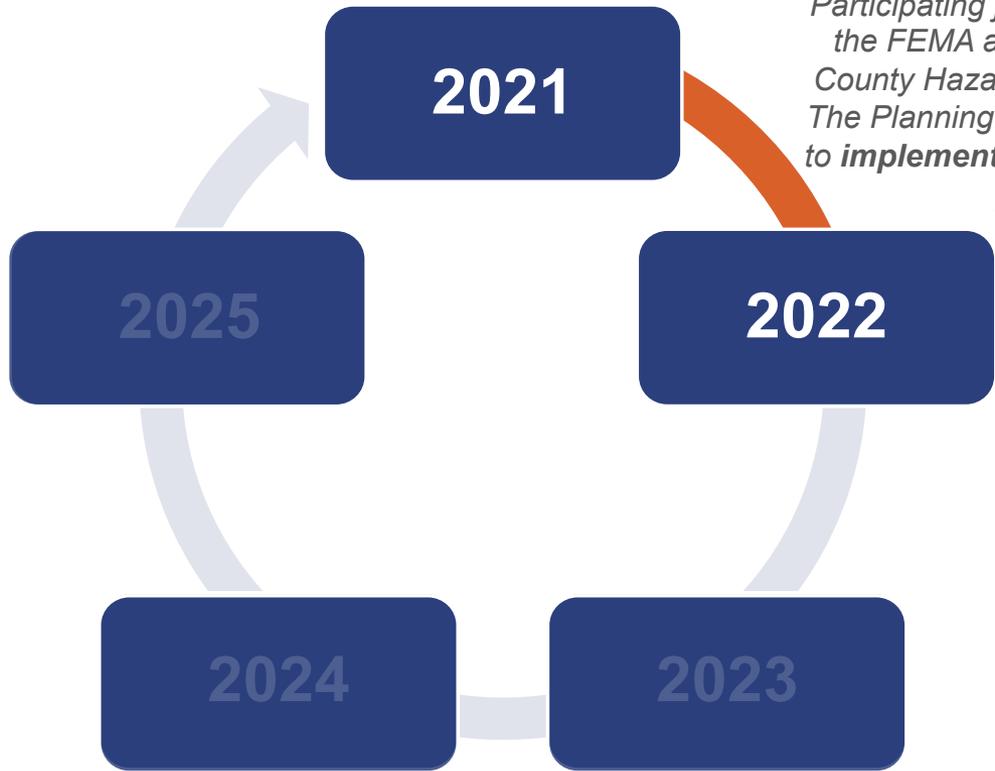
Mitigation Planning Cycle



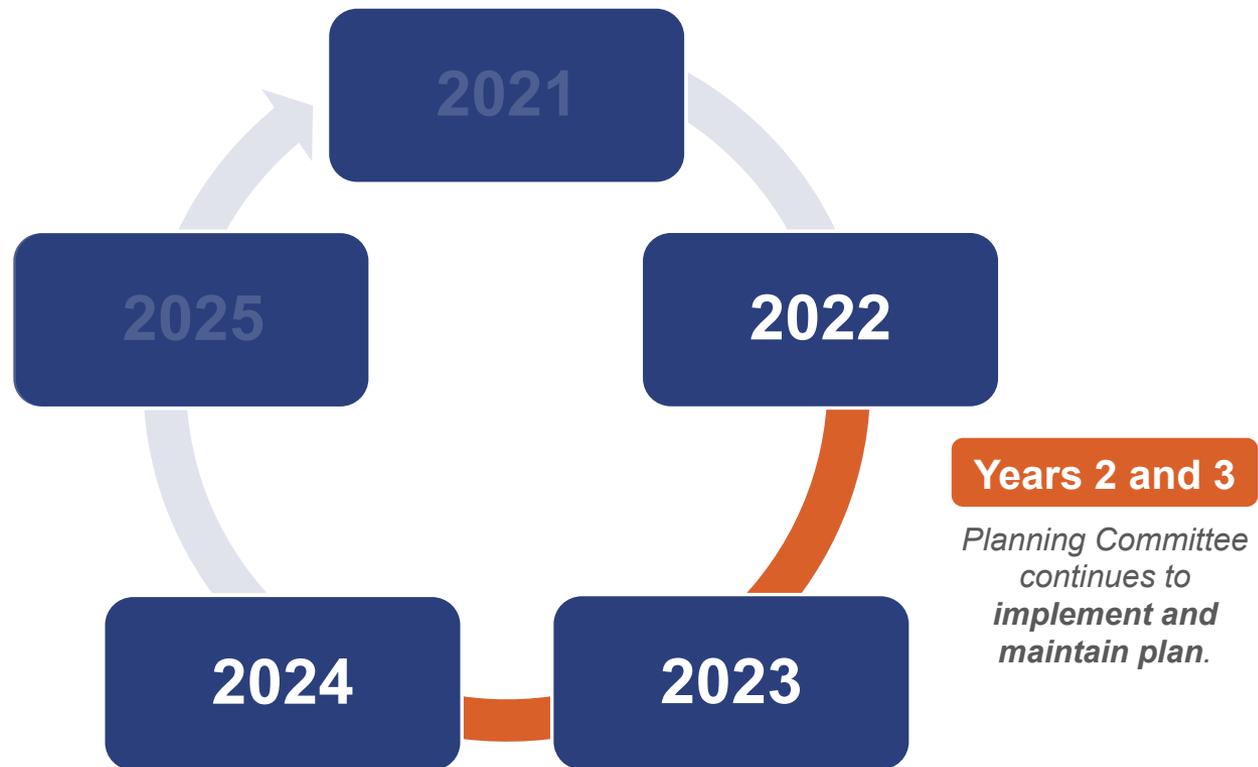
Mitigation Planning Cycle

Year 1

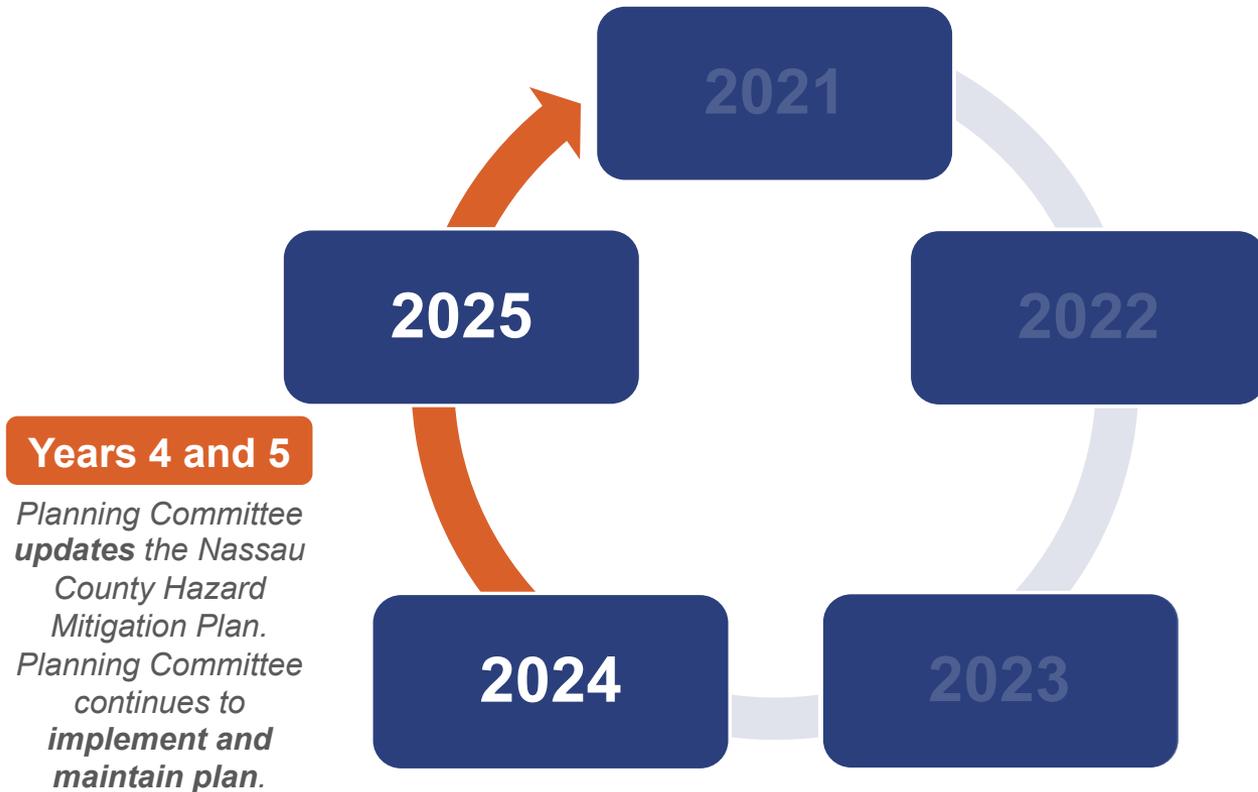
Participating jurisdictions adopt the FEMA approved Nassau County Hazard Mitigation Plan. The Planning Committee begins to implement and maintain the plan.



Mitigation Planning Cycle



Mitigation Planning Cycle



Planning Committee Expectations

Monitor Projects

- Meet regularly and use tools to track project implementation over time.

Evaluate Projects

- Regularly assess and measure how effectively you are implementing the plan and achieving its goals.

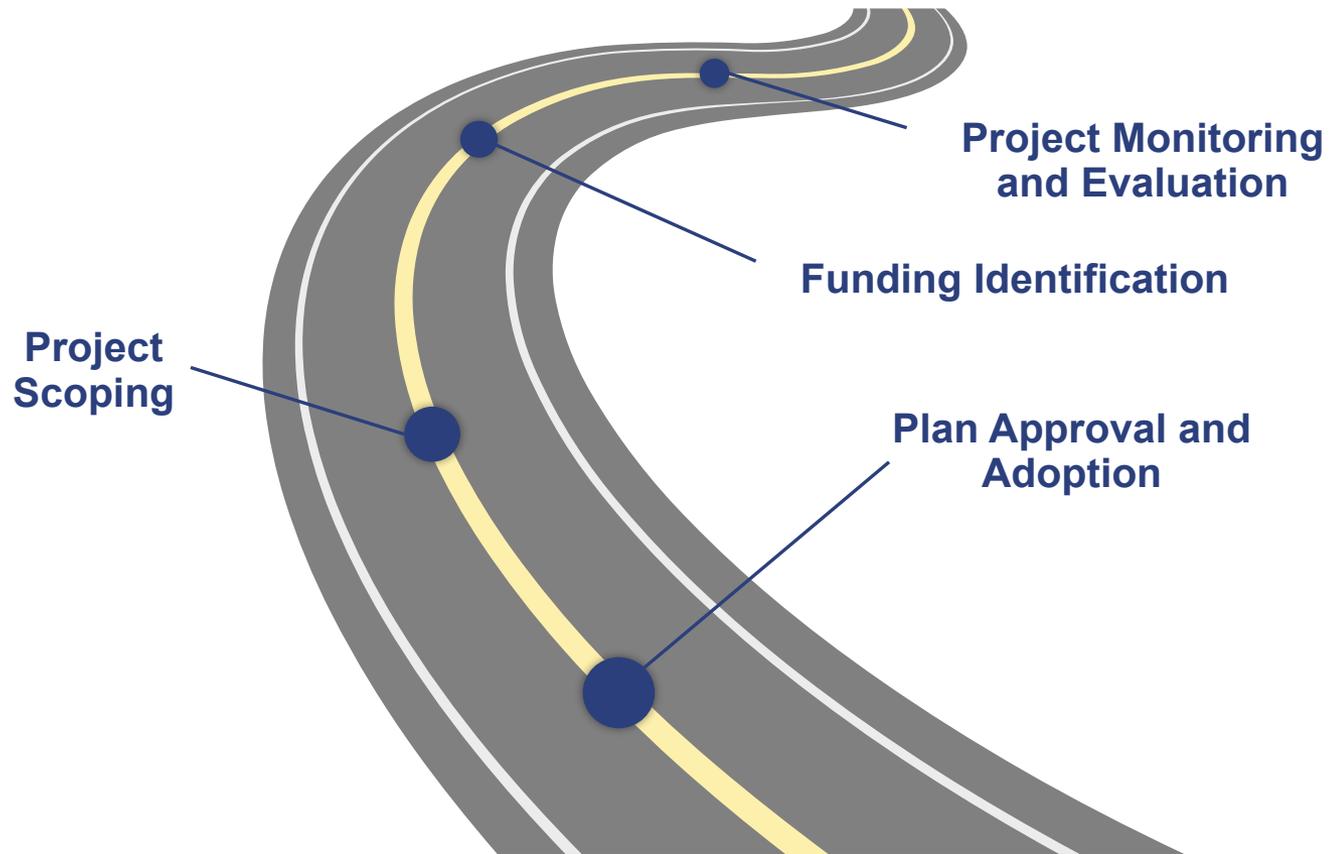
Update the Plan

- Use past evaluations and project monitoring to revise and update the plan

Monitoring, evaluating, and updating the Plan and projects occurs concurrently throughout the planning cycle.



Roadmap to Project Implementation

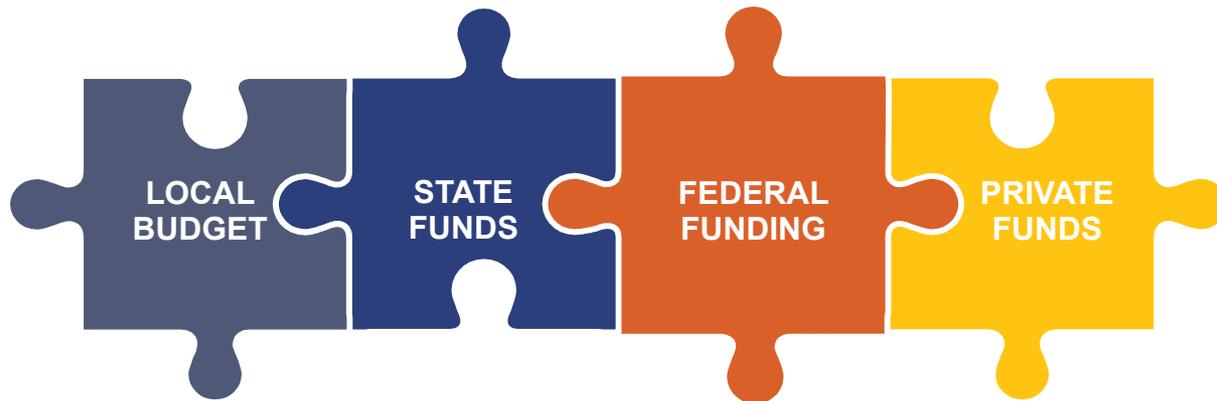




What challenges do you anticipate with implementing the actions identified in the plan (or have you experienced previously)?

Plan Implementation – Finding Funding

- Various funding mechanisms exist to support implementation of mitigation projects.
- Funding mitigation often involves piecing together several different sources.



Plan Implementation – Finding Funding

Local and Private Funding Sources



- Funding from capital improvements program.
- Funding integrated into annual budgets.
- Coordination via multiple departments.
- Fees and taxes collected for a specific project.



- Local share of federal grants may be passed on to private property owners.
- Local corporations or philanthropic organizations may see co-benefits and provide funding.

Plan Implementation – Finding Funding

FEMA's Unified Hazard Mitigation Assistance Grant Programs

- **Hazard Mitigation Grant Program (HMGP)**
 - Available following Presidential Disasters
 - Funding amount tied to disaster damages
 - State-level allocations
- **Pre-Disaster Mitigation (PDM) / Building Resilient Infrastructure and Communities (BRIC)**
 - Available annually
 - Funding amount tied to previous year's (total) annual disaster damages
- **Flood Mitigation Assistance (FMA) Program**
 - Available annually
 - Funding amount determined by congressional appropriations

All participating jurisdictions that adopt the plan are eligible for these programs



Plan Implementation – Finding Funding

ELIGIBLE ACTIVITIES

Mitigation Activities	HMGP	PDM	FMA
1. Mitigation Projects	✓	✓	✓
Property Acquisition and Structure Demolition or Relocation	✓	✓	✓
Structure Elevation	✓	✓	✓
Mitigation Reconstruction			
Dry Floodproofing of Historic Residential Structures	✓	✓	✓
Dry Floodproofing of Non-Residential Structures	✓	✓	✓
Minor Localized Flood Reduction Projects	✓	✓	✓
Structural Retrofitting of Existing Buildings	✓	✓	
Non-Structural Retrofitting of Existing Buildings and Facilities	✓	✓	
Safe Room Construction	✓	✓	
Infrastructure Retrofit	✓	✓	
Soil Stabilization	✓	✓	
Wildfire Mitigation	✓	✓	
Post-Disaster Code Enforcement	✓		
5% Initiative Projects	✓		
2. Hazard Mitigation Planning	✓	✓	✓
3. Management Costs	✓	✓	✓

✓ = Mitigation activity is eligible for program funding.



Plan Implementation – Cost Share

- Remember, most Federal programs have a local cost share associated with the award.
- Local cost share may include cash, third-party in-kind services, materials, or any combination of those items.



Note: The local cost share percentage may vary by program and community.

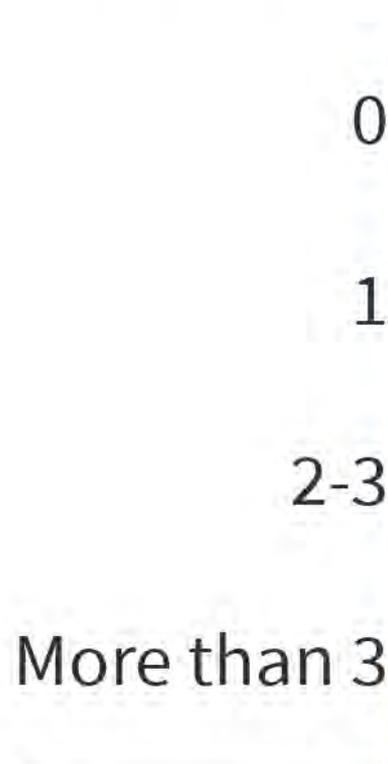




What other funding sources are you aware of that can be used to support mitigation?



How many mitigation projects do you plan to pursue/implement within 12 months?



Next Step and Q&A

Risk Review and Mitigation Strategy Webinar



Next Steps

**August 18, 2020 –
August 25, 2020**

**Mitigation Action
Plan Feedback Due**

Elicit feedback from
the planning
committee on
mitigation action
plan.

**September 8, 2020 –
September 22, 2020**

**Draft Hazard
Mitigation
Distributed for
Review**

Review full Hazard
Mitigation Plan prior
to submission to
DHSES and FEMA.

September 16, 2020

**Plan Review
Webinar**

Review the Plan
with the planning
committee.

Questions?



Sydney McKenna

(703) 350-9689

sydney.mckenna@hagertyconsulting.com



Michelle Bohrson

(609) 558-4878

michelle.bohrson@hagertyconsulting.com

8/20/20 Planning Committee Mitigation Strategy Review Webinar

First	Last	Organization
Maria	Alfano-Hardy	Village of Bayville
Barbara	Arciere	Village of Stewart Manor
Paul	Broderick	Nassau County
Jean	Celender	Village of Great Neck Plaza
Robert	Cribbin	Village of Lynbrook
Thomas	Devaney	Town of North Hempstead
Shane	Dommin	Village of Sea Cliff
Tim	Dougherty	Village of Brookville
Patrick	Farrell	Village of Lake Success
Joseph	Febrizio	City of Long Beach
Bill	Fonda	New York State Department of Environmental Conservation
Juan	Garcia	Village of East Rockaway
Michael	Golio	Nassau County Sheriff's Department
John	Hubbard	Village of Cove Neck
Elizabeth	Kaye	Village of Laurel Hollow
Bruce	Kennedy	Village of Sea Cliff
Chrissy	Kiernan	Village of Baxter Estates
Jean	Lenz	Suffolk County Office of Emergency Management
Marianne	Lobaccaro	Village of North Hills
Tracy	Lynch	Village of Upper Brookville
Peter	MacKinnon	Village of Matinecock
Robert	Mangano	Town of Oyster Bay
Angela	Mannino	Village of Brookville
Renee	Marcus	Village of Floral Park
Anthony	Marino	Village of Malverne
Nicole	Marks	Nassau County Office of Emergency Management
John	Mirando	City of Long Beach
Thomas	Mullen	Village of Upper Brookville
Frank	Parise	Village of Cedarhurst
Susan	Park	Nassau County Office of Emergency Management
Bo	Pilczak	Nassau County Fire Marshal
Edward	Powers	Town of Hempstead
Jillian	Ringhauser	New York State Division of Homeland Security and Emergency Services
Frank	Roca	Village of Valley Stream

Lawrence
Thomas
Francois

Schmidlapp
Smith
Tenenbaum

Village of Centre Island
Village of East Rockaway
Village of Woodsburgh
NYS Floodplain and Stormwater Managers
Association

Brian

Zitani

Planning Committee Plan Review Webinar

September 16, 2020, 10:00 - 11:30 AM

1. Planning Committee Plan Review Webinar Invitation
2. Planning Committee Plan Review Webinar Presentation
3. Planning Committee Plan Review Webinar Attendee List



Register Now!

*The Planning Committee, inclusive of the Core Planning Group, will convene on **September 16, 2020 from 10:00 AM to 11:30 AM for the Plan Review Webinar** to update the Nassau County Multi-Jurisdictional Hazard Mitigation Plan.*

[Click here to register for the webinar](#)

You will be provided the full draft of the Plan on September 8. At this webinar we will:

1. Review the draft Hazard Mitigation Plan
2. Collect feedback from the Planning Committee about the draft Hazard Mitigation Plan
3. Review next steps in the planning process

Hazard Mitigation Grant Program Funding Notice

The New York State Division of Homeland Security and Emergency Services (DHSES) has recently announced a new Hazard Mitigation Grant Program (HMGP) funding opportunity for Presidential Declaration DR-4472: Severe Storms and Flooding. Approximately \$3,700,000 is estimated to be available for mitigation projects.

If interested, Letters of Intent (LOI) for this funding opportunity are due Wednesday, September 30, 2020 @ 5:00 PM. More information can be found on the [funding announcement](#).

If you have any questions about this funding opportunity, please email: hazardmitigation@nassaucountyny.gov.

September

22

An Introduction to FEMA's National Flood Insurance Program Community Rating System: A New York State Perspective.

The Community Rating System (CRS) allows for participating jurisdictions to achieve a reduction on NFIP premiums for their property owners. Those interested in learning more about CRS should plan on attending! This webinar will be held on Tuesday, September 22, 2020 from 10 AM until 11:30 AM.

Register [here](#).

Plan Review Webinar

Nassau County, New York

September 16, 2020



HAGERTY

Hagerty Consulting



Michelle Bohrson

Deputy Project Manager and
Lead Planner



Michael Levkowitz

Planning Support

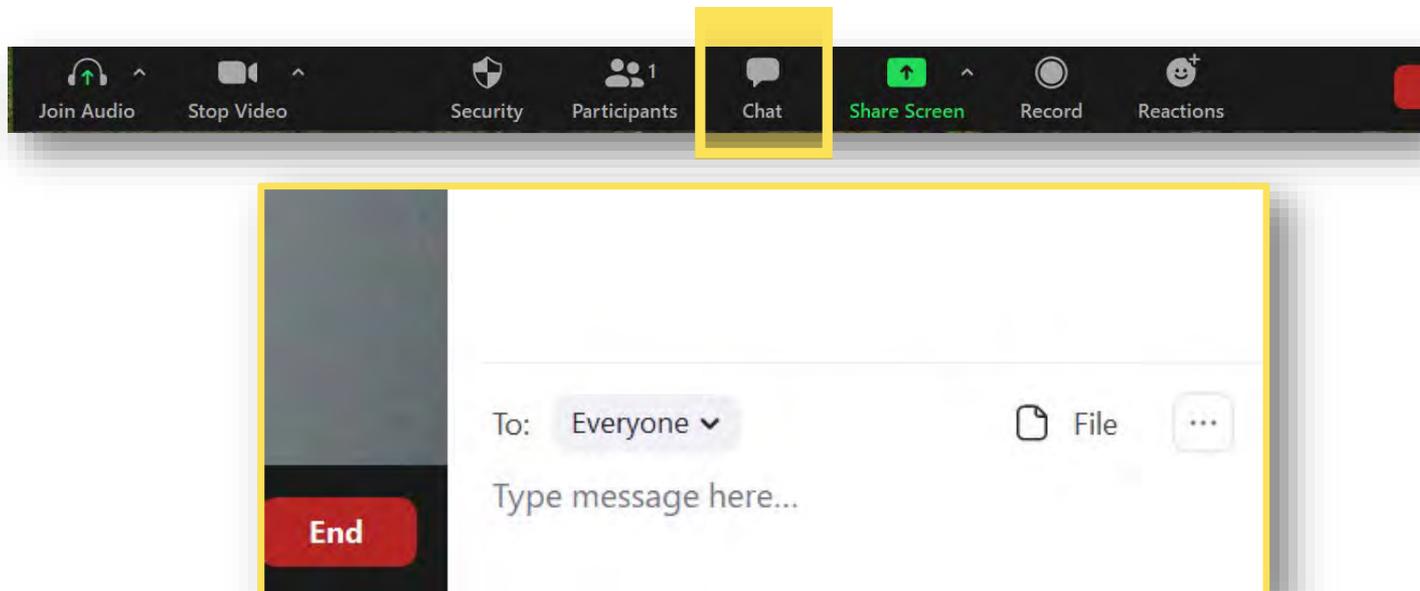


Housekeeping

- This meeting is being recorded.
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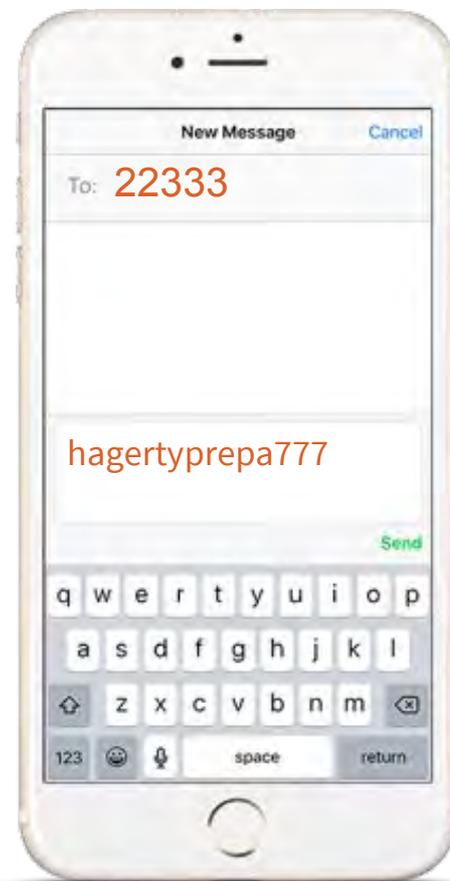
Using Zoom



Poll Everywhere



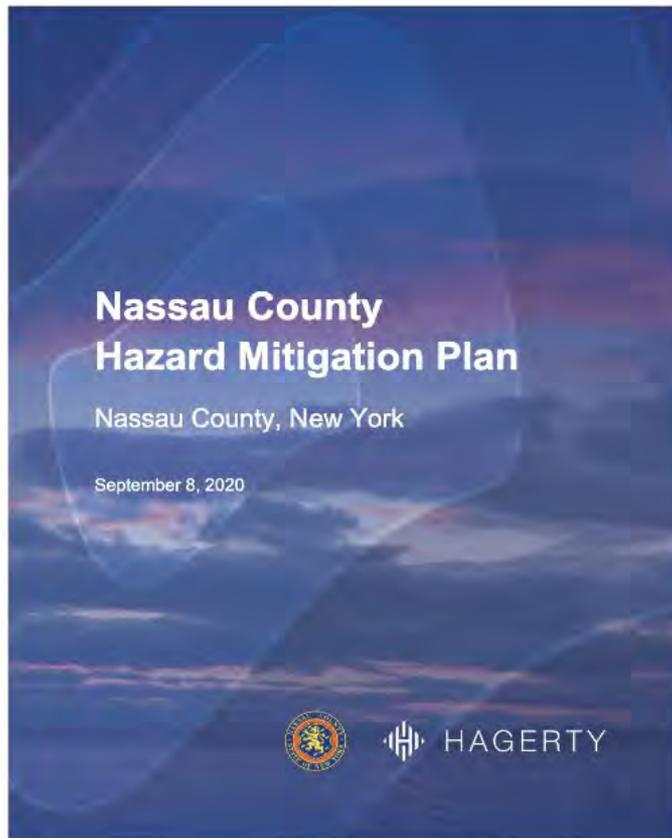
Web voting



Text voting



Have you reviewed the Nassau County Hazard Mitigation Plan?



Yes, all of it!

Yes, but only my jurisdiction's annex.

Yes, but only the base plan.

I've opened it...

Not yet.

Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app

- 1. Introduction and Project Review**
- 2. Plan Overview**
- 3. Plan Review**
- 4. Using the Plan**
- 5. Next Steps and Q&A**



Introduction and Project Review



Mitigation Planning for the Future

- Planning and implementing mitigation measures **reduces loss of life and property.**
- **Effectively invest** in your community to reduce risk.
- Become **eligible** for federal mitigation funding opportunities.
- Engage the **Whole Community** in the cycle of emergency management.



Project Timeline



Key Upcoming Dates

September 22

- Planning Committee to provide feedback to steering committee on the draft Plan.

October 1

- Public review period begins.
- Plan submitted to the State for review.

October 31

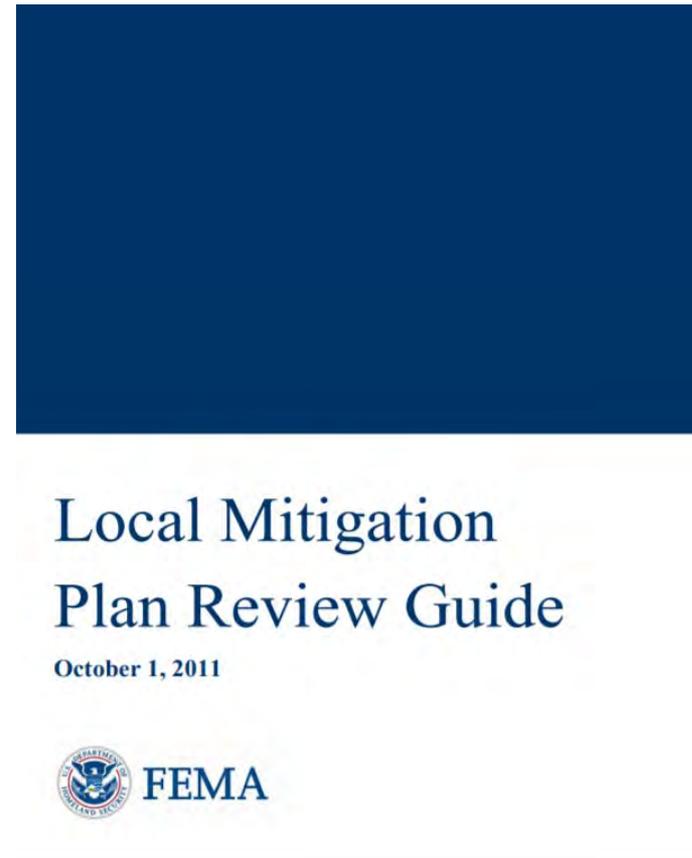
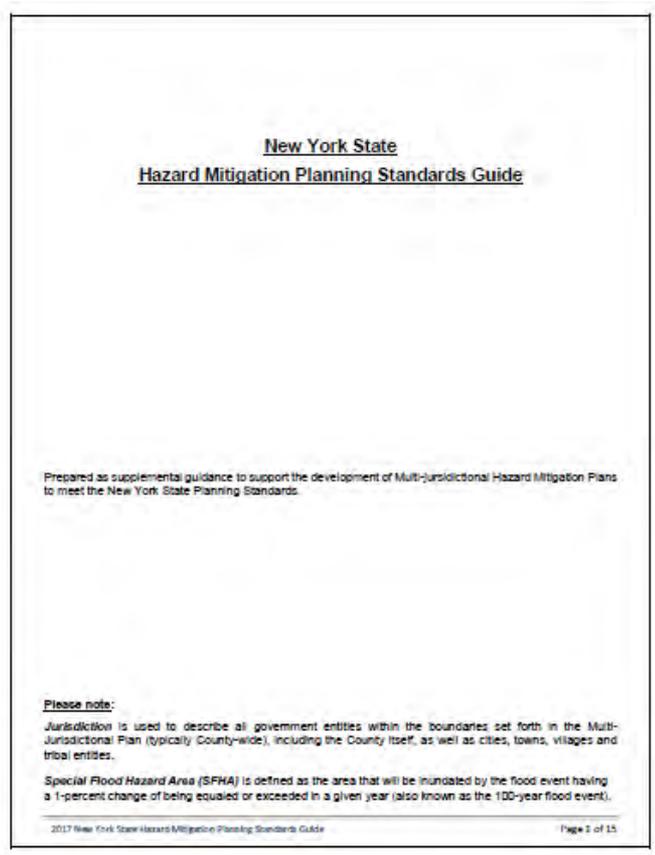
- Public review period ends.

**Late
November**

- Anticipated submission date to FEMA for Approval Pending Adoption.



Meeting Planning Requirements



Plan Overview



Plan Overview

Base Plan

Section 1 – Introduction
Section 2 – Planning Process
Section 3 – Profile
Section 4 – Risk Assessment
Section 5 – Capability Assessment
Section 6 – Mitigation Strategy

Appendices

Appendix A – Planning Process
Appendix B – Risk Assessment
Appendix C – Mitigation Strategy

Annexes

51 Jurisdictional Annexes
(one for each participating jurisdiction)



Base Plan Overview

Base Plan

Section 1 – Introduction
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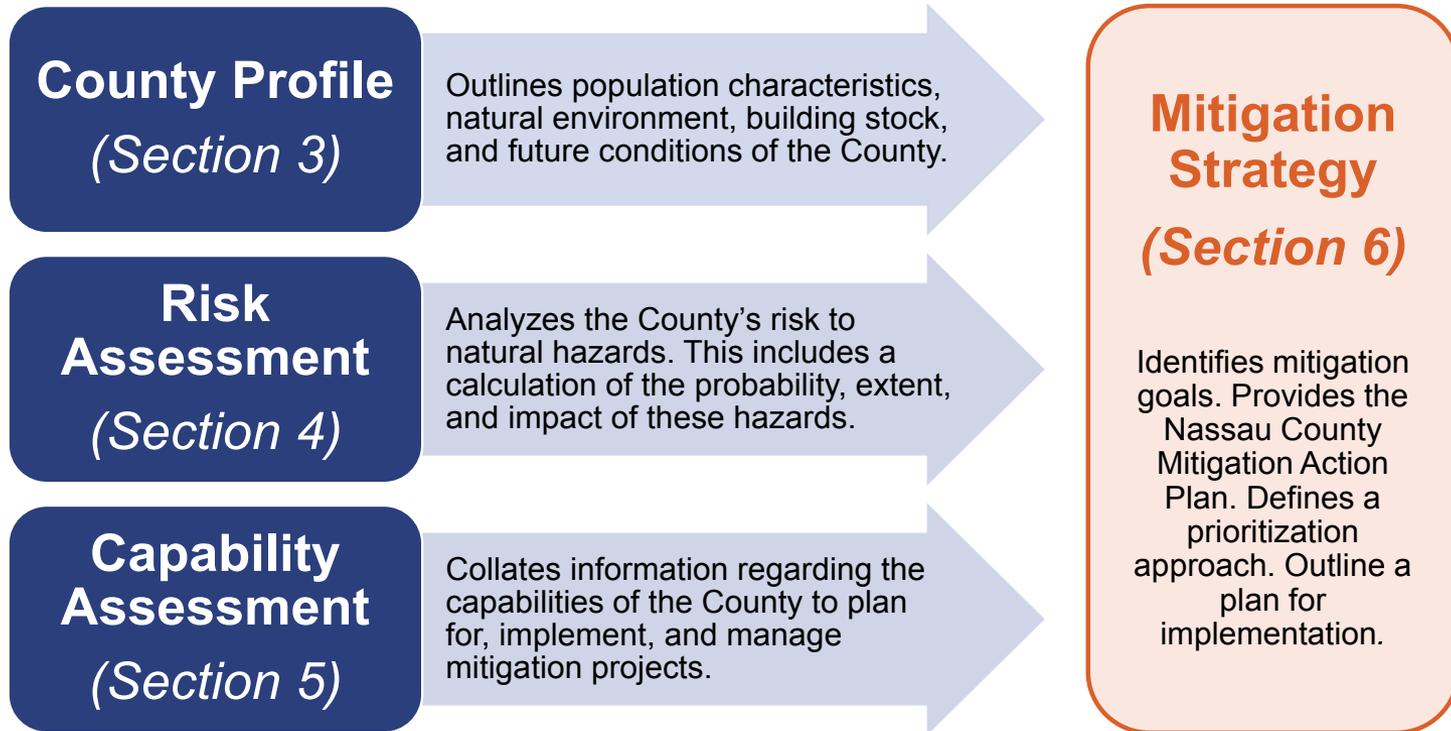
Base Plan Overview

Section 1 – Introduction

- Orients readers to the purpose and scope of the Plan.



Base Plan Overview



Overview of Appendices

Base Plan	Section 1 – Introduction Section 2 – Planning Process Section 3 – Profile Section 4 – Risk Assessment Section 5 – Capability Assessment Section 6 – Mitigation Strategy
Appendices	Appendix A – Planning Process Appendix B – Risk Assessment Appendix C – Mitigation Strategy
Annexes	51 Jurisdictional Annexes <i>(one for each participating jurisdiction)</i>



Overview of Appendices

Appendix A – Planning Process

- Provides a record of outreach and participation in the planning process.
- Includes:
 - Outreach strategy
 - Copies of newsletters
 - Meeting invitations, attendance, and presentations



Overview of Appendices

Appendix B – Risk Assessment

- Provides more detailed tables of data to supplement the analysis presented in the risk assessment section
- Supports additional understanding of hazard risk



Overview of Appendices

Appendix C – Mitigation Strategy

- Provides tools to support plan maintenance and implementation.
- Tools include:
 - Sample Adoption Resolution
 - Project Funding Support Tool
 - Plan Maintenance Reporting Tool



Overview of Appendices

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Annexes

51 Jurisdictional Annexes
(one for each participating jurisdiction)



Overview of Annexes

Jurisdictional Annexes

- Identifies unique information on the demographics of the jurisdiction.
- Describes current and future development for each jurisdiction.
- Provides an overview of the impacts of the natural hazards outlined in the Base Plan.
- Identifies each jurisdiction's progress towards previous mitigation actions.
- Outlines 2020 mitigation action plan for each jurisdiction.
- Provides the DHSES Mitigation Action Worksheets for each jurisdiction.



Plan Review



Plan Review Process

It is critical for your jurisdiction to review the plan prior to submission to DSHES and FEMA to support plan adoption.

- You will be adopting this plan, so please review it and confirm the information is complete and accurate.
- Your jurisdiction can utilize the public review period set up for the whole plan to meet your engagement requirements to adopt the plan.



Is the review process clear to you?

Yes

No

Reviewing the Plan

- An action might be mitigating risk even if you are not calling it mitigation.
- Consider what your community is doing to **reduce risk**.



Reviewing the Plan



Reviewing the Plan



Reviewing the Plan

- Review the feedback submitted
- Adjudicate any conflicting feedback
- Incorporate feedback into the draft plan





What sections are you expected to review?



Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app



Why is it important for you to review the plan?

You will be adopting the Plan.

Your jurisdiction may have public review requirements.

This Plan will be publicly available.

This plan will be used for decision making.

All of the above.

Using the Plan





How will you explain the hazard mitigation plan to your colleagues or community?



Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app



What mitigation action(s) are you seeking to implement within the next year?

Generators

Stormwater /
Drainage

Coastal Flooding
/ Storm Surge

Other



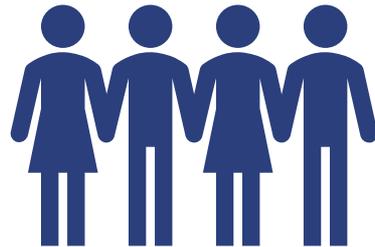
What section(s) of the plan do you think the public would find most interesting?



Plan Integration



Building Resilience through Plan Integration



Plan Integration

Comprehensive Emergency Management Plan (CEMP)



Plan Integration

Continuity of Operations Plan (COOP)



How do you imagine integrating the Plan into your existing plans and policies?

Comprehensive Emergency
Management Plan

Continuity of Operations
Plan

Capital Improvement Plan

Comprehensive Plan

Other

Next Steps and Q&A



Key Upcoming Dates

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October 31

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**Late
November**

- Anticipated submission date to FEMA for Approval Pending Adoption.



Questions?



Michelle Bohrson

Deputy Project Manager and
Lead Planner



Michael Levkowitz

Planning Support

9/16/20 Plan Review Webinar Attendee List

First	Last	Organization
Sharon	Abramski	Manorhaven
Barbara	Arciere	Stewart Manor
Michelle	Bohrson	Hagerty Consulting
Paul	Broderick	County of Nassau
Keith	Bunnell	Williston Park
Scott	Clark	Hempstead
Shannon	Clarke	NYS DHSES
Roger	Cocchi	Matinecock
Kevin	Crean	Nassau County Office of Community Development
Thomas	Devaney	Town of North Hempstead
Jeremy	Devine	Lawrence Union Free School District
Barbara	Donno	Plandome Manor
Tim	Dougherty	Brookville
Michael	Ertel	Sands Point
Patrick	Farrell	Lake Success
Joseph	Febrizio	City of Long Beach
Michael	Golio	Nassau County Sheriff's Department
Michael	Golio	Sheriff's Department
Dawn	Gresalfi	Lattingtown
Doug	Groth	Bayville
John	Hubbard	Cove Neck
Michael	Jurcsak	Russell Gardens
Bruce	Kennedy	Sea Cliff
Chrissy	Kiernan	Baxter Estates
Dina	Kusoff	Roslyn Harbor
Andrew	Levenbaum	Mineola
Michael	Levkowitz	Hagerty Consulting
Marianne	Lobaccaro	North Hills
Tracy	Lynch	Upper Brookville
Angela	Mannino	Brookville
Nicole	Marks	Office of Emergency Management / Nassau County
Thomas	Mullen	Upper Brookville
Christopher	Ortiz	City of Glen Cove
Frank	Parise	Cedarhurst
Susan	Park	Nassau County Office of Emergency Services
Bohdan	Pilczak	Nassau County Fire Marshal
Edward	Powers	Town of Hempstead
Kevin	Reilly	Rockville Centre
Jillian	Ringhauser	NYS DHSES
Kenneth	Riscica	Plandome Heights
Frank	Roca	Valley Stream
Lawrence	Schmidlapp	Centre Island
Dennis	Sgambati	North Hills
Thomas	Smith	East Rockaway
Robert	Spina	Brookville

Karen	Taggart	Nassau County-Office of the County Executive
Francois	Tenenbaum	Woodsburgh
Joseph	Trimarchi	Nassau County Office of Emergency Services
David	Viana	Nassau County Department of Public Works
Paola	Villegas	Hagerty Consulting

Public Meeting

October 8, 2020, 11:30 AM - 12:30 PM

Virtual

1. Public Meeting Invitation
2. Public Meeting PowerPoint Presentation
3. Public Meeting Attendees

OCT 08

Nassau County Hazard Mitigation Plan Public Meeting

by Nassau County Office of Emergency Management

[Follow](#)

Hazard Mitigation Plan Public Meeting



Free

Free

[Register](#)



Date And Time

Thu, October 8, 2020
11:30 AM - 12:30 PM EDT
[Add to Calendar](#)



Location

Online Event



Please join us for a meeting discussing Nassau County's updated DRAFT Multi-Jurisdictional Hazard Mitigation Plan.

About this Event

The Nassau County Hazard Mitigation Plan (Plan) demonstrates the County's dedication to identifying and reducing risks associated with natural hazards to increase community resilience. This **DRAFT** Plan was developed in coordination with stakeholder groups and input from the public through a year-long interactive planning process which included identifying hazards of concern, assessing these hazards and associated risk and potential losses, and developing a strategy to mitigate risk to these hazards throughout the County.

We invite you to join us for this brief (virtual) Public Meeting, during which time we will review the contents of the plan and solicit feedback from residents to ensure the final plan aligns with community values, interests, and priorities. The **DRAFT** Plan will be available to review in advance of the Public Meeting; please RSVP through EventBrite and be on the look out for an emailed update in early October with a link to view the **DRAFT** Plan. We will also be sending a link to participate in a public survey which will also help validate and inform the proposed strategies included.

Note: After registering, you will receive an email from Eventbrite that includes information about how to join the virtual event through your computer or smartphone.

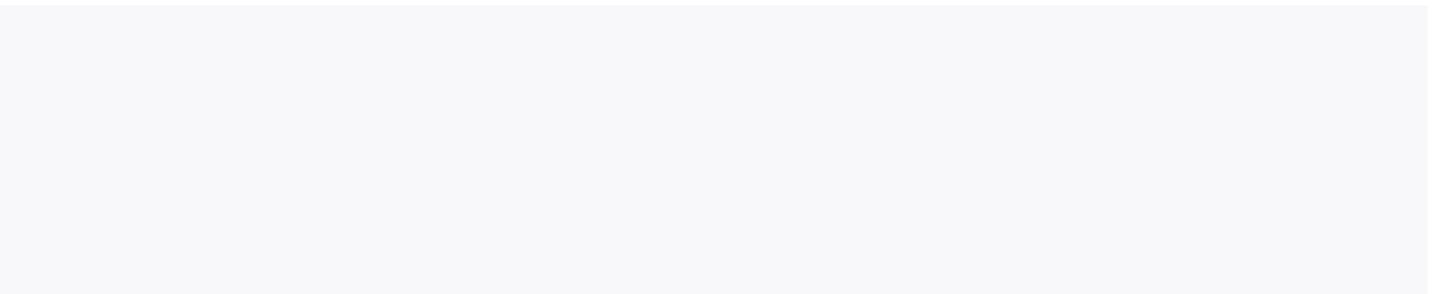
Date And Time

Thu, October 8, 2020
11:30 AM - 12:30 PM EDT

[Add to Calendar](#)

Location

Online Event





Nassau County Office Of Emergency Management

Organizer of Nassau County Hazard Mitigation Plan Public Meeting

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Hazard Mitigation Public Meeting

Nassau County, New York

October 8, 2020



HAGERTY



HAGERTY

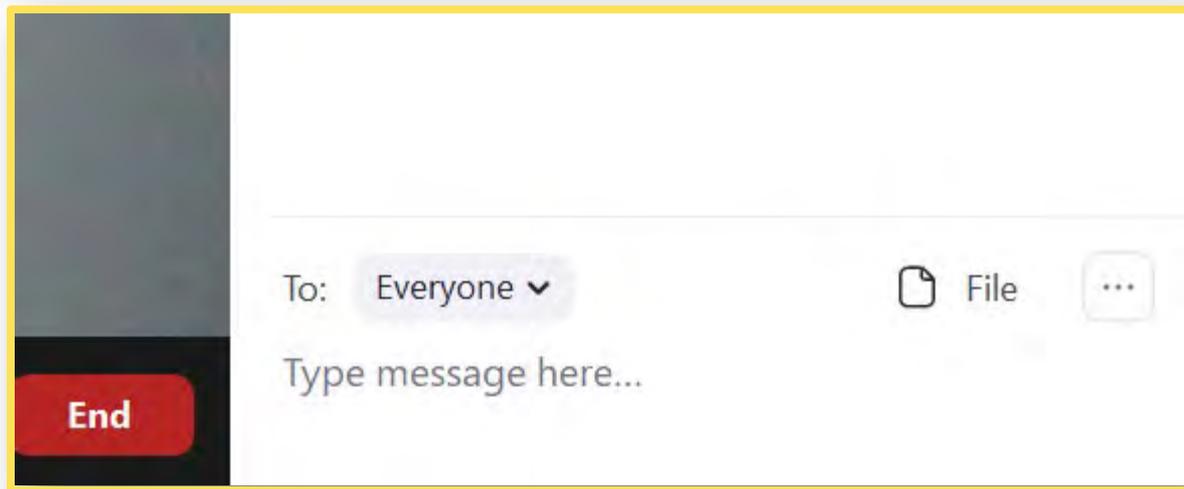
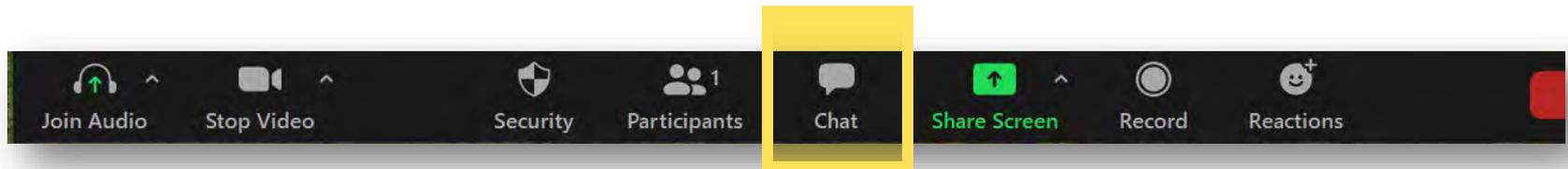
Sydney McKenna
Project Manager
Hagerty Consulting



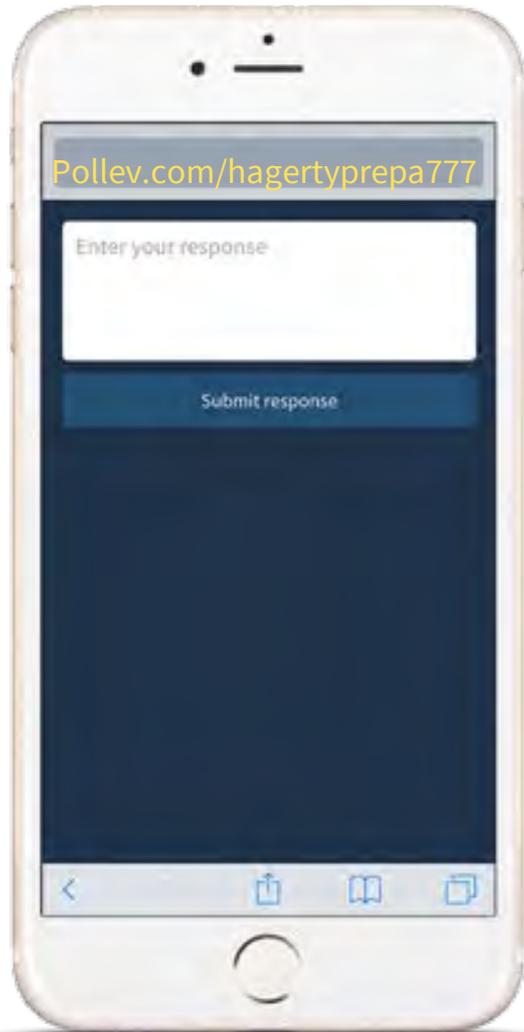
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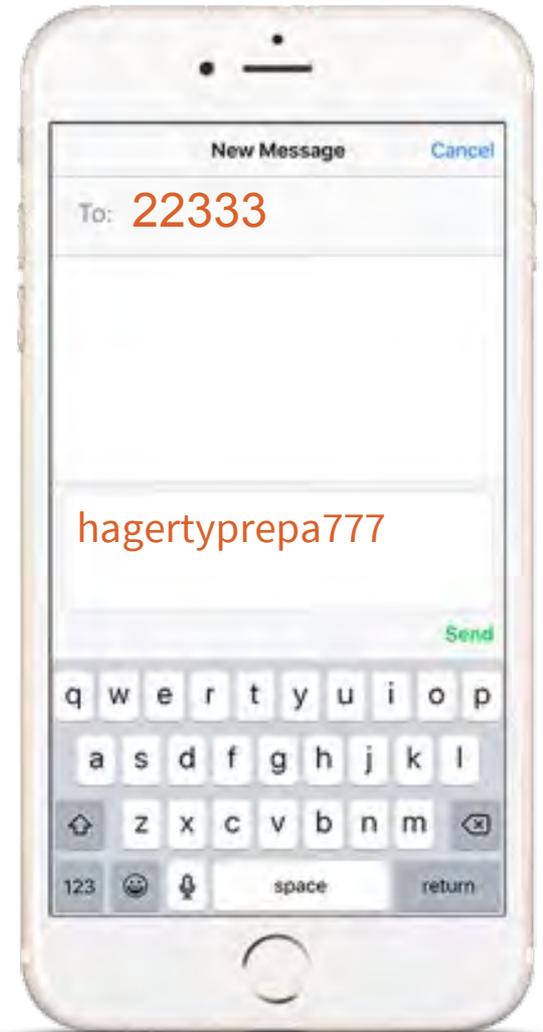
Using Zoom



Poll Everywhere



Web voting



Text voting

Which of the following describe you? Choose up to two.

Resident of Nassau County **A**

Business owner in Nassau County **B**

Non-profit employee in Nassau County **C**

Student in Nassau County **D**

Government employee in Nassau County **E**

Other **F**

About the Hazard Mitigation Plan Update



Benefits of Hazard Mitigation Planning

- Ensures **continued eligibility** for various FEMA grant programs
- Invests in your community's **future safety and sustainability**
- **Educates the whole community** about hazard risks and vulnerabilities of people, property, and infrastructure
- **Builds and enriches partnerships** among community stakeholders



Goals and Objectives for the Plan Update

Leverage current standards, regulations, guidance, and hazard information to ensure the Nassau County Multi-Jurisdictional Hazard Mitigation Plan meets and exceeds New York State and Federal Emergency Management Agency (FEMA) requirements.



Nassau County Municipalities

[Source](#)



Long Beach, NY – Damage after Superstorm Sandy 2012

[Source](#)



Historical Context



2014 Nassau County Multi-Jurisdictional Hazard Mitigation Plan

[Source](#)

2007: Nassau County develops its first Hazard Mitigation Plan



2014: Nassau County updates the Plan



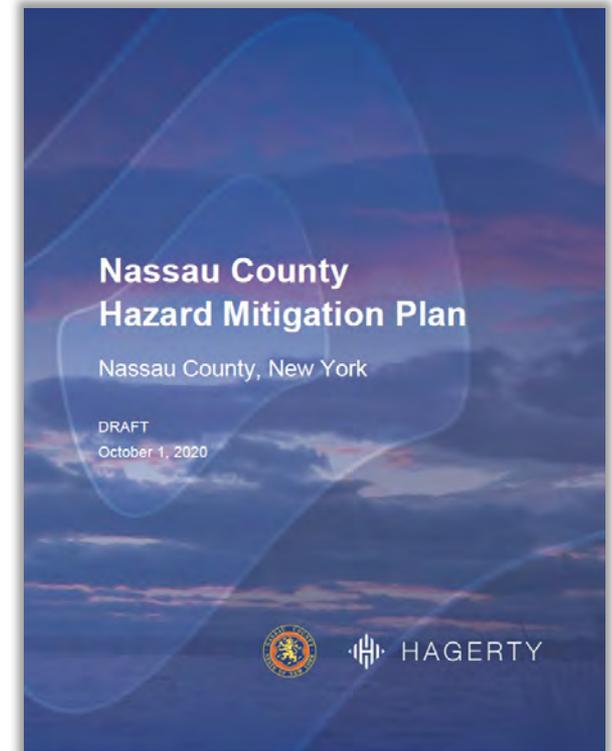
2020: Nassau County prepares to update the Plan again



2021 Plan Outcomes

The base plan was updated to include:

- A countywide assessment of risk to natural hazards
- Countywide goals for mitigation that align with current county and state priorities
- A roadmap for maintaining the plan over the next five years, including evaluation of mitigation projects and continued public participation



2021 Plan Outcomes

Each participating jurisdiction has its own annex to the base plan that includes:

- Geography, demographics, and development
- Hazard history and vulnerabilities
- Capabilities
- Mitigation projects
- National Flood Insurance Program summary

City of Glen Cove Annex

This document presents the City of Glen Cove's annex to the Nassau County Multi-Jurisdictional Hazard Mitigation Plan.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction's points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Mayor Timothy Tenke, Mayor City of Glen Cove 9 Glen Street Glen Cove, NY 11542 tenke@glencoveny.gov 516-676-2004	Maureen Basdavanos, Deputy Mayor City of Glen Cove 9 Glen Street Glen Cove, NY 11542 mbasdavanos@glencoveny.gov 516-676-2000

Profile

The City of Glen Cove covers approximately 6.66 square miles¹ and has a total population of 27,166 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the City of Glen Cove are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: City of Glen Cove Demographic Information

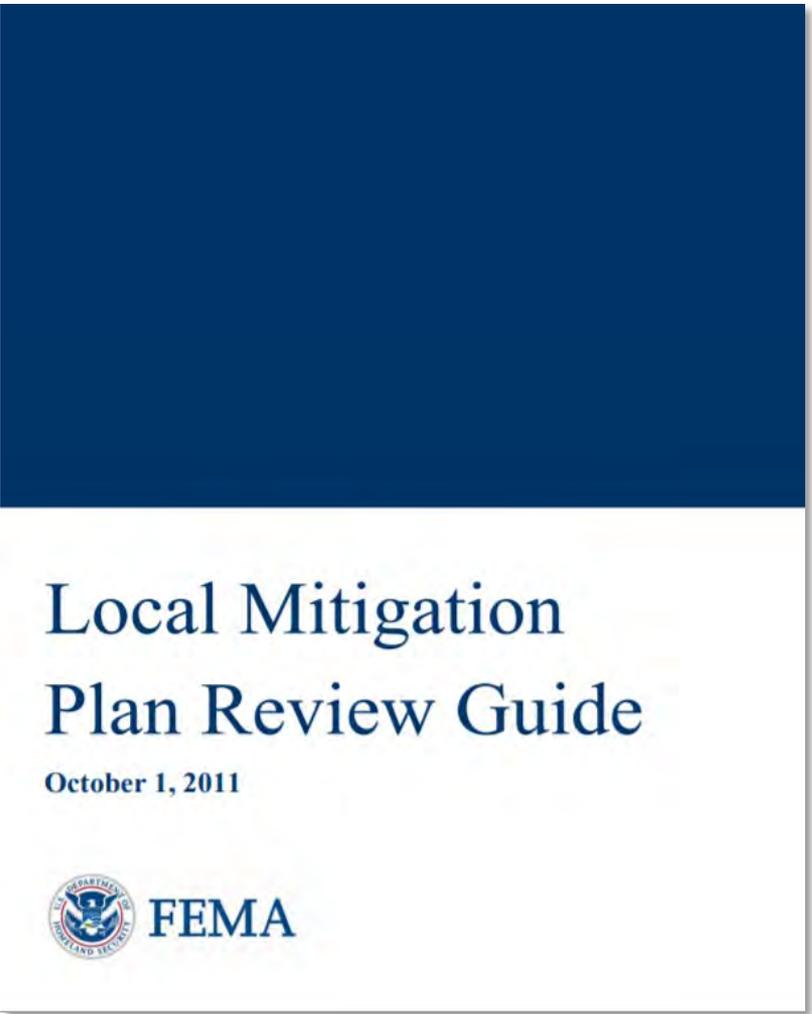
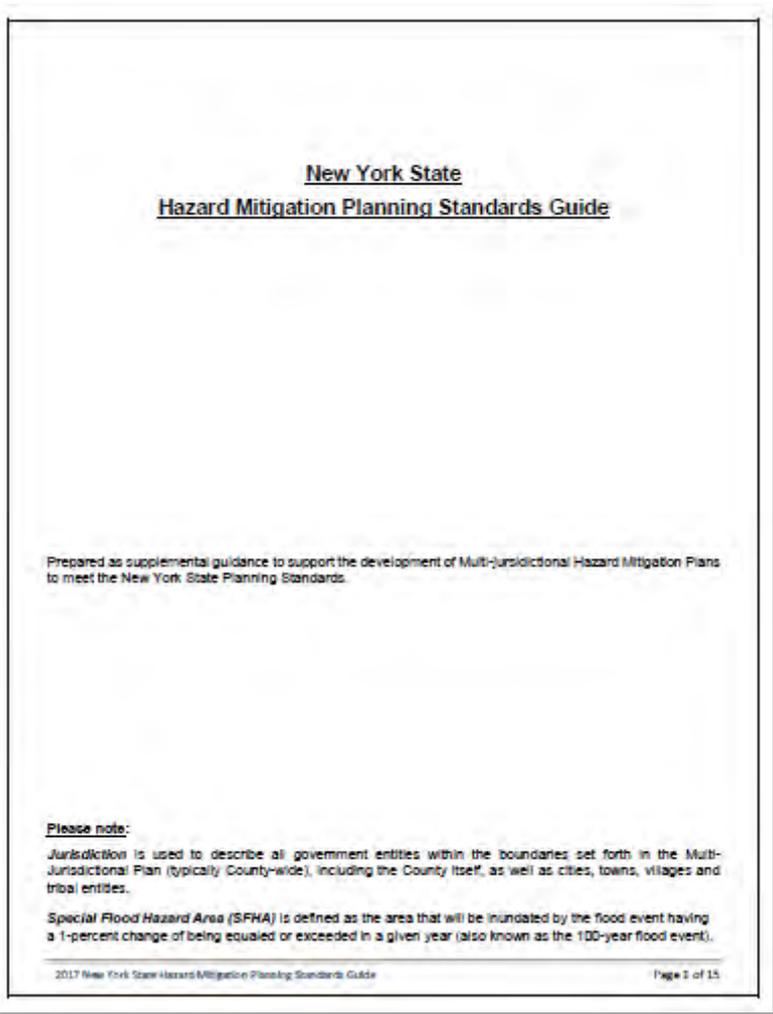
Demographic	Percentage	Demographic	Percentage
Below 5 Years Old	0.7%	Black or African American alone	0.7%
Above 65 Years Old	18.0%	American Indian and Alaska Native alone	0.7%
Individuals with Disabilities	5.5%	Asian alone	5.0%
Persons in Poverty	14.1%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	49.2%	Two or More Races	2.9%
Without a High School Diploma	19.5%	White alone, not Hispanic or Latino, percent	54.3%
Without Access to Broadband Internet	15.4%	Hispanic or Latino	27.3%

¹ This is inclusive of land area only.

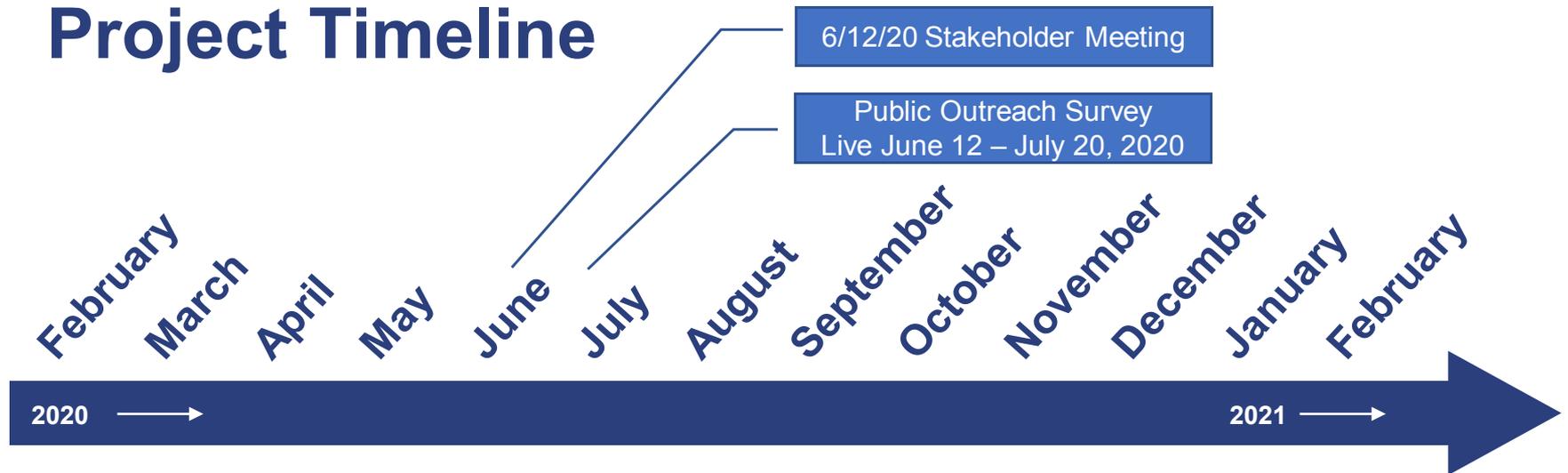
1



Meeting Planning Requirements



Project Timeline



Participating jurisdictions and the County met to review the previous plan and update the Risk Assessment and Capability Assessment

Planning Committee met to review progress with mitigation projects and develop new projects to address changes in risk

Everyone in Nassau County has the chance to review the Plan and provide comments

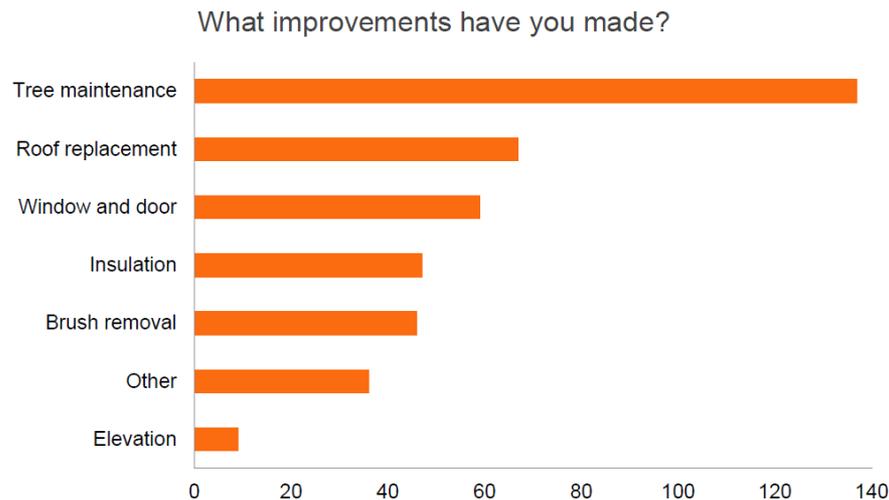
New York State and FEMA review and approve the Plan

Plan Adoption

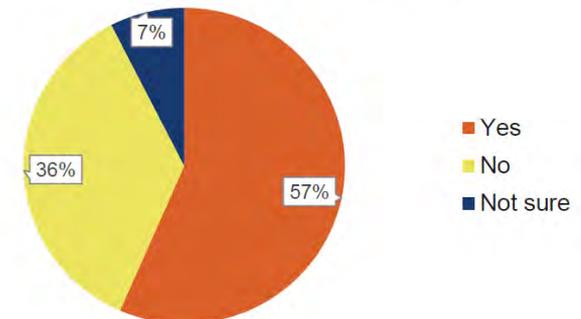


Hazard Mitigation Public Survey Results

- 277 responses received
- **Hurricanes were ranked the most concerning hazard**, as well as a variety of “other” types of hazards, including but not limited to pandemics, house fires, man-made disasters (e.g., terrorism), and trees falling.



Have you made improvements to protect your property from natural hazards?



Plan Review



Review the Plan!

NASSAU COUNTY  **NEW YORK** | Search

Government Departments Residents Visit Nassau Business & Investor Relations e-Services Nassau A-Z

NASSAU HAZARD MITIGATION PLAN

Emergency Management Home

Hazard Mitigation Plan

Public Comment Form

Interim Public Survey Results

Executive Summary

FAQ

[Home](#) > [Departments](#) > [Emergency Management](#) > Hazmit Plan

The Nassau County Hazard Mitigation Plan (Plan) emphasizes the County's dedication to identifying and reducing risks associated with natural hazards to increase community resilience. This Plan was developed through a year-long interactive planning process in close coordination with stakeholder groups and

ing the hazards of concern and potential losses, and developing a strategy with feasible and implementable actions to mitigate risk to these hazards throughout the County. Please review the Plan below and provide your feedback through the [Public Comment Form](#).

2021 Plan Content

[Executive Summary](#)

CONTACT US



[Email Us](#)

Visit <https://www.nassaucountyny.gov/2813/Hazmit-Plan> to review the draft plan online.



Review the Plan!



 HAGERTY

Public Comment Form for the Nassau County Hazard Mitigation Plan

Welcome

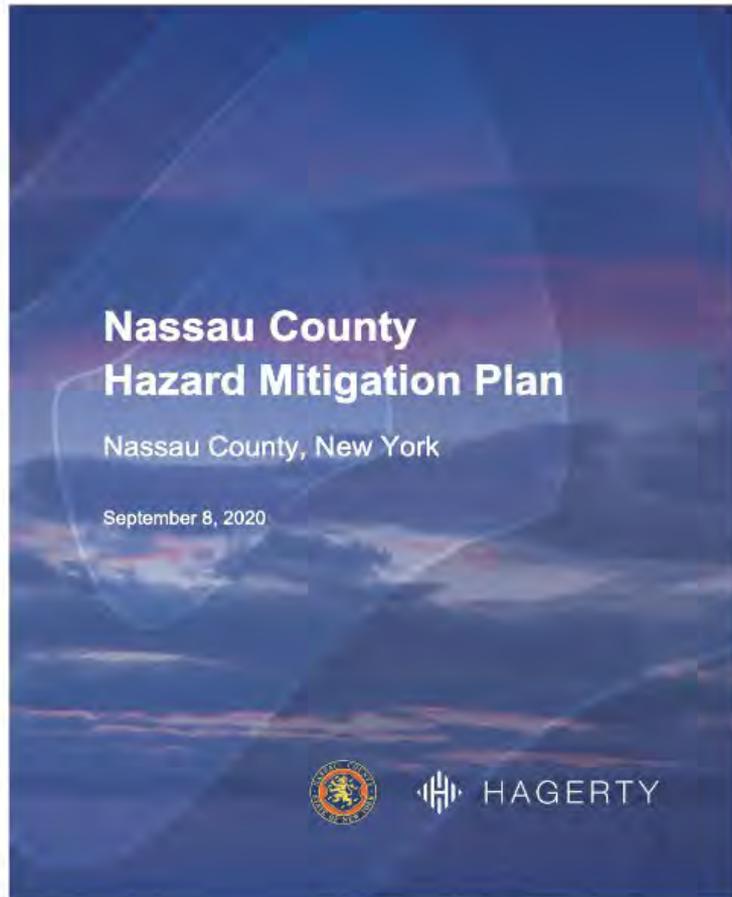
Thank you for taking the time to provide your feedback on the draft Nassau County Hazard Mitigation Plan. At this stage, the Plan has received a comprehensive update through a year-long interactive planning process. This marks the final opportunity for you to provide input on the Nassau County Hazard Mitigation Plan before it is finalized and submitted to New York State and the Federal Emergency Management Agency for final review and approval. This feedback form will be live from October 1 through October 30, 2020.

Before beginning the survey, please take a moment to download and review a copy of the [draft Nassau County Hazard Mitigation Plan](#) and the annex for the jurisdiction that you reside in. These documents can be found here on the Nassau County Office of Emergency Management's website.

Next



Have you reviewed the Nassau County Hazard Mitigation Plan?



Yes, all of it!

Yes, but only my jurisdiction's annex.

Yes, but only the base plan.

I've opened it but have not yet reviewed the document.

Not yet.

Plan Overview

Base Plan

Section 1 – Introduction
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Section 6 – Mitigation Strategy

Appendices

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Appendix C – Mitigation Strategy
Appendix D – Nassau County Mitigation
Action Worksheets

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51 Jurisdictional Annexes
(one for each participating jurisdiction)



Base Plan Overview

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Appendix D – Nassau County Mitigation
Action Worksheets

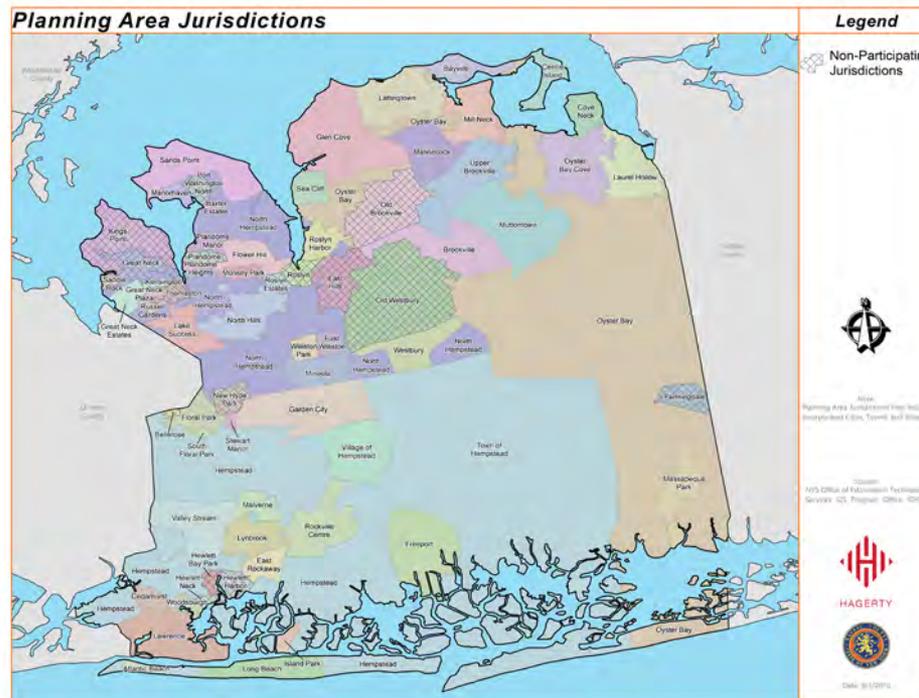
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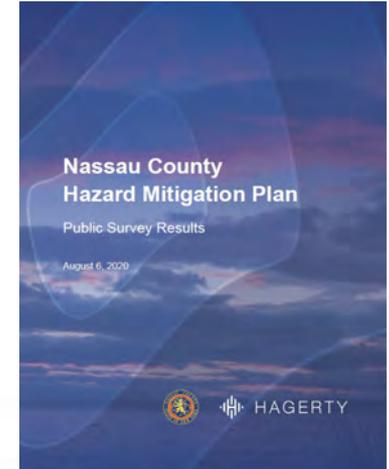
Section 1 – Introduction

Orients readers to the purpose and scope of the Plan and describes the jurisdictions who participated in the planning process.



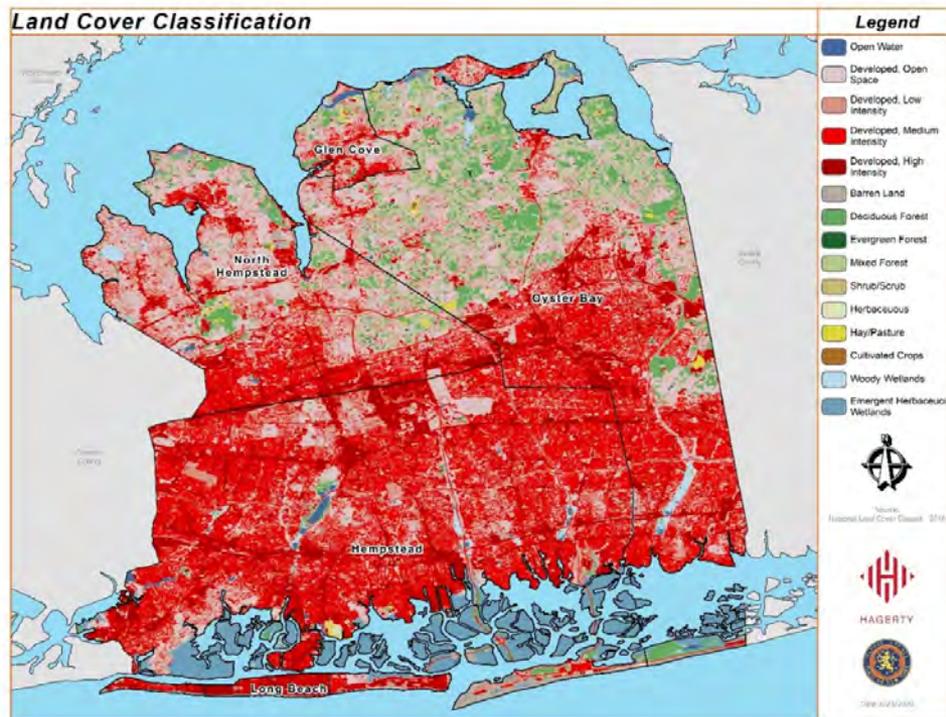
Section 2 – Planning Process

Describes the how the Plan was updated, including the meetings and tactics used to engage the whole community.



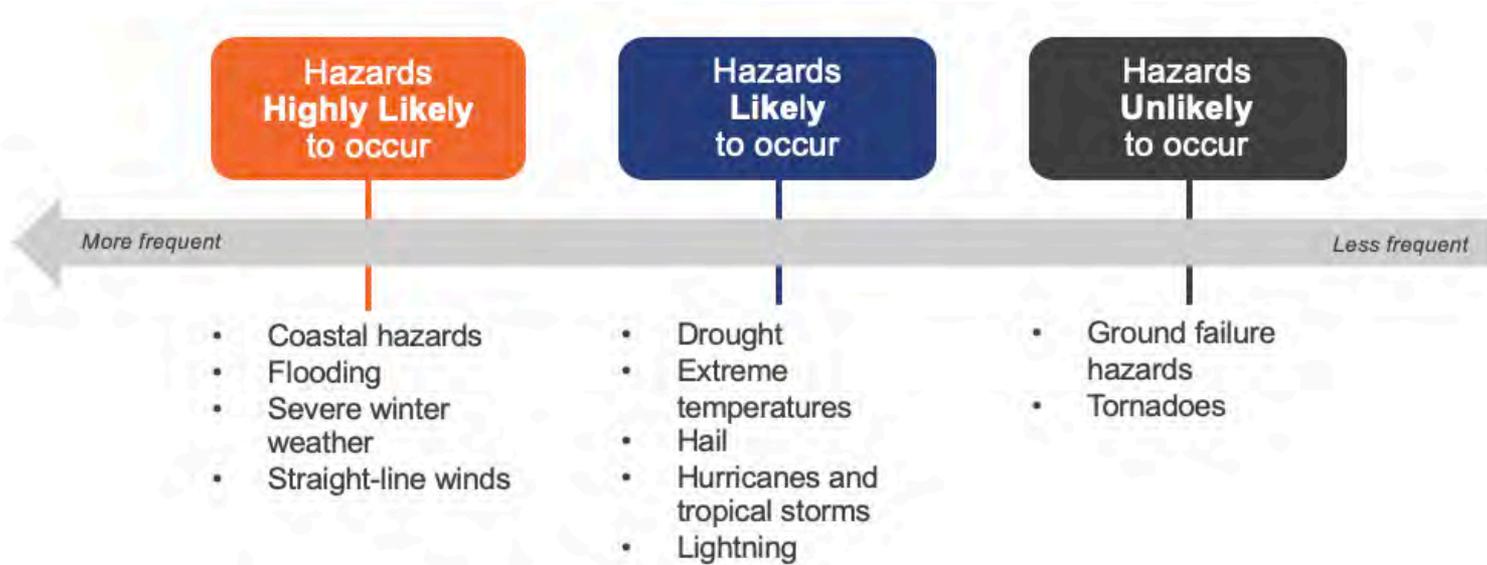
Section 3 – County Profile

Outlines the population, natural environment, building stock, and future conditions of the County.



Section 4 – Risk Assessment

Analyzes the County's risk to natural hazards. This includes a calculation of the probability, extent, and impact of these hazards.

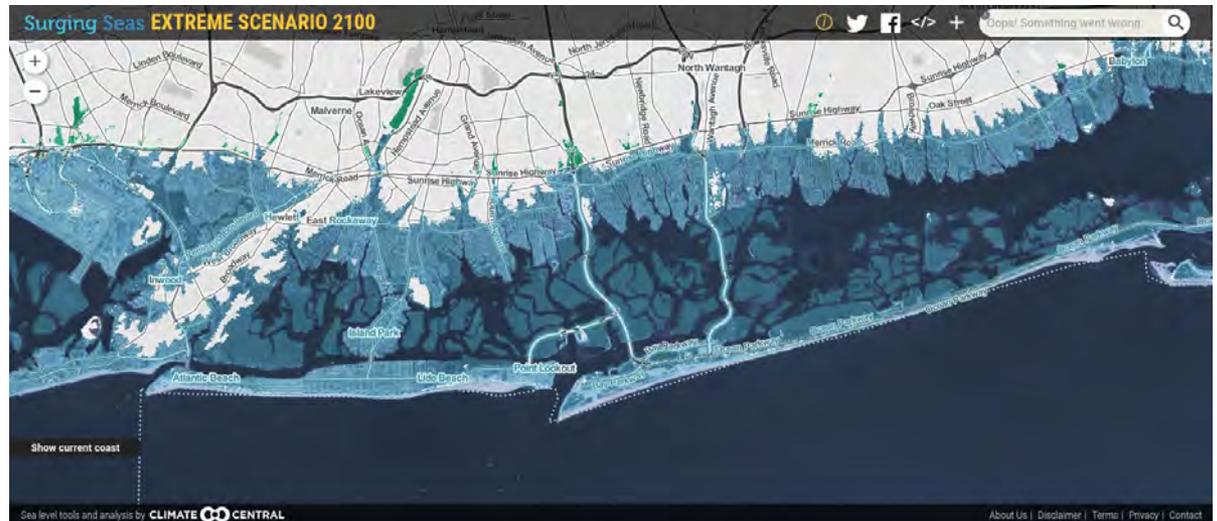


Coastal Hazards

Highly Likely

Types:

- Coastal Erosion
- Strong Wave Action
- Coastal Flooding
- Sea Level Rise
- Riptides



Flooding

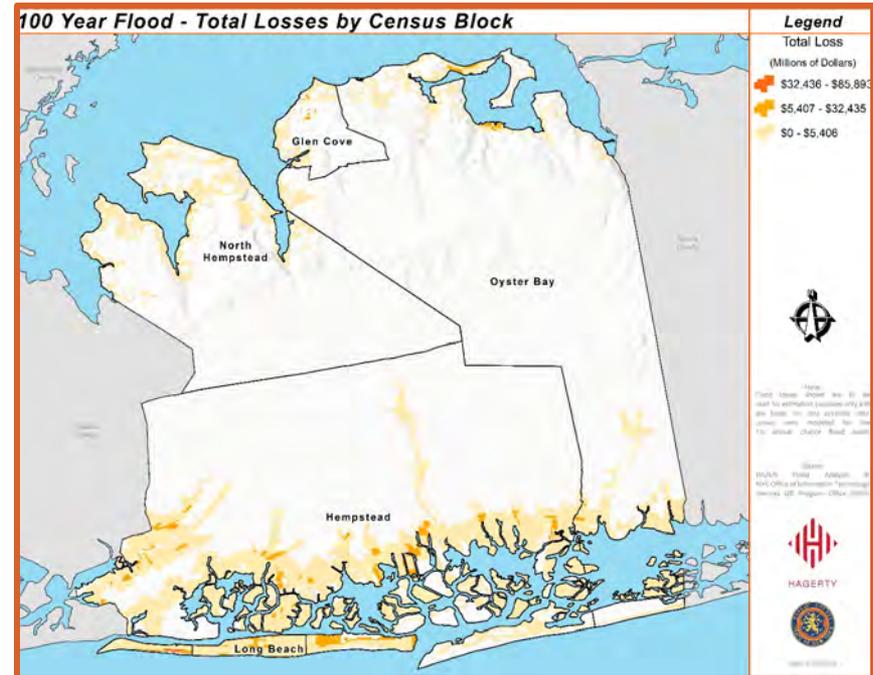
Highly Likely

Floodplains:

- 100-year floodplains have a 1% chance of flooding each year
- 500-year floodplains have a 0.2% chance of flooding each year

Recent Occurrences:

- Between 2015 and 2020:
 - 55 total floods
 - 21 flash floods
 - 33 coastal floods



*Building-related losses associated with a 100-year flood event total **nearly \$3.2 billion.***

Severe Winter Weather

Highly Likely

Types:

- Snow: frozen precipitation in the form of ice crystals
- Blizzards: snow events with wind speed over 35 mph that reduce visibility to quarter mile or less
- Nor'easters: Over nine inches of snow with high wind and storm surges

Recent Occurrences:

- Between 2010 and 2020, 66 reported events, including one death and 129 injuries.

The Dolan-Davis Nor'easter Intensity Scale

Storm Class	Description	Beach Erosion	Dune Erosion	Overwash	Property Damage
1	Weak	Minor changes	None	No	No
2	Moderate	Modest; mostly to lower beach	Minor	No	Modest
3	Significant	Erosion extends across the beach	Can be significant	No	Loss of many structures at local level
4	Severe	Severe beach erosion and recession	Severe dune erosion or destruction	On low beaches	Loss of structures at community level
5	Extreme	Extreme beach erosion	Dunes destroyed over extensive areas	Massive in sheets and channels	Extensive at regional scale; millions of dollars

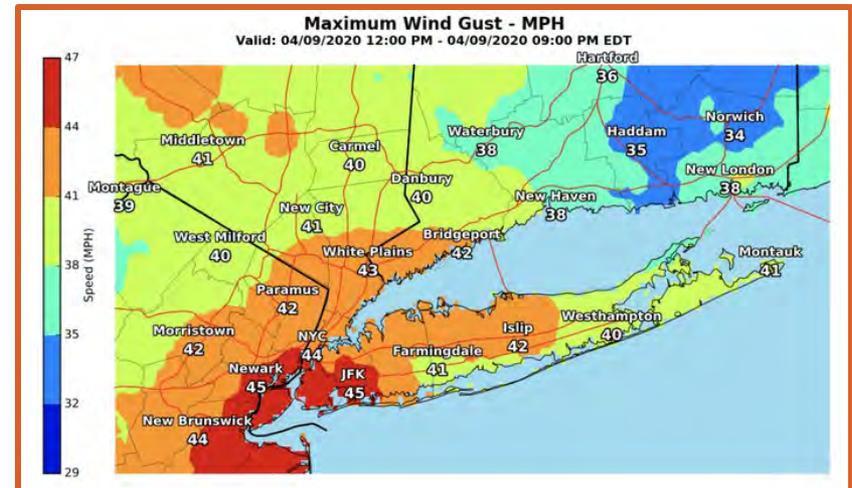


Straight-Line Wind

Highly Likely

Recent Occurrences:

- 129 significant events in the last 10 years, injuring 3 individuals
- In the past 10 years, wind damages cost Nassau County almost \$20,000 per year
- Single, severe events can cause up to \$100,000 in damages



April 9, 2020 maximum gusts

Section 5 – Capability Assessment

Collates information about the capabilities of the County to plan for, implement, and manage mitigation projects.



Legal and
Regulatory



Administrative
and Technical



Fiscal



Community Classifications



Section 6 – Mitigation Strategy

Presents the Plan’s mitigation goals and Nassau County’s Mitigation Action Plan.

Defines how actions will be prioritized and implemented.



Mitigation Goals

- 1** Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future.
- 2** Build and support local capacity to prepare for, respond to, and recover from disasters.
- 3** Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure.
- 4** Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies.
- 5** Develop and implement long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems.
- 6** Improve coordination between land use and redevelopment planning to encourage safe, economically sound investments.



Overview of Appendices

Base Plan

Section 1 – Introduction
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Action Worksheets

Annexes

51 Jurisdictional Annexes
(one for each participating jurisdiction)



Appendix A – Planning Process

Provides a record of outreach and participation in the planning process.

Includes:

- Outreach strategy
- Public survey summaries
- Copies of newsletters
- Meeting invitations, attendance, and presentations



Appendix B – Risk Assessment

Supports additional understanding of hazard risk by providing more detailed tables of data to supplement the analysis presented in the risk assessment section of the base plan.

Wind Losses

The charts below estimate the total losses that buildings across Nassau County could sustain due to a 100 year or 500 year wind event, according to an analysis conducted in Hazus. The loss values are reported in thousands of dollars.

100 Year Wind Events

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$3,629	\$275	\$7	\$4	\$1	\$1	\$3	\$3,920
Baxter Estates, Village of	\$4,743	\$246	\$27	\$6	\$10	\$9	\$19	\$5,060
Bayville, Village of	\$8,075	\$215	\$17	\$6	\$4	\$30	\$17	\$8,365
Bellerose, Village of	\$3,498	\$88	\$14	\$0	\$1	\$6	\$5	\$3,611
Brookville, Village of	\$13,961	\$1,074	\$161	\$10	\$7	\$41	\$45	\$15,299
Cedarhurst, Village of	\$19,408	\$1,289	\$115	\$12	\$17	\$110	\$131	\$21,061
Centre Island, Village of	\$2,407	\$88	\$7	\$2	\$4	\$3	\$2	\$2,513
Cove Neck, Village of	\$3,901	\$238	\$7	\$2	\$1	\$13	\$4	\$4,166
East Hills, Village of	\$20,078	\$967	\$136	\$13	\$5	\$61	\$81	\$21,361
East Rockaway, Village of	\$24,065	\$1,475	\$183	\$12	\$11	\$36	\$58	\$25,839
East Williston, Village of	\$7,816	\$281	\$80	\$5	\$3	\$15	\$13	\$8,212
Farmingdale, Village of	\$17,897	\$874	\$114	\$17	\$3	\$72	\$56	\$19,033
Floral Park, Village of	\$13,233	\$351	\$52	\$3	\$6	\$25	\$27	\$13,698
Flower Hill, Village of	\$16,636	\$1,396	\$123	\$13	\$6	\$46	\$74	\$18,284
Freeport, Village of	\$46,580	\$2,240	\$387	\$34	\$25	\$78	\$205	\$49,547
Garden City, Village of	\$44,909	\$4,466	\$410	\$30	\$81	\$314	\$201	\$50,410
Glen Cove, City of	\$20,858	\$714	\$96	\$20	\$8	\$64	\$45	\$21,795
Great Neck, Village of	\$14,495	\$650	\$50	\$5	\$10	\$19	\$47	\$15,275
Great Neck Estates, Village of	\$14,868	\$861	\$58	\$3	\$5	\$16	\$50	\$15,861
Great Neck Plaza, Village of	\$12,897	\$813	\$54	\$3	\$4	\$13	\$37	\$13,821
Hempstead, Town of	\$304,887	\$19,151	\$2,218	\$276	\$196	\$1,365	\$1,513	\$419,606
Hempstead, Village of	\$38,646	\$2,773	\$217	\$18	\$40	\$269	\$185	\$42,146

Appendix C – Mitigation Strategy

Provides tools to support plan maintenance and implementation.

Tools include:

- Sample Adoption Resolution
- Project Funding Support Tool
- Plan Maintenance Reporting Tool



Appendix D – Nassau County Hazard Mitigation Worksheets

Appendix D contains 10 mitigation action worksheets that accompany some of the mitigation actions listed in the 2020 Nassau County Mitigation Action Plan (see Section 6).

Nassau County Multi-Jurisdictional Hazard Mitigation Plan			
Name of Jurisdiction: Nassau County: Village of East Rockaway			
NYS DHSES Action Worksheet			
Project Name:	Bay Park/East Rockaway: Drainage Improvements		
Project Number:	NCO_1		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	During high tide events, tidal water backing up into the drainage system and flows out of the existing grates at the low points flooding Lawson Avenue and the adjacent streets; the existing drainage system on Lawson Avenue does not have the capacity to store the road runoff from any rain event especially when there is a high tide; the existing drainage system is back pitched and does not function properly; several drainage grates have filter bag inserts that collect debris in order to clean the system, however, these bags are filling quickly and not being cleaned thus not allowing stormwater to enter the system and flooding Lawson Avenue and adjacent streets; and the system becomes filled with debris preventing the stormwater to flow through the system properly.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of various check valves and stormwater treatment devices and drainage improvements to Lawson Avenue in Bay Park and the Village of East Rockaway. The existing drainage system on Lawson Avenue will be replaced with larger pipe and more drainage structures to increase the capacity of the system and remove the pipes that are back pitched and the installation of an in-line check valve to prevent tidal surcharge and a stormwater treatment structure to remove debris, improve the quality of the stormwater, and prevent debris from reaching the in-line check valve thus preserving the life of the in-line check valve.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	1-Year storm	Estimated Benefits (losses avoided):	This project will correct major drainage problems that continue to flood the streets of East Rockaway and Bay Park.
Useful Life:	50 Years		
Estimated Cost:	\$5,071,589.05		
Plan for Implementation			
Prioritization:	Leave Blank	Desired Timeframe for Implementation:	February 28, 2020
Estimated Time Required for Project Implementation:	15 Months	Potential Funding Sources:	GOSR/CDBG-DR
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	0	
	Purchase additional filter bag inserts and establish a system for rapid-replacement of filters.	<\$100,000 + annual maintenance.	This might provide some flood reduction benefits, but would require significant staff time and availability without providing the same level of risk reduction.
Upgrade the system to accommodate a larger storm event	>\$8,000,000	While upgrading the drainage infrastructure to accommodate even larger storm events would be desirable, it is believed to be cost prohibitive.	
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020.		
Report of Progress:	Design phase almost complete, Construction phase set to begin by the end of the year.		



Jurisdictional Annexes

Base Plan

Section 1 – Introduction
Section 2 – Planning Process
Section 3 – County Profile
Section 4 – Risk Assessment
Section 5 – Capability Assessment
Section 6 – Mitigation Strategy

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Appendix D – Nassau County Hazard Mitigation Worksheets

Annexes

51 Jurisdictional Annexes
(one for each participating jurisdiction)



Jurisdictional Annexes

- Demographics and current and future development for the jurisdiction
- Overview of how the natural hazards outlined in the Base Plan impact the jurisdiction
- Jurisdiction's progress towards previous mitigation actions
- New mitigation action plan and mitigation action worksheets

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Centre Island. The Village of Centre Island has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analyst, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Centre Island Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Mayor Lawrence Schmidlapp
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Village Engineer James Antonelli
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	Yes	Building Inspector Joe Richardson
Grant Writers	Yes	currently looking
Personnel skilled or trained in Geographic Information Systems	Yes	Village Clerk- Carol Schmidlapp
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector- Joe Richardson
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	Yes	Jim Antonelli
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Centre Island. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Centre Island Road Flooding Mitigation - Construction of a 96 high extension to an existing 18 wall, and two one-way 12" diameter sluice pipes.	Generator installed at the Police Station in order to reduce impacts from flooding events.
Risk Category	Flooding	Flooding
Project Status	In progress	Completed
Project Status Description	Engineering analysis is done but additional project work is temporarily halted. Construction has not started due to logistics and the scope of the plan. After extensive engineering drawings, the owner of adjacent property refuses to lose use of his driveway for two months in order for construction to move forward.	
Carried Forward to 2026 Plan	Yes	NO
Required Changes	A better way to accomplish the end result is being studied.	



Next Steps and Q&A



Next Steps



Public Comment Period

The draft plan was posted on October 1st. Submit your comments before October 30th using the online public comment form.

Please take the survey and share it through your contacts!



Reach Out

Reach out to **hazardmitigation@nassaucountyny.gov** with your ideas and concerns – we want to hear them!



Review the Plan!

NASSAU COUNTY  NEW YORK

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NASSAU HAZARD MITIGATION PLAN

Emergency Management Home

Hazard Mitigation Plan

Public Comment Form

Interim Public Survey Results

Executive Summary

FAQ

[Home](#) > [Departments](#) > [Emergency Management](#) > Hazmit Plan

The Nassau County Hazard Mitigation Plan (Plan) emphasizes the County's dedication to identifying and reducing risks associated with natural hazards to increase community resilience. This Plan was developed through a year-long interactive planning process in close coordination with stakeholder groups and

We want to hear from you!

ing the hazards of concern and potential losses, and developing a strategy with feasible and implementable actions to mitigate risk to these hazards throughout the County. Please review the Plan below and provide your feedback through the [Public Comment Form](#).

2021 Plan Content

[Executive Summary](#)

CONTACT US



[Email Us](#)

Visit <https://www.nassaucountyny.gov/2813/Hazmit-Plan> to review the draft plan online.



Questions?



Nassau County Public Meeting – October 8, 2020

Meeting Attendees

- Sydney McKenna (Presenter, Hagerty Consulting)
- Michael Levkowitz (Subject Matter Expert, Hagerty Consulting)
- Tim Dougherty
- Susan Park, Nassau County Office of Emergency Management
- Nicole Marks, Nassau County Office of Emergency Management
- Corey Sinkler
- Doug Groth - Bayville
- Amy Blackman
- Valley Stream
- edwapow
- Sam Pinto
- Elizabeth Treston
- Felicia Leto
- Tracy Lynch
- Shannon Clarke
- brian farrell
- THOMAS
- PBroderick
- Alex Prince
- Joel Ziev
- Angela Mannino
- Renee Marcus
- Joel Ziev
- Sarah Felson (Felson's)
- Albaranom
- Maria Alfano-Hardy
- Tracy Lynch
- BARRY (ROSEANN)
- A Ward
- FPA EMS
- Angela Mannino
- Helene
- Call-In Attendee (Number Redacted)
- Call-In Attendee (Number Redacted)
- Call-In Attendee (Number Redacted)

Public Comment Summary

Nassau County shared its draft Hazard Mitigation Plan with the public, posting the plan on the County website between October 1 - October 30, 2020. The public comment period was advertised through the County website, the Mitigation Planning Newsletter, and during the Public Meeting on October 8, 2020. Two comments were received from the public during the comment period. Both comments were reviewed and addressed through revisions or additions to the plan.

Appendix B Risk Assessment

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Historical Occurrences

Flood Events

The chart below summarizes occurrences of flooding reported across Nassau County between January 2010 – January 2020, as recorded in the NOAA Storm events database. The location listed in the table depends on where the weather event was recorded and may be reported as a region (e.g., Northern), jurisdiction (e.g., Atlantic Beach), or neighborhood (e.g., North Bellmore).

Location	Date	Type
Atlantic Beach	8/21/2015	Flash Flood
Woodmere	8/21/2015	Flash Flood
Jericho	8/21/2015	Flash Flood
Wantagh	9/10/2015	Flash Flood
Seaford	9/10/2015	Flash Flood
Southern	10/2/2015	Coastal Flood
Southern	1/10/2016	Coastal Flood
Southern	1/23/2016	Coastal Flood
Northern	1/23/2016	Coastal Flood
Southern	1/23/2016	Coastal Flood
Southern	1/24/2016	Coastal Flood
Southern	2/8/2016	Coastal Flood
Southern	2/9/2016	Coastal Flood
Southern	5/5/2016	Coastal Flood
Southern	5/6/2016	Coastal Flood
South Valley Stream	7/25/2016	Flash Flood
Baldwin	7/25/2016	Flash Flood
Southern	1/23/2017	Coastal Flood
Southern	1/24/2017	Coastal Flood
Southern	3/14/2017	Coastal Flood
Kensington	8/18/2017	Flash Flood
Farmingdale	8/18/2017	Flash Flood



Location	Date	Type
Garden City South	10/29/2017	Flood
Southern	10/30/2017	Coastal Flood
Southern	3/2/2018	Coastal Flood
Northern	3/2/2018	Coastal Flood
Southern	3/3/2018	Coastal Flood
Southern	3/3/2018	Coastal Flood
Southern	3/4/2018	Coastal Flood
North Bellmore	8/12/2018	Flash Flood
North Bellmore	8/12/2018	Flash Flood
North Bellmore	8/12/2018	Flash Flood
Baldwin	8/12/2018	Flash Flood
North Bellmore	8/12/2018	Flash Flood
North Bellmore	8/12/2018	Flash Flood
Southern	9/9/2018	Coastal Flood
Northern	11/16/2018	Coastal Flood
Southern	11/25/2018	Coastal Flood
Southern	12/21/2018	Coastal Flood
Southern	12/22/2018	Coastal Flood
Southern	1/20/2019	Coastal Flood
Northern	1/20/2019	Coastal Flood
Glen Cove	7/17/2019	Flash Flood
Roosevelt	7/18/2019	Flash Flood
Elmont	7/22/2019	Flash Flood
Mineola	7/22/2019	Flash Flood
New Hyde Park	7/22/2019	Flash Flood
Manhasset	7/22/2019	Flash Flood
Southern	10/10/2019	Coastal Flood
Southern	10/11/2019	Coastal Flood



Location	Date	Type
Southern	10/11/2019	Coastal Flood
Southern	10/16/2019	Coastal Flood
Southern	10/27/2019	Coastal Flood
Southern	10/29/2019	Coastal Flood
Southern	11/18/2019	Coastal Flood



Hail Events

The chart below indicates recent occurrences of hail events across Nassau County between January 2010 – January 2020, as reported in the NOAA Storm events database. The location listed is dependent on where the weather event was recorded and may be reported as a region (e.g., Northern), jurisdiction (e.g., Mineola), or neighborhood (e.g., Syosset).

Location	Date	Magnitude	Deaths	Injuries	Property Damage Estimate
Mineola	6/24/2010	1.00 in.	0	0	0.00K
Albertson	6/24/2010	1.00 in.	0	0	0.00K
Albertson	6/24/2010	0.88 in.	0	0	0.00K
North Massapequa	6/24/2010	1.00 in.	0	0	0.00K
Lawrence	9/16/2010	1.00 in.	0	0	0.00K
Island Park	10/11/2010	1.00 in.	0	0	0.00K
Lake Success	8/1/2011	2.75 in.	0	0	15.00K
New Hyde Park	8/1/2011	1.00 in.	0	0	0.00K
New Hyde Park	8/1/2011	1.75 in.	0	0	0.00K
Great Neck	8/1/2011	1.75 in.	0	0	0.00K
Garden City Park	8/1/2011	1.00 in.	0	0	0.00K
Hempstead, Town of	8/1/2011	1.00 in.	0	0	0.00K
New Hyde Park	8/1/2011	2.00 in.	0	0	0.00K
Garden City Park	8/1/2011	1.75 in.	0	0	0.00K
East Williston	8/1/2011	3.00 in.	0	0	100.00K
Hempstead, Town of	8/1/2011	0.88 in.	0	0	0.00K
Rockville Centre	8/1/2011	1.00 in.	0	0	0.00K
West Hempstead	8/1/2011	0.88 in.	0	0	0.00K
Syosset	7/1/2012	0.75 in.	0	0	0.00K
East Williston	8/15/2012	0.88 in.	0	0	0.00K
Hillside Manor	8/15/2012	0.88 in.	0	0	0.00K
Plainview	8/15/2012	0.88 in.	0	0	0.00K
Nassau Shores	9/3/2013	1.00 in.	0	0	0.00K



Location	Date	Magnitude	Deaths	Injuries	Property Damage Estimate
Brookville	6/23/2015	0.75 in.	0	0	0.00K
Glen Cove	6/23/2015	1.75 in.	0	0	0.00K
Farmingdale	6/29/2019	0.75 in.	0	0	0.00K
Farmingdale	6/29/2019	1.25 in.	0	0	0.00K
Totals:			0	0	115.00K



Hurricanes and Tropical Storm Events

Listed below are historic hurricanes and tropical storms that have impacted Nassau County. Refer to Section 4 Risk Assessment for a summary of more recent events that have occurred between 2010 and 2020.

- Hurricane of September 1904. At the time that this hurricane crossed over Long Island, the County's population was a mere fraction of what it is today. On September 14-15, 1904 the Sag Harbor Express reported on a storm that passed over the western end of Long Island. The high winds downed trees blocking roads. At Bridgehampton, the forty-foot high steeple of the Presbyterian Church was blown down smashing a large hole in the roof. Fishing boats anchored in the bay were blown up on the shore.
- The New England Hurricane (also known as the Long Island Express) hit Long Island on September 21, 1938 as a Category 3 (winds 111-130 mph) and devastated the coast of Long Island with storm surges of 10 to 12 feet and was responsible for, in total, 700 deaths, \$308 million in damage, and 63,000 people homeless between Long Island and New England. The LI Express was so powerful that it created the Shinnecock Inlet and widened the Moriches Inlet in Suffolk County. Nassau County was not impacted as heavily. The team noted that rain fell steadily for 5 days during this event. Downed trees were a significant problem, blocking access routes in some cases. Flooding of coastal structures and basement flooding of other structures was widespread, as well as boat damage.
- Great Atlantic Hurricane of 1944 was a Category 3 (winds 111-130 mph) storm. The storm swept over eastern Long Island and Nassau County was spared the brunt of the damages. Most damages were in the form of downed trees and power lines, boat wreckage, flooding and other property damage. Upwards of 4 inches of rain fell and total damage for all of Long Island were estimated at \$1,000,000. The storm could have caused significant more damage if it had instead struck at high tide.
- Hurricanes Carol and Edna of 1954 were both Category 3 hurricanes when they hit Long Island and Connecticut. Nassau County did not receive the brunt of the damages. During Hurricane Carol high winds downed trees and power lines cutting off electric and phone services in many areas. High tides inundated local roadways, docks, beaches and cellars. The Plandome Bridge was completely covered, as was Shore Road and Manorhanven Boulevard. For Hurricane Carol (August 31, 1954) damages in Nassau and Suffolk County were estimated at \$3,000,000. Personal injuries were minimal, one death, from a heart attack was attributed to the storm. Rainfall recorded during the storm on August 31 was 3.3 inches. The forward speed of the storm was 40 mph as the storm center crossed Long Island 25 miles east of Westhampton. The hurricane which brought 14 foot waves and wind up to 96 mph and sustained winds of 55 mph hit at the time of the predicted high tide. For Hurricane Edna (September 11, 1954), power and telephone outages lasted for several days following the storm. Rainfall between September 11 and September 12 was recorded at over 6 inches.
- Hurricane Donna of 1960 started as a Category 4 and hit Nassau County as a Category 3 (winds 111-130 mph). According to the FEMA Flood Insurance Study, as this storm passed over Long Island, its eye became elongated and extended over the



entire length of Long Island. Then it broke up into three eyes, causing variable wind patterns. Maximum tides in Nassau County were below 8.6 feet. At LaGuardia Airport, 70 mph winds from the northeast were recorded with gusts up to 97 miles per hour. Winds downed trees and power lines disrupting telephone and electric services. High tides and roadway flooding were widespread. Roof damage was widespread, ranging from shingle loss to loss of entire roofs. Hundreds of boats capsized and were destroyed. Manorhaven and Sands Point were hit especially hard with power outages.

- Hurricane Belle. On August 10, 1976, Hurricane Belle threatened Long Island. While Belle had been much stronger when it was off the coast of Florida and North Carolina. However, its intensity was reduced in the colder waters of the northern Atlantic. In addition, it hit several hours after high tide. Damages were relatively minor.
- Hurricane Gloria of 1985 began as a Category 3 hurricane when it hit Cape Hatteras, North Carolina, but was considered a Category 1 (winds 74-95 mph) when it reached Nassau County. Gloria devastated the U.S., including serious damage to Nassau County. High tides caused roadway flooding. Downed trees and power lines were widespread. Basement flooding, roof damage, and window damage was also widespread, as well as damage to boats



Lightning Events

The chart below indicates recent occurrences of lightning strikes across Nassau County between the years of 2010 – 2019, as reported in the NOAA Storm events database (NCEI 2020). The location listed is dependent on where the weather event was recorded and may be reported as a region (e.g., Northern), jurisdiction (e.g., East Rockaway), or neighborhood (e.g., Carle Place).

Location	Date	Deaths	Injuries	Property Damage Estimate
North Bellmore	3/14/2010	0	0	10.00K
East Rockaway	8/1/2011	0	0	1.00K
Long Beach	7/14/2016	0	5	0.00K
Freeport	7/25/2016	0	0	10.00K
Elmont	7/25/2016	0	0	15.00K
Jericho	4/6/2017	0	0	5.00K
East Williston	6/19/2017	0	0	2.50K
Wantagh	7/17/2018	0	0	6.00K
Hempstead, Town of	8/7/2018	0	0	6.00K
Manhasset	7/17/2019	0	0	6.00K
Hillside Manor	7/17/2019	0	0	6.00K
Carle Place	7/17/2019	0	0	6.00K
Total:		0	5	73.50K



Severe Winter Weather Events

The chart below indicates recent occurrences of severe winter weather events across Nassau County between January 2010 – January 2020, as reported in the NOAA Storm events database (NCEI 2020).

Date	Type	Deaths	Injuries	Property Damage Estimate
12/26/2010	Blizzard	0	0	0.00K
12/26/2010	Blizzard	0	0	0.00K
1/11/2011	Heavy Snow	0	0	0.00K
1/11/2011	Heavy Snow	0	0	0.00K
1/26/2011	Heavy Snow	0	0	0.00K
1/26/2011	Heavy Snow	0	0	0.00K
2/1/2011	Ice Storm	0	0	0.00K
2/8/2013	Winter Storm	0	0	0.00K
2/8/2013	Winter Storm	0	0	0.00K
3/7/2013	Heavy Snow	0	0	0.00K
3/7/2013	Winter Weather	0	0	0.00K
12/14/2013	Winter Weather	0	0	0.00K
1/2/2014	Heavy Snow	0	0	0.00K
1/2/2014	Heavy Snow	0	0	0.00K
1/10/2014	Winter Weather	0	65	0.00K
1/10/2014	Winter Weather	0	64	0.00K
1/21/2014	Heavy Snow	0	0	0.00K
1/21/2014	Heavy Snow	0	0	0.00K
2/3/2014	Heavy Snow	0	0	0.00K
2/3/2014	Heavy Snow	0	0	0.00K
2/5/2014	Winter Storm	0	0	0.00K
2/13/2014	Winter Storm	0	0	0.00K
2/13/2014	Winter Storm	0	0	0.00K
1/18/2015	Winter Weather	0	0	0.00K





Wind Events

The chart below indicates recent occurrences of extreme wind events across Nassau County between January 2019 – January 2020, as reported in the NOAA Storm events database. The location listed is dependent on where the weather event was recorded and may be reported as a region (e.g., Northern), jurisdiction (e.g., Matinecock), or neighborhood (e.g., Biltmore Shores).

Location	Date	Type of Wind	Magnitude	Deaths	Injuries	Property Damage Estimate
Northern	1/10/2019	Strong Wind	45 kts. MG	0	0	10.00K
Southern	1/21/2019	Strong Wind	44 kts. MG	0	0	10.00K
Northern	1/21/2019	Strong Wind	49 kts. MG	0	0	10.00K
Southern	1/24/2019	Strong Wind	27 kts. MS	0	0	10.00K
Northern	2/8/2019	Strong Wind	35 kts. MG	0	1	0.00K
Baldwin	6/2/2019	Thunderstorm	52 kts. EG	0	0	1.00K
Kings Pt	6/2/2019	Thunderstorm	52 kts. MG	0	0	0.00K
Biltmore Shores	6/2/2019	Thunderstorm	61 kts. EG	0	0	4.00K
Seaford	6/2/2019	Thunderstorm	52 kts. EG	0	0	1.00K
East Rockaway	6/29/2019	Thunderstorm	61 kts. EG	0	0	4.00K
Matinecock	7/17/2019	Thunderstorm	52 kts. EG	0	0	3.00K
Matinecock	7/17/2019	Thunderstorm	52 kts. EG	0	0	4.00K
Pt Lookout	7/22/2019	Thunderstorm	56 kts. MG	0	0	0.00K
North Bellmore	7/22/2019	Thunderstorm	52 kts. EG	0	0	1.00K
North Wantagh	7/22/2019	Thunderstorm	52 kts. EG	0	0	1.00K
East Meadow	7/22/2019	Thunderstorm	52 kts. EG	0	0	1.00K
North Wantagh	7/22/2019	Thunderstorm	52 kts. EG	0	0	25.00K
Manhasset	7/31/2019	Thunderstorm	52 kts. EG	0	0	3.00K
Lake View	8/8/2019	Thunderstorm	52 kts. EG	0	0	4.00K
Lattingtown	8/19/2019	Thunderstorm	58 kts. MG	0	0	0.00K
Wantagh	8/22/2019	Thunderstorm	52 kts. EG	0	0	1.00K
Wantagh	8/22/2019	Thunderstorm	52 kts. EG	0	0	1.00K
Wantagh	8/22/2019	Thunderstorm	53 kts. MG	0	0	3.00K



Location	Date	Type of Wind	Magnitude	Deaths	Injuries	Property Damage Estimate
Northern	11/1/2019	Strong Wind	48 kts. MG	0	0	100.00K
Totals:				0	1	197.00K



Critical Facilities: Flood Damage

The charts below estimate the total losses that critical facilities across Nassau County could sustain due to a 100 year or 500 year flood event, according to an analysis conducted in Hazus. The loss values are reported in thousands of dollars. Some of these facilities have been previously mitigated to lessen the impacts of future flood events. The full extent and nature of this mitigation could not be fully determined during this planning process and several of these facilities are not within the jurisdiction of these municipalities (e.g., schools). In the future, Nassau County Office of Emergency Management, in coordination with the municipalities, will conduct outreach to these facilities to educate them about their risk of flooding and present different options for mitigation.

100 Year Flood Events

Jurisdiction	Type of Facility	Facility Name	Building Loss	Content Loss	Total Loss	Mitigated?
City of Long Beach	Fire/EMS	Long Beach Fire Department - Headquarters	\$75	\$128	\$202	Yes
City of Long Beach	Fire/EMS	Long Beach Fire Department Station 1	\$25	\$43	\$67	Yes
City of Long Beach	Fire/EMS	Long Beach Fire Department Station 2	\$302	\$746	\$1,048	Yes
City of Long Beach	Police	Long Beach Police Department	\$75	\$128	\$202	Yes
City of Long Beach	School	East Elementary School	\$148	\$800	\$948	Yes
City of Long Beach	School	Harriet Eisman Community School 1	\$30	\$164	\$195	Unknown
City of Long Beach	School	Harriet Eisman Community School 2	\$7	\$37	\$44	Unknown
City of Long Beach	School	Lindell Boulevard School	\$322	\$1,738	\$2,060	Yes
City of Long Beach	School	Long Beach Catholic Regional School	\$35	\$191	\$226	Unknown
City of Long Beach	School	Mesivta Of Long Beach	\$40	\$218	\$258	Unknown
City of Long Beach	School	Montessori School of Long Beach	\$12	\$67	\$79	Unknown
City of Long Beach	School	Rabbinical College of Long Island	\$89	\$721	\$810	Unknown
City of Long Beach	School	Torah High School Long Beach	\$43	\$230	\$272	Unknown
City of Long Beach	School	West Elementary School	\$498	\$2,697	\$3,195	Unknown
Town of Hempstead	Fire/EMS	Bellmore Fire District Station 2	\$124	\$213	\$337	Yes
Town of Hempstead	Fire/EMS	Oceanside Fire Department Station 2	\$99	\$170	\$270	Yes
Town of Hempstead	Fire/EMS	Point Lookout - Lido Fire Department 2	\$199	\$341	\$540	Yes
Town of Hempstead	Fire/EMS	Point Lookout - Lido Fire Department Station	\$25	\$43	\$67	Yes



Jurisdiction	Type of Facility	Facility Name	Building Loss	Content Loss	Total Loss	Mitigated?
		1				
Town of Hempstead	Fire/EMS	Wantagh Fire Department Station 3	\$199	\$341	\$540	Yes
Town of Hempstead	School	Drs Yeshiva High School for Boys	\$357	\$1,927	\$2,284	Unknown
Town of Hempstead	School	East Rockaway Junior-Senior High School	\$53	\$286	\$339	Unknown
Town of Hempstead	School	Evergreen Charter School	\$30	\$164	\$194	Unknown
Town of Hempstead	School	Island Park Lincoln Orens Middle School	\$30	\$161	\$190	Unknown
Town of Hempstead	School	Lido Elementary School	\$224	\$1,209	\$1,433	Unknown
Town of Hempstead	School	Long Beach Middle School	\$378	\$2,042	\$2,420	Unknown
Town of Hempstead	School	Long Beach Senior High School	\$398	\$2,150	\$2,548	Unknown
Town of Hempstead	School	Mesivta Ateres Yaakov	\$60	\$326	\$386	Unknown
Town of Hempstead	School	Midreshet Shalhevet-Shalhevet High School for Girls	\$10	\$55	\$65	Unknown
Town of Hempstead	School	School 8	\$42	\$225	\$267	Unknown
Town of Hempstead	School	School 9E-Boardman Elem School	\$31	\$169	\$200	Unknown
Town of Hempstead	School	School 9M-Oceanside Middle School	\$84	\$453	\$537	Unknown
Town of Hempstead	School	Yeshiva of South Shore	\$222	\$1,197	\$1,419	Unknown
Village of Bayville	Fire/EMS	Bayville Fire Company Incorporated	\$25	\$43	\$67	Unknown
Village of Centre Island	Police	Centre Island Police Department	\$25	\$43	\$67	Yes
Village of East Rockaway	Fire/EMS	East Rockaway Fire Department - Protector Hook Ladder and Hose Company 1	\$50	\$85	\$135	Unknown
Village of East Rockaway	Fire/EMS	East Rockaway Fire Department – Vigilant Engine Company 1	\$25	\$43	\$67	Unknown
Village of East Rockaway	School	Jack & Jill Montessori School	\$1	\$7	\$9	Yes
Village of East Rockaway	School	Rhame Avenue Elementary School	\$62	\$333	\$394	Yes
Village of Freeport	School	Leo F Giblyn School	\$68	\$365	\$433	Unknown
Village of Island Park	Fire/EMS	Island Park Fire Department	\$124	\$213	\$337	Yes
Village of Island Park	School	Francis X Hegarty Elementary School	\$232	\$1,252	\$1,484	Unknown
Village of Valley Stream	School	Yeshiva Ketana Of Long Island	\$241	\$1,304	\$1,545	Unknown



500 Year Flood Events

Jurisdiction	Type of Facility	Facility Name	Building Loss	Content Loss	Total Loss
City of Long Beach	Fire/EMS	Long Beach Fire Department - Headquarters	\$25	\$43	\$67
City of Long Beach	Fire/EMS	Long Beach Fire Department Station 1	\$25	\$43	\$67
City of Long Beach	Fire/EMS	Long Beach Fire Department Station 2	\$323	\$874	\$1,197
City of Long Beach	Police	Long Beach Police Department	\$25	\$43	\$67
City of Long Beach	School	East Elementary School	\$37	\$200	\$237
City of Long Beach	School	Harriet Eisman Community School	\$10	\$55	\$65
City of Long Beach	School	Harriet Eisman Community School	\$7	\$37	\$44
City of Long Beach	School	Lindell Boulevard School	\$40	\$217	\$258
City of Long Beach	School	Long Beach Catholic Regional School	\$35	\$191	\$226
City of Long Beach	School	Mesivta Of Long Beach	\$13	\$73	\$86
City of Long Beach	School	Montessori School of Long Beach	\$13	\$69	\$82
City of Long Beach	School	Rabbinical College of Long Island	\$15	\$120	\$135
City of Long Beach	School	Torah High School Long Beach	\$14	\$77	\$91
City of Long Beach	School	West Elementary School	\$544	\$2,954	\$3,498
Town of Hempstead	Fire/EMS	Bellmore Fire District Station 2	\$149	\$256	\$405
Town of Hempstead	Fire/EMS	Oceanside Fire Department Station 2	\$149	\$256	\$405
Town of Hempstead	Fire/EMS	Point Lookout - Lido Fire Department Station 1	\$25	\$43	\$67
Town of Hempstead	Fire/EMS	Point Lookout - Lido Fire Department Station 2	\$149	\$256	\$405
Town of Hempstead	Fire/EMS	Wantagh Fire Department Station 3	\$199	\$341	\$540
Town of Hempstead	School	Drs Yeshiva High School for Boys	\$412	\$2,229	\$2,641
Town of Hempstead	School	East Rockaway Junior-Senior High School	\$53	\$286	\$339
Town of Hempstead	School	Evergreen Charter School	\$152	\$820	\$972
Town of Hempstead	School	Forest Road School	\$35	\$189	\$224
Town of Hempstead	School	Island Park Lincoln Orens Middle School	\$30	\$161	\$190
Town of Hempstead	School	Lido Elementary School	\$224	\$1,209	\$1,433
Town of Hempstead	School	Long Beach Middle School	\$378	\$2,042	\$2,420
Town of Hempstead	School	Long Beach Senior High School	\$663	\$3,583	\$4,246



Jurisdiction	Type of Facility	Facility Name	Building Loss	Content Loss	Total Loss
Town of Hempstead	School	Mesivta Ateres Yaakov	\$161	\$869	\$1,030
Town of Hempstead	School	Midreshet Shalhevet-Shalhevet High School for Girls	\$10	\$55	\$65
Town of Hempstead	School	Ogden Elementary School	\$37	\$198	\$235
Town of Hempstead	School	Robert W Carbonaro School	\$40	\$218	\$258
Town of Hempstead	School	School 4	\$29	\$155	\$184
Town of Hempstead	School	School 8	\$167	\$901	\$1,068
Town of Hempstead	School	School 9E-Boardman Elem School	\$31	\$169	\$200
Town of Hempstead	School	School 9M-Oceanside Middle School	\$252	\$1,360	\$1,612
Town of Hempstead	School	Woodmere Middle School	\$350	\$1,891	\$2,242
Town of Hempstead	School	Yeshiva of South Shore	\$443	\$2,394	\$2,838
Town of Oyster Bay	School	Theodore Roosevelt School	\$37	\$202	\$239
Village of Bayville	Fire/EMS	Bayville Fire Company Incorporated	\$199	\$341	\$540
Village of Centre Island	Police	Centre Island Police Department	\$50	\$85	\$135
Village of East Rockaway	Fire/EMS	East Rockaway Fire Department – Protector Hook Ladder and Hose Company 1	\$99	\$170	\$270
Village of East Rockaway	Fire/EMS	East Rockaway Fire Department - Vigilant Company 1	\$75	\$128	\$202
Village of East Rockaway	Fire/EMS	East Rockaway Fire Department Incorporated	\$25	\$43	\$67
Village of East Rockaway	School	Jack & Jill Montessori School	\$2	\$10	\$12
Village of East Rockaway	School	Rhame Avenue Elementary School	\$123	\$666	\$789
Village of Freeport	School	Leo F Giblyn School	\$68	\$365	\$433
Village of Island Park	Fire/EMS	Island Park Fire Department	\$124	\$213	\$337
Village of Island Park	School	Francis X Hegarty Elementary School	\$46	\$250	\$297
Village of Valley Stream	Fire/EMS	Valley Stream Fire Department Engine Company 1 - Headquarters	\$25	\$43	\$67
Village of Valley Stream	School	Yeshiva Ketana Of Long Island	\$402	\$2,173	\$2,575



Earthquake Losses

The charts below estimate the total losses that buildings across Nassau County could sustain due to a 250 year or 1000 year earthquake event, according to an analysis conducted in Hazus. The loss values are reported in thousands of dollars.

250 Year Earthquake Events

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$359	\$437	\$6	\$1	\$3	\$1	\$2	\$809
Baxter Estates, Village of	\$337	\$292	\$18	\$3	\$21	\$8	\$16	\$696
Bayville, Village of	\$404	\$120	\$7	\$2	\$3	\$24	\$10	\$570
Bellerose, Village of	\$476	\$165	\$17	\$0	\$3	\$11	\$8	\$680
Brookville, Village of	\$1,371	\$1,117	\$104	\$7	\$12	\$53	\$49	\$2,713
Cedarhurst, Village of	\$2,657	\$1,834	\$146	\$10	\$56	\$182	\$143	\$5,028
Centre Island, Village of	\$84	\$31	\$1	\$0	\$2	\$1	\$1	\$120
Cove Neck, Village of	\$158	\$80	\$2	\$0	\$1	\$9	\$2	\$253
East Hills, Village of	\$1,269	\$1,093	\$76	\$7	\$8	\$95	\$65	\$2,612
East Rockaway, Village of	\$2,804	\$2,120	\$171	\$10	\$27	\$68	\$74	\$5,274
East Williston, Village of	\$838	\$515	\$104	\$4	\$12	\$31	\$19	\$1,524
Farmingdale, Village of	\$1,495	\$729	\$70	\$6	\$4	\$71	\$37	\$2,412
Floral Park, Village of	\$1,867	\$768	\$70	\$4	\$22	\$58	\$45	\$2,833
Flower Hill, Village of	\$733	\$897	\$39	\$4	\$9	\$38	\$35	\$1,756
Freeport, Village of	\$3,994	\$2,076	\$261	\$16	\$53	\$101	\$164	\$6,665
Garden City, Village of	\$1,479	\$782	\$57	\$10	\$11	\$91	\$37	\$2,467
Glen Cove, City of	\$4,940	\$5,172	\$473	\$24	\$189	\$601	\$234	\$11,634
Great Neck, Village of	\$818	\$567	\$27	\$2	\$17	\$18	\$35	\$1,484
Great Neck Estates, Village of	\$863	\$820	\$42	\$2	\$9	\$17	\$42	\$1,795
Great Neck Plaza, Village of	\$734	\$754	\$39	\$1	\$8	\$14	\$31	\$1,581
Hempstead, Town of	\$42,082	\$23,328	\$1,999	\$165	\$467	\$2,182	\$1,406	\$71,629
Hempstead, Village of	\$4,007	\$3,035	\$224	\$13	\$82	\$528	\$200	\$8,089



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Hewlett Bay Park, Village of	\$1,273	\$912	\$49	\$6	\$48	\$81	\$29	\$2,399
Hewlett Harbor, Village of	\$1,049	\$546	\$65	\$4	\$5	\$13	\$21	\$1,704
Hewlett Neck, Village of	\$789	\$429	\$27	\$2	\$44	\$57	\$15	\$1,363
Island Park, Village of	\$874	\$494	\$53	\$5	\$3	\$15	\$26	\$1,470
Kensington, Village of	\$528	\$620	\$33	\$1	\$8	\$5	\$20	\$1,215
Kings Point, Village of	\$629	\$359	\$18	\$1	\$16	\$16	\$31	\$1,071
Lake Success, Village of	\$1,457	\$1,787	\$79	\$4	\$10	\$73	\$46	\$3,456
Lattingtown, Village of	\$536	\$229	\$12	\$3	\$3	\$27	\$11	\$821
Laurel Hollow, Village of	\$343	\$219	\$10	\$1	\$4	\$17	\$14	\$609
Lawrence, Village of	\$1,849	\$1,341	\$97	\$7	\$52	\$170	\$114	\$3,631
Long Beach, City of	\$4,286	\$1,862	\$84	\$8	\$58	\$63	\$107	\$6,469
Lynbrook, Village of	\$3,655	\$3,072	\$207	\$15	\$68	\$140	\$134	\$7,291
Malverne, Village of	\$2,388	\$1,198	\$82	\$9	\$27	\$43	\$85	\$3,831
Manorhaven, Village of	\$606	\$262	\$38	\$2	\$7	\$29	\$20	\$963
Massapequa Park, Village of	\$2,694	\$1,011	\$54	\$10	\$9	\$49	\$32	\$3,859
Matinecock, Village of	\$1,409	\$880	\$49	\$12	\$8	\$80	\$47	\$2,485
Mill Neck, Village of	\$1,131	\$823	\$59	\$9	\$15	\$59	\$50	\$2,147
Mineola, Village of	\$2,847	\$2,919	\$294	\$17	\$140	\$213	\$152	\$6,583
Munsey Park, Village of	\$406	\$564	\$9	\$2	\$7	\$31	\$19	\$1,039
Muttontown, Village of	\$1,679	\$1,412	\$98	\$8	\$21	\$67	\$71	\$3,357
New Hyde Park, Village of	\$1,860	\$2,131	\$123	\$4	\$24	\$35	\$112	\$4,289
North Hempstead, Town of	\$12,398	\$11,993	\$1,066	\$64	\$291	\$966	\$558	\$27,335
North Hills, Village of	\$1,266	\$1,155	\$53	\$3	\$11	\$77	\$45	\$2,610
Old Brookville, Village of	\$782	\$513	\$29	\$7	\$1	\$27	\$31	\$1,389
Old Westbury, Village of	\$2,064	\$1,688	\$220	\$10	\$19	\$134	\$69	\$4,204
Oyster Bay, Town of	\$18,259	\$10,617	\$1,012	\$79	\$139	\$757	\$569	\$31,432
Oyster Bay Cove, Village of	\$847	\$600	\$43	\$5	\$18	\$45	\$36	\$1,595
Plandome, Village of	\$356	\$498	\$6	\$1	\$8	\$29	\$10	\$908



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Plandome Heights, Village of	\$244	\$398	\$5	\$1	\$8	\$27	\$8	\$692
Plandome Manor, Village of	\$536	\$418	\$20	\$3	\$23	\$10	\$20	\$1,030
Port Washington North, Village of	\$943	\$553	\$56	\$5	\$29	\$37	\$36	\$1,659
Rockville Centre, Village of	\$3,981	\$2,399	\$116	\$10	\$50	\$153	\$110	\$6,819
Roslyn, Village of	\$386	\$355	\$31	\$1	\$3	\$17	\$11	\$804
Roslyn Estates, Village of	\$593	\$462	\$36	\$1	\$3	\$35	\$29	\$1,160
Roslyn Harbor, Village of	\$783	\$593	\$49	\$5	\$4	\$33	\$34	\$1,501
Russell Gardens, Village of	\$528	\$633	\$34	\$1	\$2	\$6	\$21	\$1,226
Saddle Rock, Village of	\$492	\$241	\$12	\$1	\$10	\$15	\$26	\$797
Sands Point, Village of	\$606	\$262	\$38	\$2	\$7	\$29	\$20	\$963
Sea Cliff, Village of	\$602	\$340	\$34	\$5	\$5	\$20	\$15	\$1,021
South Floral Park, Village of	\$583	\$86	\$7	\$1	\$1	\$31	\$17	\$727
Stewart Manor, Village of	\$931	\$507	\$53	\$3	\$18	\$18	\$25	\$1,556
Thomaston, Village of	\$547	\$873	\$31	\$2	\$9	\$31	\$22	\$1,515
Upper Brookville, Village of	\$1,326	\$964	\$62	\$10	\$19	\$74	\$57	\$2,512
Valley Stream, Village of	\$5,864	\$3,074	\$233	\$23	\$65	\$146	\$187	\$9,592
Westbury, Village of	\$2,432	\$2,897	\$314	\$24	\$50	\$406	\$91	\$6,213
Williston Park, Village of	\$1,366	\$1,290	\$96	\$7	\$17	\$78	\$61	\$2,915
Woodsburgh, Village of	\$1,307	\$783	\$48	\$3	\$47	\$119	\$72	\$2,380
Nassau County	\$68,310	\$40,790	\$3,300	\$275	\$814	\$3,171	\$2,310	\$118,990



1000 Year Earthquake Events

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$5,717	\$5,711	\$113	\$23	\$41	\$15	\$25	\$11,645
Baxter Estates, Village of	\$5,964	\$3,936	\$440	\$49	\$307	\$132	\$240	\$11,068
Bayville, Village of	\$6,738	\$1,568	\$169	\$28	\$40	\$352	\$141	\$9,037
Bellerose, Village of	\$7,868	\$2,294	\$378	\$5	\$41	\$162	\$111	\$10,858
Brookville, Village of	\$21,257	\$14,719	\$2,272	\$111	\$177	\$763	\$666	\$39,964
Cedarhurst, Village of	\$41,514	\$24,690	\$3,008	\$167	\$795	\$2,620	\$1,975	\$74,769
Centre Island, Village of	\$1,389	\$389	\$30	\$4	\$27	\$17	\$9	\$1,866
Cove Neck, Village of	\$2,564	\$1,017	\$48	\$7	\$17	\$131	\$27	\$3,811
East Hills, Village of	\$21,002	\$14,412	\$1,685	\$126	\$116	\$1,388	\$920	\$39,648
East Rockaway, Village of	\$43,778	\$28,293	\$3,482	\$164	\$415	\$977	\$1,029	\$78,137
East Williston, Village of	\$13,603	\$7,020	\$2,207	\$77	\$175	\$452	\$265	\$23,800
Farmingdale, Village of	\$21,527	\$9,342	\$1,370	\$98	\$58	\$965	\$476	\$33,836
Floral Park, Village of	\$30,726	\$10,552	\$1,537	\$67	\$345	\$865	\$645	\$44,735
Flower Hill, Village of	\$12,871	\$12,352	\$946	\$71	\$138	\$578	\$514	\$27,470
Freeport, Village of	\$61,107	\$27,031	\$5,317	\$263	\$755	\$1,437	\$2,221	\$98,130
Garden City, Village of	\$78,128	\$70,377	\$9,951	\$421	\$2,785	\$8,581	\$3,282	\$173,525
Glen Cove, City of	\$24,643	\$10,617	\$1,328	\$176	\$173	\$1,338	\$537	\$38,813
Great Neck, Village of	\$14,915	\$7,742	\$661	\$28	\$259	\$288	\$535	\$24,428
Great Neck Estates, Village of	\$15,553	\$11,307	\$1,027	\$29	\$141	\$269	\$643	\$28,969
Great Neck Plaza, Village of	\$13,263	\$10,411	\$953	\$23	\$122	\$221	\$475	\$25,468
Hempstead, Town of	\$648,460	\$309,302	\$40,685	\$2,746	\$6,771	\$30,838	\$19,216	\$1,058,018
Hempstead, Village of	\$61,762	\$40,697	\$4,684	\$213	\$1,241	\$7,504	\$2,776	\$118,877
Hewlett Bay Park, Village of	\$19,603	\$11,912	\$933	\$97	\$679	\$1,159	\$400	\$34,782
Hewlett Harbor, Village of	\$15,844	\$7,079	\$1,181	\$67	\$78	\$184	\$285	\$24,719
Hewlett Neck, Village of	\$12,108	\$5,599	\$510	\$34	\$610	\$817	\$202	\$19,880
Island Park, Village of	\$12,457	\$6,243	\$935	\$75	\$44	\$199	\$336	\$20,289



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Kensington, Village of	\$9,583	\$8,507	\$804	\$18	\$119	\$85	\$311	\$19,427
Kings Point, Village of	\$11,439	\$4,934	\$449	\$22	\$238	\$259	\$476	\$17,817
Lake Success, Village of	\$25,132	\$25,036	\$1,836	\$62	\$158	\$1,119	\$692	\$54,036
Lattingtown, Village of	\$8,909	\$2,997	\$271	\$48	\$49	\$407	\$150	\$12,830
Laurel Hollow, Village of	\$5,604	\$2,810	\$225	\$17	\$63	\$237	\$196	\$9,152
Lawrence, Village of	\$28,731	\$17,682	\$1,962	\$114	\$743	\$2,444	\$1,579	\$53,255
Long Beach, City of	\$62,136	\$23,868	\$1,513	\$127	\$810	\$864	\$1,395	\$90,714
Lynbrook, Village of	\$56,856	\$40,976	\$4,168	\$259	\$977	\$2,026	\$1,850	\$107,112
Malverne, Village of	\$37,815	\$16,539	\$1,648	\$157	\$376	\$627	\$1,178	\$58,341
Manorhaven, Village of	\$10,798	\$3,720	\$928	\$41	\$118	\$448	\$298	\$16,351
Massapequa Park, Village of	\$38,542	\$12,395	\$1,010	\$146	\$125	\$650	\$397	\$53,265
Matinecock, Village of	\$22,431	\$11,833	\$1,044	\$202	\$120	\$1,156	\$653	\$37,440
Mill Neck, Village of	\$17,815	\$11,056	\$1,213	\$158	\$224	\$843	\$680	\$31,989
Mineola, Village of	\$45,693	\$39,944	\$6,175	\$297	\$2,011	\$3,113	\$2,138	\$99,371
Munsey Park, Village of	\$7,130	\$7,881	\$225	\$26	\$113	\$465	\$271	\$16,111
Muttontown, Village of	\$26,117	\$18,735	\$2,095	\$134	\$306	\$962	\$963	\$49,313
New Hyde Park, Village of	\$30,281	\$31,037	\$2,725	\$67	\$385	\$534	\$1,611	\$66,641
North Hempstead, Town of	\$203,200	\$165,316	\$23,080	\$1,091	\$4,277	\$13,981	\$7,971	\$418,916
North Hills, Village of	\$21,702	\$16,139	\$1,236	\$48	\$166	\$1,189	\$673	\$41,153
Old Brookville, Village of	\$12,610	\$6,860	\$621	\$111	\$20	\$386	\$417	\$21,026
Old Westbury, Village of	\$32,768	\$22,585	\$4,728	\$175	\$268	\$1,956	\$964	\$63,444
Oyster Bay, Town of	\$273,927	\$136,917	\$20,670	\$1,283	\$1,984	\$10,544	\$7,536	\$452,860
Oyster Bay Cove, Village of	\$13,346	\$8,016	\$887	\$87	\$259	\$633	\$492	\$23,720
Plandome, Village of	\$6,264	\$6,994	\$149	\$25	\$125	\$429	\$150	\$14,137
Plandome Heights, Village of	\$4,297	\$5,576	\$120	\$22	\$121	\$405	\$122	\$10,664
Plandome Manor, Village of	\$9,558	\$5,696	\$484	\$52	\$327	\$156	\$303	\$16,576
Port Washington North, Village of	\$16,762	\$7,656	\$1,369	\$90	\$424	\$580	\$538	\$27,419



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Rockville Centre, Village of	\$62,348	\$32,717	\$2,412	\$167	\$727	\$2,199	\$1,525	\$102,095
Roslyn, Village of	\$6,985	\$4,845	\$734	\$15	\$54	\$253	\$169	\$13,055
Roslyn Estates, Village of	\$10,368	\$6,506	\$870	\$15	\$50	\$552	\$443	\$18,806
Roslyn Harbor, Village of	\$13,015	\$7,864	\$1,111	\$81	\$56	\$478	\$478	\$23,084
Russell Gardens, Village of	\$9,577	\$8,740	\$851	\$20	\$37	\$98	\$315	\$19,637
Saddle Rock, Village of	\$8,852	\$3,319	\$305	\$13	\$156	\$235	\$406	\$13,286
Sands Point, Village of	\$10,798	\$3,720	\$928	\$41	\$118	\$448	\$298	\$16,351
Sea Cliff, Village of	\$10,596	\$4,691	\$834	\$80	\$73	\$305	\$231	\$16,810
South Floral Park, Village of	\$9,615	\$1,188	\$139	\$18	\$17	\$463	\$249	\$11,690
Stewart Manor, Village of	\$15,264	\$6,933	\$1,178	\$60	\$285	\$277	\$355	\$24,350
Thomaston, Village of	\$9,666	\$12,126	\$766	\$30	\$142	\$467	\$326	\$23,524
Upper Brookville, Village of	\$20,762	\$12,810	\$1,274	\$172	\$273	\$1,063	\$773	\$37,128
Valley Stream, Village of	\$92,034	\$41,309	\$4,624	\$384	\$917	\$2,110	\$2,594	\$143,971
Westbury, Village of	\$37,005	\$38,879	\$6,585	\$399	\$740	\$5,736	\$1,243	\$90,586
Williston Park, Village of	\$22,056	\$17,694	\$2,040	\$127	\$249	\$1,141	\$861	\$44,169
Woodsburgh, Village of	\$20,127	\$10,162	\$934	\$48	\$661	\$1,695	\$989	\$34,616
Nassau County	\$1,055,594	\$543,159	\$68,697	\$4,574	\$11,766	\$45,062	\$31,648	\$1,760,500



Wind Losses

The charts below estimate the total losses that buildings across Nassau County could sustain due to a 100 year or 500 year wind event, according to an analysis conducted in Hazus. The loss values are reported in thousands of dollars.

100 Year Wind Events

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$3,629	\$275	\$7	\$4	\$1	\$1	\$3	\$3,920
Baxter Estates, Village of	\$4,743	\$246	\$27	\$6	\$10	\$9	\$19	\$5,060
Bayville, Village of	\$8,075	\$215	\$17	\$6	\$4	\$30	\$17	\$8,365
Bellerose, Village of	\$3,498	\$88	\$14	\$0	\$1	\$6	\$5	\$3,611
Brookville, Village of	\$13,961	\$1,074	\$161	\$10	\$7	\$41	\$45	\$15,299
Cedarhurst, Village of	\$19,408	\$1,269	\$115	\$12	\$17	\$110	\$131	\$21,061
Centre Island, Village of	\$2,407	\$88	\$7	\$2	\$4	\$3	\$2	\$2,513
Cove Neck, Village of	\$3,901	\$238	\$7	\$2	\$1	\$13	\$4	\$4,166
East Hills, Village of	\$20,078	\$967	\$136	\$13	\$5	\$81	\$81	\$21,361
East Rockaway, Village of	\$24,065	\$1,475	\$183	\$12	\$11	\$36	\$58	\$25,839
East Williston, Village of	\$7,816	\$281	\$80	\$5	\$3	\$15	\$13	\$8,212
Farmingdale, Village of	\$17,897	\$874	\$114	\$17	\$3	\$72	\$56	\$19,033
Floral Park, Village of	\$13,233	\$351	\$52	\$3	\$6	\$25	\$27	\$13,698
Flower Hill, Village of	\$16,636	\$1,386	\$123	\$13	\$6	\$46	\$74	\$18,284
Freeport, Village of	\$46,580	\$2,240	\$387	\$34	\$25	\$76	\$205	\$49,547
Garden City, Village of	\$44,909	\$4,466	\$410	\$30	\$81	\$314	\$201	\$50,410
Glen Cove, City of	\$20,858	\$714	\$86	\$20	\$8	\$64	\$45	\$21,795
Great Neck, Village of	\$14,495	\$650	\$50	\$5	\$10	\$19	\$47	\$15,275
Great Neck Estates, Village of	\$14,868	\$861	\$58	\$3	\$5	\$16	\$50	\$15,861
Great Neck Plaza, Village of	\$12,897	\$813	\$54	\$3	\$4	\$13	\$37	\$13,821
Hempstead, Town of	\$394,887	\$19,151	\$2,218	\$276	\$196	\$1,365	\$1,513	\$419,606
Hempstead, Village of	\$38,646	\$2,773	\$217	\$18	\$40	\$269	\$185	\$42,146



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Hewlett Bay Park, Village of	\$8,464	\$527	\$30	\$6	\$14	\$39	\$20	\$9,100
Hewlett Harbor, Village of	\$7,498	\$401	\$65	\$7	\$2	\$8	\$19	\$8,000
Hewlett Neck, Village of	\$5,097	\$265	\$18	\$2	\$12	\$28	\$10	\$5,433
Island Park, Village of	\$5,519	\$332	\$53	\$9	\$1	\$9	\$23	\$5,945
Kensington, Village of	\$10,506	\$713	\$53	\$3	\$5	\$6	\$28	\$11,314
Kings Point, Village of	\$10,931	\$379	\$38	\$4	\$9	\$16	\$41	\$11,418
Lake Success, Village of	\$16,112	\$1,417	\$65	\$5	\$5	\$55	\$47	\$17,705
Lattingtown, Village of	\$8,459	\$259	\$18	\$7	\$2	\$31	\$17	\$8,793
Laurel Hollow, Village of	\$7,317	\$449	\$21	\$3	\$4	\$22	\$25	\$7,842
Lawrence, Village of	\$14,850	\$974	\$84	\$9	\$16	\$104	\$112	\$16,148
Long Beach, City of	\$44,799	\$1,334	\$125	\$20	\$25	\$49	\$131	\$46,483
Lynbrook, Village of	\$30,106	\$1,812	\$153	\$15	\$21	\$69	\$91	\$32,267
Malverne, Village of	\$18,431	\$755	\$51	\$10	\$9	\$22	\$65	\$19,342
Manorhaven, Village of	\$8,455	\$245	\$50	\$3	\$3	\$21	\$20	\$8,798
Massapequa Park, Village of	\$37,538	\$1,720	\$111	\$32	\$7	\$62	\$79	\$39,548
Matinecock, Village of	\$15,838	\$588	\$42	\$17	\$4	\$49	\$38	\$16,576
Mill Neck, Village of	\$13,881	\$635	\$54	\$15	\$8	\$41	\$44	\$14,678
Mineola, Village of	\$25,194	\$2,252	\$231	\$20	\$52	\$120	\$122	\$27,990
Munsey Park, Village of	\$9,649	\$798	\$21	\$4	\$5	\$35	\$44	\$10,556
Muttontown, Village of	\$19,481	\$1,458	\$124	\$13	\$12	\$52	\$77	\$21,217
New Hyde Park, Village of	\$13,018	\$1,032	\$96	\$4	\$7	\$17	\$78	\$14,252
North Hempstead, Town of	\$139,463	\$10,818	\$1,220	\$97	\$125	\$596	\$556	\$152,876
North Hills, Village of	\$17,076	\$1,145	\$62	\$5	\$6	\$65	\$56	\$18,416
Old Brookville, Village of	\$9,923	\$360	\$32	\$11	\$1	\$18	\$25	\$10,371
Old Westbury, Village of	\$22,498	\$1,618	\$267	\$17	\$9	\$107	\$79	\$24,596
Oyster Bay, Town of	\$222,084	\$11,845	\$1,465	\$178	\$83	\$646	\$869	\$237,171
Oyster Bay Cove, Village of	\$13,236	\$791	\$52	\$10	\$11	\$43	\$49	\$14,192
Plandome, Village of	\$8,112	\$651	\$13	\$4	\$5	\$30	\$18	\$8,835



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Plandome Heights, Village of	\$4,495	\$393	\$8	\$2	\$5	\$26	\$12	\$4,941
Plandome Manor, Village of	\$10,806	\$547	\$34	\$7	\$12	\$13	\$32	\$11,451
Port Washington North, Village of	\$13,198	\$491	\$77	\$9	\$14	\$30	\$39	\$13,857
Rockville Centre, Village of	\$40,318	\$1,926	\$117	\$14	\$21	\$88	\$105	\$42,589
Roslyn, Village of	\$10,593	\$642	\$90	\$4	\$4	\$23	\$26	\$11,382
Roslyn Estates, Village of	\$9,375	\$517	\$45	\$2	\$2	\$28	\$41	\$10,010
Roslyn Harbor, Village of	\$13,116	\$542	\$101	\$9	\$3	\$30	\$37	\$13,839
Russell Gardens, Village of	\$9,558	\$692	\$48	\$2	\$1	\$6	\$25	\$10,332
Saddle Rock, Village of	\$7,924	\$237	\$25	\$2	\$6	\$14	\$33	\$8,240
Sands Point, Village of	\$8,455	\$245	\$50	\$3	\$3	\$21	\$20	\$8,798
Sea Cliff, Village of	\$11,848	\$427	\$73	\$14	\$4	\$24	\$27	\$12,417
South Floral Park, Village of	\$3,961	\$37	\$3	\$1	\$0	\$13	\$10	\$4,025
Stewart Manor, Village of	\$7,086	\$227	\$45	\$3	\$5	\$8	\$16	\$7,390
Thomaston, Village of	\$9,548	\$921	\$46	\$3	\$5	\$30	\$25	\$10,580
Upper Brookville, Village of	\$15,875	\$695	\$56	\$15	\$9	\$54	\$53	\$16,758
Valley Stream, Village of	\$37,344	\$1,508	\$129	\$20	\$14	\$62	\$112	\$39,187
Westbury, Village of	\$22,048	\$3,179	\$360	\$35	\$25	\$204	\$92	\$25,943
Williston Park, Village of	\$11,577	\$686	\$68	\$7	\$4	\$33	\$41	\$12,415
Woodsburgh, Village of	\$10,289	\$578	\$45	\$4	\$14	\$76	\$77	\$11,083
Nassau County	\$704,224	\$35,822	\$3,919	\$487	\$2,572	\$2,155	\$2,572	\$749,533



500 Year Wind Events

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$29,043	\$6,456	\$201	\$78	\$119	\$27	\$42	\$35,964
Baxter Estates, Village of	\$21,047	\$3,120	\$482	\$110	\$684	\$122	\$260	\$25,825
Bayville, Village of	\$53,099	\$3,726	\$433	\$125	\$230	\$595	\$270	\$58,478
Bellerose, Village of	\$13,978	\$979	\$196	\$5	\$22	\$63	\$65	\$15,308
Brookville, Village of	\$82,638	\$16,638	\$4,003	\$292	\$352	\$893	\$879	\$105,695
Cedarhurst, Village of	\$86,279	\$13,170	\$1,822	\$204	\$656	\$1,496	\$1,518	\$105,145
Centre Island, Village of	\$23,918	\$1,904	\$205	\$50	\$214	\$105	\$45	\$26,442
Cove Neck, Village of	\$27,215	\$3,150	\$219	\$54	\$83	\$419	\$89	\$31,230
East Hills, Village of	\$103,843	\$16,370	\$3,108	\$342	\$244	\$1,694	\$1,359	\$126,960
East Rockaway, Village of	\$116,744	\$17,504	\$3,185	\$233	\$334	\$549	\$821	\$139,370
East Williston, Village of	\$39,616	\$4,431	\$2,068	\$120	\$266	\$291	\$222	\$47,015
Farmingdale, Village of	\$163,522	\$19,210	\$4,073	\$514	\$188	\$2,373	\$1,200	\$191,079
Floral Park, Village of	\$54,526	\$4,162	\$855	\$65	\$143	\$313	\$355	\$60,418
Flower Hill, Village of	\$83,838	\$18,827	\$2,123	\$255	\$374	\$792	\$1,086	\$107,295
Freeport, Village of	\$291,537	\$33,126	\$9,556	\$785	\$1,570	\$1,839	\$3,250	\$341,663
Garden City, Village of	\$219,866	\$49,813	\$8,469	\$658	\$2,899	\$6,547	\$2,830	\$291,082
Glen Cove, City of	\$103,916	\$10,936	\$1,730	\$453	\$318	\$1,142	\$729	\$119,224
Great Neck, Village of	\$60,349	\$8,589	\$896	\$73	\$495	\$271	\$574	\$71,247
Great Neck Estates, Village of	\$67,653	\$11,140	\$1,120	\$64	\$269	\$228	\$663	\$81,138
Great Neck Plaza, Village of	\$60,510	\$10,671	\$1,066	\$55	\$250	\$204	\$537	\$73,292
Hempstead, Town of	\$2,409,941	\$276,748	\$50,941	\$6,327	\$8,885	\$31,256	\$21,954	\$2,806,054
Hempstead, Village of	\$206,496	\$33,037	\$4,559	\$410	\$1,242	\$6,067	\$2,775	\$254,585
Hewlett Bay Park, Village of	\$37,921	\$5,056	\$479	\$102	\$492	\$447	\$222	\$44,720
Hewlett Harbor, Village of	\$41,786	\$5,360	\$1,299	\$137	\$61	\$145	\$269	\$49,056
Hewlett Neck, Village of	\$22,690	\$2,465	\$285	\$36	\$459	\$306	\$110	\$26,351
Island Park, Village of	\$33,933	\$4,907	\$1,085	\$153	\$45	\$171	\$318	\$40,612



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Kensington, Village of	\$50,634	\$9,589	\$1,034	\$55	\$251	\$98	\$395	\$62,056
Kings Point, Village of	\$42,296	\$4,381	\$598	\$51	\$427	\$225	\$474	\$48,452
Lake Success, Village of	\$72,937	\$18,770	\$1,288	\$134	\$330	\$888	\$682	\$95,030
Lattingtown, Village of	\$43,107	\$3,937	\$400	\$154	\$95	\$575	\$251	\$48,519
Laurel Hollow, Village of	\$52,417	\$7,230	\$701	\$109	\$233	\$694	\$545	\$61,928
Lawrence, Village of	\$67,649	\$9,179	\$1,171	\$132	\$595	\$1,418	\$1,312	\$81,455
Long Beach, City of	\$307,921	\$26,104	\$3,581	\$422	\$1,599	\$1,531	\$1,934	\$343,092
Lynbrook, Village of	\$140,656	\$21,415	\$2,580	\$307	\$724	\$1,001	\$1,266	\$167,949
Malverne, Village of	\$81,097	\$9,156	\$828	\$192	\$427	\$309	\$888	\$92,897
Manorhaven, Village of	\$33,983	\$2,641	\$900	\$65	\$97	\$349	\$258	\$38,293
Massapequa Park, Village of	\$386,753	\$33,529	\$3,519	\$796	\$381	\$1,834	\$1,144	\$427,956
Matinecock, Village of	\$79,336	\$10,356	\$973	\$428	\$154	\$860	\$724	\$92,831
Mill Neck, Village of	\$79,145	\$12,555	\$1,685	\$446	\$507	\$988	\$919	\$96,246
Mineola, Village of	\$120,938	\$25,248	\$4,870	\$450	\$2,287	\$1,940	\$1,730	\$157,462
Munsey Park, Village of	\$49,045	\$12,351	\$469	\$92	\$246	\$599	\$652	\$63,453
Muttontown, Village of	\$123,381	\$23,543	\$3,416	\$389	\$697	\$1,292	\$1,540	\$154,258
New Hyde Park, Village of	\$54,086	\$12,363	\$1,634	\$74	\$175	\$218	\$1,030	\$69,580
North Hempstead, Town of	\$688,395	\$138,212	\$26,659	\$2,287	\$5,538	\$11,914	\$8,182	\$881,187
North Hills, Village of	\$79,817	\$16,379	\$1,382	\$130	\$353	\$1,102	\$844	\$100,008
Old Brookville, Village of	\$53,407	\$6,856	\$781	\$283	\$25	\$407	\$528	\$62,286
Old Westbury, Village of	\$124,484	\$22,464	\$6,455	\$402	\$498	\$2,052	\$1,252	\$157,607
Oyster Bay, Town of	\$1,729,174	\$222,359	\$44,752	\$4,952	\$5,033	\$18,019	\$14,618	\$2,038,908
Oyster Bay Cove, Village of	\$93,990	\$14,061	\$1,763	\$350	\$746	\$1,296	\$1,045	\$113,252
Plandome, Village of	\$43,517	\$10,042	\$270	\$85	\$332	\$497	\$311	\$55,054
Plandome Heights, Village of	\$25,442	\$6,210	\$158	\$64	\$316	\$422	\$226	\$32,838
Plandome Manor, Village of	\$54,629	\$7,905	\$637	\$133	\$800	\$197	\$453	\$64,754
Port Washington North, Village of	\$55,030	\$5,761	\$1,382	\$175	\$781	\$471	\$518	\$64,118



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Rockville Centre, Village of	\$209,235	\$24,872	\$2,400	\$322	\$1,061	\$1,984	\$1,596	\$241,469
Roslyn, Village of	\$51,500	\$9,638	\$1,966	\$81	\$143	\$465	\$419	\$64,214
Roslyn Estates, Village of	\$43,380	\$6,927	\$1,019	\$53	\$121	\$513	\$598	\$52,612
Roslyn Harbor, Village of	\$69,054	\$9,821	\$2,364	\$251	\$90	\$670	\$725	\$82,974
Russell Gardens, Village of	\$47,333	\$9,219	\$964	\$48	\$80	\$95	\$370	\$58,110
Saddle Rock, Village of	\$30,562	\$2,720	\$407	\$24	\$256	\$200	\$385	\$34,554
Sands Point, Village of	\$33,983	\$2,641	\$900	\$65	\$97	\$349	\$258	\$38,293
Sea Cliff, Village of	\$62,938	\$6,532	\$1,458	\$294	\$189	\$421	\$439	\$72,271
South Floral Park, Village of	\$15,697	\$422	\$42	\$16	\$6	\$153	\$125	\$16,461
Stewart Manor, Village of	\$29,888	\$2,801	\$807	\$67	\$114	\$114	\$216	\$34,008
Thomaston, Village of	\$48,836	\$13,185	\$958	\$89	\$297	\$495	\$423	\$64,283
Upper Brookville, Village of	\$93,038	\$13,836	\$1,765	\$481	\$640	\$1,248	\$1,072	\$112,080
Valley Stream, Village of	\$154,355	\$15,823	\$1,820	\$371	\$461	\$772	\$1,390	\$174,992
Westbury, Village of	\$130,959	\$38,937	\$8,684	\$907	\$969	\$4,887	\$1,512	\$186,854
Williston Park, Village of	\$53,695	\$9,101	\$1,251	\$162	\$160	\$528	\$601	\$65,498
Woodsburgh, Village of	\$49,429	\$6,153	\$759	\$66	\$515	\$1,143	\$970	\$59,034
Nassau County	\$4,388,989	\$547,267	\$96,591	\$96,591	\$17,667	\$50,004	\$39,546	\$5,151,897



Flood Losses

The charts below estimate the total losses that buildings across Nassau County could sustain due to a 100 year or 500 year flood event, according to an analysis conducted in Hazus. The loss values are reported in thousands of dollars.

100 Year Flood Events: Total Losses

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$12,153	\$110,090	\$9,744	\$2	\$350	\$166	\$479	\$132,984
Baxter Estates, Village of	\$900	\$11,500	\$2	\$0	\$0	\$1,450	\$302	\$14,154
Bayville, Village of	\$14,040	\$16,579	\$38	\$9	\$9,181	\$2,042	\$448	\$42,337
Bellerose, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Brookville, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cedarhurst, Village of	\$24,516	\$30,130	\$249	\$168	\$53	\$2,493	\$3,070	\$60,679
Centre Island, Village of	\$1,517	\$1,431	\$1	\$0	\$129	\$0	\$0	\$3,078
Cove Neck, Village of	\$0	\$849	\$0	\$0	\$89	\$155	\$63	\$1,156
East Hills, Village of	\$885	\$5	\$0	\$0	\$0	\$0	\$1	\$891
East Rockaway, Village of	\$2	\$62,858	\$1,172	\$12	\$2,868	\$4,786	\$3,281	\$74,979
East Williston, Village of	\$38,597	\$0	\$0	\$0	\$0	\$0	\$0	\$38,597
Farmingdale, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Floral Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flower Hill, Village of	\$0	\$33	\$0	\$0	\$1	\$0	\$1	\$35
Freeport, Village of	\$117,773	\$204,487	\$6,524	\$446	\$5,445	\$2,849	\$6,821	\$344,345
Garden City, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Glen Cove, City of	\$4,434	\$3,498	\$64	\$0	\$94	\$4,884	\$1,653	\$14,627
Great Neck, Village of	\$1,174	\$6,527	\$2	\$0	\$0	\$1,124	\$74	\$8,901
Great Neck Estates, Village of	\$813	\$544	\$2	\$0	\$0	\$0	\$101	\$1,460
Great Neck Plaza, Village of	\$583	\$754	\$57	\$0	\$0	\$0	\$0	\$1,394
Hempstead, Town of	\$714,447	\$764,408	\$11,801	\$1,106	\$65,037	\$38,589	\$121,830	\$1,717,218
Hempstead, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Hewlett Bay Park, Village of	\$1,629	\$1,869	\$0	\$2	\$0	\$504	\$26	\$4,030
Hewlett Harbor, Village of	\$8,815	\$10,306	\$25	\$2	\$210	\$683	\$711	\$20,752
Hewlett Neck, Village of	\$2,000	\$1,156	\$1	\$0	\$0	\$0	\$0	\$3,157
Island Park, Village of	\$44,954	\$56,004	\$142	\$0	\$2,660	\$4,199	\$7,871	\$115,830
Kensington, Village of	\$14	\$2,977	\$0	\$60	\$0	\$0	\$0	\$3,051
Kings Point, Village of	\$4,669	\$5,127	\$46	\$0	\$456	\$187	\$140	\$10,625
Lake Success, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lattingtown, Village of	\$1,202	\$831	\$8	\$0	\$0	\$34	\$1,262	\$3,337
Laurel Hollow, Village of	\$366	\$2,654	\$0	\$0	\$0	\$140	\$30	\$3,190
Lawrence, Village of	\$19,559	\$23,912	\$220	\$0	\$0	\$3,812	\$1,154	\$48,657
Long Beach, City of	\$185,512	\$204,885	\$383	\$64	\$44,236	\$11,178	\$20,133	\$466,391
Lynbrook, Village of	\$169	\$977	\$0	\$0	\$0	\$11	\$42	\$1,199
Malverne, Village of	\$2,031	\$779	\$35	\$9	\$0	\$0	\$389	\$3,243
Manorhaven, Village of	\$2,213	\$3,967	\$181	\$1	\$0	\$48	\$557	\$6,967
Massapequa Park, Village of	\$3,836	\$2,220	\$3	\$0	\$0	\$0	\$3	\$6,062
Matinecock, Village of	\$0	\$0	\$0	\$0	\$1	\$0	\$0	\$1
Mill Neck, Village of	\$675	\$1,227	\$1	\$0	\$1	\$0	\$0	\$1,904
Mineola, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Munsey Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Muttontown, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New Hyde Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
North Hempstead, Town of	\$5,533	\$20,042	\$89	\$0	\$115	\$1,488	\$506	\$27,773
North Hills, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Old Brookville, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Old Westbury, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Oyster Bay, Town of	\$90,759	\$76,041	\$1,006	\$77	\$10,516	\$11,049	\$3,868	\$193,316
Oyster Bay Cove, Village of	\$1,143	\$3,450	\$0	\$6	\$22	\$413	\$102	\$5,136
Plandome, Village of	\$656	\$477	\$0	\$0	\$1,294	\$0	\$87	\$2,514



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Plandome Heights, Village of	\$242	\$311	\$0	\$0	\$1,294	\$0	\$49	\$1,896
Plandome Manor, Village of	\$912	\$444	\$0	\$0	\$0	\$0	\$0	\$1,356
Port Washington North, Village of	\$2,357	\$5,931	\$147	\$1	\$965	\$87	\$561	\$10,049
Rockville Centre, Village of	\$1,802	\$617	\$33	\$0	\$0	\$18	\$52	\$2,522
Roslyn, Village of	\$1,434	\$1,539	\$1	\$0	\$26	\$302	\$48	\$3,350
Roslyn Estates, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roslyn Harbor, Village of	\$327	\$204	\$0	\$0	\$0	\$0	\$1	\$532
Russell Gardens, Village of	\$601	\$797	\$57	\$0	\$0	\$0	\$0	\$1,455
Saddle Rock, Village of	\$935	\$573	\$2	\$0	\$60	\$1,160	\$78	\$2,808
Sands Point, Village of	\$2,589	\$5,235	\$31	\$0	\$27	\$3,100	\$0	\$10,982
Sea Cliff, Village of	\$314	\$1,983	\$2	\$0	\$117	\$34	\$206	\$2,656
South Floral Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Stewart Manor, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomaston, Village of	\$629	\$1,871	\$57	\$0	\$0	\$0	\$1	\$2,558
Upper Brookville, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Stream, Village of	\$57,642	\$75,268	\$682	\$43	\$50	\$5,699	\$6,761	\$146,145
Westbury, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Williston Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Woodsburgh, Village of	\$4,172	\$8,556	\$17	\$0	\$0	\$0	\$0	\$12,745
Nassau County	\$1,241,004	\$1,448,301	\$19,029	\$1,657	\$142,962	\$87,477	\$169,232	\$3,109,662



500 Year Flood Events: Total Losses

Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Atlantic Beach, Village of	\$12,571	\$112,526	\$5	\$2	\$350	\$169	\$491	\$126,114
Baxter Estates, Village of	\$1,455	\$12,121	\$41	\$0	\$0	\$1,643	\$394	\$15,654
Bayville, Village of	\$22,713	\$20,542	\$76	\$24	\$10,158	\$2,235	\$566	\$56,314
Bellerose, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Brookville, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cedarhurst, Village of	\$34,593	\$44,686	\$1,396	\$363	\$139	\$2,884	\$4,628	\$88,689
Centre Island, Village of	\$2,002	\$1,804	\$1	\$0	\$159	\$0	\$0	\$3,966
Cove Neck, Village of	\$1,104	\$1,045	\$0	\$0	\$116	\$166	\$74	\$2,505
East Hills, Village of	\$20	\$38	\$0	\$0	\$0	\$0	\$8	\$66
East Rockaway, Village of	\$54,561	\$81,886	\$1,673	\$22	\$3,044	\$6,688	\$7,181	\$155,055
East Williston, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Farmingdale, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Floral Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flower Hill, Village of	\$0	\$561	\$0	\$0	\$15	\$0	\$28	\$604
Freeport, Village of	\$118,360	\$207,591	\$6,035	\$432	\$5,442	\$2,867	\$6,913	\$347,640
Garden City, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Glen Cove, City of	\$5,189	\$5,610	\$88	\$0	\$108	\$5,428	\$2,286	\$18,709
Great Neck, Village of	\$2,281	\$9,899	\$26	\$0	\$6	\$2,087	\$81	\$14,380
Great Neck Estates, Village of	\$1,020	\$587	\$2	\$0	\$0	\$0	\$140	\$1,749
Great Neck Plaza, Village of	\$706	\$884	\$102	\$0	\$0	\$0	\$0	\$1,692
Hempstead, Town of	\$888,199	\$944,216	\$22,696	\$2,089	\$85,116	\$50,690	\$135,035	\$2,128,041
Hempstead, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hewlett Bay Park, Village of	\$1,825	\$2,125	\$2	\$2	\$386	\$1,423	\$28	\$4,532
Hewlett Harbor, Village of	\$11,992	\$15,393	\$31	\$2	\$0	\$0	\$3,091	\$32,318
Hewlett Neck, Village of	\$1,955	\$1,210	\$0	\$0	\$2,662	\$4,164	\$0	\$3,165
Island Park, Village of	\$42,721	\$55,273	\$57	\$37	\$0	\$0	\$7,943	\$112,857



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Kensington, Village of	\$26	\$4,151	\$3	\$0	\$815	\$252	\$0	\$4,180
Kings Point, Village of	\$6,557	\$7,632	\$73	\$0	\$0	\$0	\$199	\$15,528
Lake Success, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lattingtown, Village of	\$1,588	\$1,105	\$14	\$0	\$0	\$43	\$1,386	\$4,136
Laurel Hollow, Village of	\$472	\$2,933	\$0	\$0	\$0	\$155	\$35	\$3,595
Lawrence, Village of	\$23,040	\$28,260	\$439	\$0	\$0	\$5,974	\$1,726	\$59,439
Long Beach, City of	\$167,063	\$201,770	\$488	\$32	\$44,235	\$11,170	\$19,990	\$444,748
Lynbrook, Village of	\$12,837	\$17,743	\$244	\$9	\$0	\$812	\$121	\$31,766
Malverne, Village of	\$9,297	\$3,692	\$82	\$76	\$0	\$0	\$1,395	\$14,542
Manorhaven, Village of	\$6,248	\$17,390	\$2,925	\$3	\$0	\$117	\$1,351	\$28,034
Massapequa Park, Village of	\$7,143	\$3,709	\$10	\$1	\$0	\$0	\$8	\$10,871
Matinecock, Village of	\$0	\$0	\$0	\$0	\$1	\$0	\$0	\$1
Mill Neck, Village of	\$824	\$1,281	\$5	\$0	\$1	\$1	\$0	\$2,112
Mineola, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Munsey Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Muttontown, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New Hyde Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
North Hempstead, Town of	\$7,274	\$24,661	\$127	\$0	\$504	\$1,748	\$752	\$35,066
North Hills, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Old Brookville, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Old Westbury, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Oyster Bay, Town of	\$132,999	\$118,302	\$1,583	\$462	\$14,643	\$13,510	\$7,057	\$288,556
Oyster Bay Cove, Village of	\$1,562	\$3,954	\$5	\$15	\$36	\$446	\$136	\$6,154
Plandome, Village of	\$1,019	\$724	\$0	\$0	\$2,044	\$0	\$121	\$3,908
Plandome Heights, Village of	\$527	\$504	\$1	\$0	\$2,044	\$0	\$73	\$3,149
Plandome Manor, Village of	\$1,165	\$627	\$0	\$0	\$0	\$0	\$0	\$1,792
Port Washington North, Village of	\$4,902	\$13,065	\$2,990	\$20	\$2,095	\$218	\$1,148	\$24,438



Jurisdiction	Residential	Commercial	Industry	Agriculture	Government	Education	Religious	Total
Rockville Centre, Village of	\$1,772	\$609	\$31	\$0	\$0	\$18	\$52	\$2,482
Roslyn, Village of	\$2,135	\$3,669	\$2	\$0	\$84	\$301	\$162	\$6,353
Roslyn Estates, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roslyn Harbor, Village of	\$345	\$262	\$0	\$0	\$0	\$0	\$8	\$615
Russell Gardens, Village of	\$727	\$933	\$102	\$0	\$0	\$0	\$0	\$1,762
Saddle Rock, Village of	\$1,180	\$648	\$2	\$0	\$62	\$2,124	\$144	\$4,160
Sands Point, Village of	\$2,844	\$5,981	\$35	\$0	\$26	\$3,186	\$0	\$12,072
Sea Cliff, Village of	\$604	\$3,113	\$7	\$0	\$145	\$38	\$489	\$4,396
South Floral Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Stewart Manor, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Thomaston, Village of	\$776	\$2,423	\$102	\$0	\$0	\$0	\$4	\$3,305
Upper Brookville, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Valley Stream, Village of	\$137,020	\$168,630	\$2,084	\$435	\$8,168	\$11,012	\$14,523	\$341,872
Westbury, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Williston Park, Village of	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Woodsburgh, Village of	\$4,273	\$8,613	\$9	\$0	\$0	\$0	\$0	\$12,895
Nassau County	\$1,552,111	\$1,809,260	\$34,633	\$3,215	\$179,281	\$111,858	\$197,556	\$3,887,914



100 Year and 500 Year Flood Events: Persons Displaced and Seeking Shelter

Jurisdiction	Persons Displaced By 100 Year Flood	Persons Seeking Shelter from 100 Year Flood	Persons Displaced By 500 Year Flood	Persons Seeking Shelter from 500 Year Flood
Nassau County	140069	8288	154771	9962
Atlantic Beach, Village of	1948	102	1981	104
Baxter Estates, Village of	62	1	95	5
Bayville, Village of	2643	130	3088	155
Bellerose, Village of	0	0	0	0
Brookville, Village of	0	0	0	0
Cedarhurst, Village of	1743	74	2138	97
Centre Island, Village of	85	2	96	2
Cove Neck, Village of	76	2	83	2
East Hills, Village of	1	0	2	0
East Rockaway, Village of	3348	175	4379	250
East Williston, Village of	0	0	0	0
Farmingdale, Village of	0	0	0	0
Floral Park, Village of	0	0	0	0
Flower Hill, Village of	0	0	0	0
Freeport, Village of	11169	762	11304	767
Garden City, Village of	0	0	0	0
Glen Cove, City of	373	16	597	31
Great Neck, Village of	122	7	189	10
Great Neck Estates, Village of	82	2	105	4
Great Neck Plaza, Village of	48	2	50	2
Hempstead, Town of	59253	3324	71778	4318
Hempstead, Village of	0	0	0	0
Hewlett Bay Park, Village of	161	4	190	7
Hewlett Harbor, Village of	654	19	885	35



Jurisdiction	Persons Displaced By 100 Year Flood	Persons Seeking Shelter from 100 Year Flood	Persons Displaced By 500 Year Flood	Persons Seeking Shelter from 500 Year Flood
Hewlett Neck, Village of	182	8	191	8
Island Park, Village of	4709	323	4792	334
Kensington, Village of	2	0	3	0
Kings Point, Village of	436	17	570	21
Lake Success, Village of	0	0	0	0
Lattingtown, Village of	127	3	154	4
Laurel Hollow, Village of	25	1	30	1
Lawrence, Village of	1594	63	1755	72
Long Beach, City of	33547	3041	33783	3073
Lynbrook, Village of	36	1	570	17
Malverne, Village of	146	1	689	26
Manorhaven, Village of	328	21	938	64
Massapequa Park, Village of	508	31	757	43
Matinecock, Village of	0	0	0	0
Mill Neck, Village of	46	0	62	0
Mineola, Village of	0	0	0	0
Munsey Park, Village of	0	0	0	0
Muttontown, Village of	0	0	0	0
New Hyde Park, Village of	0	0	0	0
North Hempstead, Town of	503	28	676	42
North Hills, Village of	0	0	0	0
Old Brookville, Village of	0	0	0	0
Old Westbury, Village of	0	0	0	0
Oyster Bay, Town of	9302	465	13737	673
Oyster Bay Cove, Village of	148	7	193	8
Plandome, Village of	70	1	100	3
Plandome Heights, Village of	44	1	70	2



Jurisdiction	Persons Displaced By 100 Year Flood	Persons Seeking Shelter from 100 Year Flood	Persons Displaced By 500 Year Flood	Persons Seeking Shelter from 500 Year Flood
Plandome Manor, Village of	65	0	83	1
Port Washington North, Village of	263	20	509	46
Rockville Centre, Village of	133	5	138	5
Roslyn, Village of	97	10	141	14
Roslyn Estates, Village of	0	0	0	0
Roslyn Harbor, Village of	22	0	25	0
Russell Gardens, Village of	52	2	54	2
Saddle Rock, Village of	72	2	91	2
Sands Point, Village of	287	15	336	18
Sea Cliff, Village of	58	1	110	2
South Floral Park, Village of	0	0	0	0
Stewart Manor, Village of	0	0	0	0
Thomaston, Village of	53	2	56	2
Upper Brookville, Village of	0	0	0	0
Valley Stream, Village of	5054	241	10936	557
Westbury, Village of	0	0	0	0
Williston Park, Village of	0	0	0	0
Woodsburgh, Village of	392	12	418	12



Utilities

The charts below summarize the expected utility system pipeline damage as a result of the 250 year MRP and 1000 year MRP earthquakes.

250 MRP Earthquake Event

System	Total Pipelines Length (Miles)	Number of Leaks – 250	Number of Breaks 250	Number of Leaks – 1000	Number of Breaks – 1000
Potable Water	7324	6	2	42	11
Wastewater	4394	3	1	21	5
Natural Gas	64	0	0	0	0
Oil	0	0	0	0	0



Appendix C: Mitigation Strategy

Appendix C contains some supplementary tables that explain how the 2014 mitigation actions were assigned for this plan update. This appendix also includes a series of tools to support the implementation of the Nassau County Mitigation Program. These tools include:

- 2014 Mitigation Action Assignments
- Sample Adoption Resolution
- Project Funding Support Tool
- Plan Maintenance Reporting Tool



2014 Mitigation Action Assignments

The following entities participated in the 2014 plan. Due to changes in the plan structure for this update, the actions associated with these entities have been assigned to the municipalities shown in the table below. The 2014 actions for these entities can be found in each of the assigned municipalities' jurisdictional annex.

Entity Name	Municipality Assigned
East Rockaway School District	Village of East Rockaway
Lawrence Cedarhurst Fire Department	Village of Lawrence
Mill Neck Manor School	Village of Mill Neck
Mercy Medical Center	Village of Rockville Centre
OPWDD Christopher Facility	Village of Valley Stream
SCO Family of Services (Westbrook Preparatory School)	Village of Westbury
Belgrave Water Pollution Control District (Little Neck)	Town of North Hempstead
Great Neck Water Pollution Control District	Town of North Hempstead
Port Washington Fire Department	Town of North Hempstead
Port Washington Water Pollution Control District	Town of North Hempstead
Water Authority of Great Neck North	Town of North Hempstead

The entities below were assigned to Nassau County. The 2014 actions for these entities can be found in Section 6.2.1 of the base plan.

- Adelphi University
- Adults and Children with Learning and Developmental Disabilities
- Catholic Health Services - St. Francis Hospital
- EPIC Long Island
- Family Residences & Essential Enterprises, Inc. (Massapequa)
- Freeport School District
- Friedberg JCC
- Garden City Water and Fire District
- Great Neck Alert
- Greater Atlantic Beach Water Reclamation District
- Hatzalah of the Rockaways (Woodmere)
- Inwood Fire District
- Jericho Water District
- Lawrence Union Free School District
- Levittown Public Schools
- Locust Valley School District
- Locust Valley Water District



- Massapequa School District
- Massapequa Water District
- Nassau BOCES
- Nassau Community College
- OHEL Children's Home & Family Services
- Old Westbury Water District
- OPWDD Neumann Facility (Manhasset) - Catholic Charities
- Oyster Bay Fire Company #1
- Oyster Bay Sewer District
- Oyster Bay Water District
- Parker Jewish Institute
- Plainview Fire Department
- Regina Maternity Services (Merrick)
- Roslyn Water District
- Seaford Fire Department
- South Nassau Communities Hospital (Oceanside)
- South Shore Association for Independent Living (Woodmere)
- St. Joseph Hospital
- Terry Farrell Fund (Bethpage)
- United Cerebral Palsy Association



Sample Adoption Resolution

This section includes an example resolution that each participating jurisdiction will submit to indicate their formal adoption of the Nassau County Hazard Mitigation Plan. Completed adoption resolutions will be collected and stored by the Nassau County Office of Emergency Management and submitted to FEMA.



RESOLUTION NO. XXXX-XX
A RESOLUTION OF THE Governing Body OF THE Jurisdiction Name
AUTHORIZING THE ADOPTION OF THE
NASSAU COUNTY HAZARD MITIGATION PLAN

WHEREAS, all of Nassau County has exposure to natural hazards that increase the risk to life, property, environment and the County's economy; and

WHEREAS, pro-active mitigation of known hazards before a disaster event can reduce or eliminate long-term risk to life and property; and

WHEREAS, The Disaster Mitigation Act of 2000 (Public Law 106-390) established new requirements for pre and post disaster hazard mitigation programs; and

WHEREAS, a coalition of Nassau County municipalities with like planning objectives has been formed to pool resources and create consistent mitigation strategies within Nassau County; and

WHEREAS, the coalition has completed a planning process that engages the public, assesses the risk and vulnerability to the impacts of natural hazards, develops a mitigation strategy consistent with a set of uniform goals and objectives, and creates a plan for implementing, evaluating and revising this strategy;

NOW, THEREFORE, BE IT RESOLVED that the jurisdiction name:

- 1) Adopts in its entirety, the Nassau County Hazard Mitigation Plan (the "Plan") as the jurisdiction's Natural Hazard Mitigation Plan and resolves to execute the actions identified in the Plan that pertain to this jurisdiction.
- 2) Will use the adopted and approved portions of the Plan to guide pre- and post-disaster mitigation of the hazards identified.
- 3) Will coordinate the strategies identified in the Plan with other planning programs and mechanisms under its jurisdictional authority.
- 4) Will continue its support of the Mitigation Planning Committee as described within the Plan.
- 5) Will help to promote and support the mitigation successes of all participants in this Plan.
- 6) Will incorporate mitigation planning as an integral component of government and partner operations.
- 7) Will provide an update of the Plan in conjunction with the County no less than every five years.

PASSED AND ADOPTED on this Xst, Xnd, Xrd, Xth day of month, 2021, by the following vote:



AYES:

NOES:

ABSENT:

ABSTAIN:

Mayor, _____, **Jurisdiction Name**

ATTEST: _____

Clerk, **Jurisdiction Name**



Project Funding Support Tool

This section includes a table to support project implementation for the Nassau County Mitigation Program. This table is not necessarily comprehensive of all potential opportunities and all participating jurisdictions may not be eligible for these funding opportunities at any given time.

Funding Source	Details	Agency
Local Funding Sources		
Capital Improvement Planning	Plan for large scale mitigation project in jurisdiction's capital improvement plan.	N/A
Annual Budget	Review of county and local budgets to include mitigation actions as line items.	N/A
Fees and Taxes	Ability to charge fees and taxes to implement mitigation actions.	N/A
State Funding Sources		
Emergency Management Performance Grant Program (EMPG)	Program that provides grant funding to support the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal (the Goal) of a secure and resilient Nation. The building, sustainment, and delivery of these core capabilities require the combined effort of the whole community, rather than the exclusive effort of any single organization or level of government. The EMPG Program supports efforts to build and sustain core capabilities across the Prevention, Protection, Mitigation, Response, and Recovery mission areas based on allowable costs.	NYS DHSES
Environmental Justice Community Impact Grant Program	Provide community-based organizations with funding for projects that address various environmental and public health concerns that disproportionately affect low-income and minority communities.	NYS DEC
Green Innovation Grant Program	Supports projects across New York State that utilize unique stormwater infrastructure design and create cutting-edge green technologies.	NYS EFS
Hazardous Materials Emergency Preparedness (HMEP) Grant Program	Grant funding available to help facilitate preparedness in transporting hazardous materials. The program recognizes Local Emergency Planning Committees (LEPCs) as applicants to maximize funding impact in regional partnerships.	NYS DHSES / USDOT
Local Waterfront Revitalization Program Grants	Provides matching grants on a competitive basis to eligible villages, towns, cities, and counties located along New York's coasts or designated inland waterways for planning, design, and construction projects to revitalize communities and waterfronts. This program	NYS DOS



Funding Source	Details	Agency
New York State DEC/EFC Wastewater Infrastructure Engineering Planning Grant	helps communities breathe new life into their waterfront and underused assets in ways that ensure successful and sustainable revitalization. Grant program for municipalities to help pay for initial planning of water quality projects eligible for the Clean Water State Revolving Fund.	NYS DEC
Water Quality Improvement Project (WQIP) Program	Grant to directly address documented water quality impairments or protect a drinking water source. This funding is for construction/implementation projects, not projects that are exclusively for planning.	NYS DEC
Federal Funding Sources		
Assistance to Firefighters Grant Program	The grant program contains the Assistance to Firefighters Grants (AFG), Fire Prevention & Safety (FP &S), and Staffing for Adequate Fire and Emergency Response (SAFER). Provides grants for hazard mitigation projects. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program. The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.	FEMA
Building Resilient Infrastructure (BRIC) Program	Provides grants for hazard mitigation projects. BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program. The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency.	FEMA
Clean Water Act Section 319 Grants	Grants to States to implement non-point source programs, including support for non-structural watershed resource restoration activities.	EPA
Clean Water State Revolving Funds	Loans at actual or below-market interest rates to help build, repair, relocate, or replace wastewater treatment plants.	EPA
Coastal Zone Management Program	Grants for planning and implementation of non-structural coastal flood and hurricane hazard mitigation projects and coastal wetlands restoration.	National Oceanic and Atmospheric Administration (NOAA)
Community Development Block Grant – Disaster Recovery (CDBG-DR)	Grants to entitled cities and urban counties to develop viable communities (e.g., decent housing, a suitable living environment, expanded economic opportunities), principally for low- and moderate- income persons.	HUD



Funding Source	Details	Agency
Community Development Block Grant (CDBG)	Grants to entitled cities and urban counties to develop viable communities (e.g., decent housing, a suitable living environment, expanded economic opportunities), principally for low- and moderate- income persons.	HUD
Community Development Block Grant Entitlement Communities Program	Grants to entitled cities and urban counties to develop viable communities (e.g., decent housing, a suitable living environment, expanded economic opportunities), principally for low- and moderate- income persons.	HUD
Emergency Watershed Protection Program	Provides technical and financial assistance for relief from imminent hazards in small watersheds, and to reduce vulnerability of life and property in small watershed areas damaged by severe natural hazard events.	USDA – NRCS
Fire Prevention and Safety Grant Program	Grants to support projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and reduce injury and prevent death.	US Fire Administration
Flood Mitigation Assistance (FMA)	Grants to States and communities for pre-disaster mitigation to help reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program.	FEMA
Hazard Mitigation Grant Program (HMGP)	Grants to States and communities for implementing long-term hazard mitigation measures following a major disaster declaration.	FEMA
Long Island Sound Futures Fund	Grants to protect and restore the health and living resources of Long Island Sound (Sound).	NFWF, US EPA, US FWS
Public Assistance (PA) Section 406	Grants to States and communities to repair and mitigate damaged infrastructure and public facilities and help restore government or government-related services.	FEMA
Private Funding Sources		
Private Property Owners		N/A
Local Corporations	May have ability to individually invest in mitigation in County.	N/A
Philanthropic Organizations		N/A



Plan Maintenance Reporting Tool

This tool supports Planning Committee members with providing updates on their participation in the Nassau County Hazard Mitigation Program.

Contact Information:

Jurisdiction: _____

Name: _____

Position: _____

Department: _____

Phone Number: _____

Email: _____

Plan Monitoring and Evaluation:

Which goals have you made progress towards achieving over the last six months?

Goal 1: Build stronger by promoting mitigation actions that emphasize sustainable construction and design measures to reduce or eliminate the impacts of natural hazards now and in the future. Yes No

Goal 2: Build and support local capacity to prepare for, respond to, and recover from disasters. Yes No

Goal 3: Protect existing property including public, historic, private structures, state-owned/operated buildings, and critical facilities and infrastructure. Yes No

Goal 4: Increase awareness of hazard risk and mitigation capabilities among stakeholders, citizens, elected officials, and property owners to enable the successful implementation of mitigation strategies. Yes No

Goal 5: Develop and implement long-term, cost effective, and resilient mitigation projects to preserve or restore the functions of natural systems. Yes No

Goal 6: Improve coordination between land use and redevelopment planning to encourage safe, economically sound investments. Yes No



Should any of the goals change due to changes in circumstance or priorities in the County?

Goal 1: Yes No If yes, please explain:

Goal 2: Yes No If yes, please explain:

Goal 3: Yes No If yes, please explain:

Goal 4: Yes No If yes, please explain:

Goal 5: Yes No If yes, please explain:

Goal 6: Yes No If yes, please explain:

Has the plan been a helpful tool to support your jurisdiction's mitigation practice?

Yes No

Please Explain:

Action Monitoring and Evaluation:

Have you made any progress implementing actions that mitigate risk to natural hazards in your community over the last six months?

Yes Yes, but the action taken was not written in the plan. No

Please fill out the following information for each action that you have made progress on.

Mitigation Action Name:

Responsible Agency:

Funding Source:

Project Status: In Progress Completed

Estimated Date of Completion:

Description of Progress:



Mitigation Action Name:

Responsible Agency:

Funding Source:

Project Status: In Progress Completed

Estimated Date of Completion:

Description of Progress:

Mitigation Action Name:

Responsible Agency:

Funding Source:

Project Status: In Progress Completed

Estimated Date of Completion:

Description of Progress:

Has the Nassau County Hazard Mitigation Plan been an effective tool to support you in implementing actions that mitigate risk to natural hazards in your community over the last six months?

Yes No

Please Explain:



Nassau County Annex

This document presents the Nassau County annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Susan Park, Director of Recovery Nassau County Office of Emergency Management 510 Grumman Road W. Bethpage, NY 11714 spark@nassaucountyny.gov 516-573-9600	Nicole Marks, Director of Planning Nassau County Office of Emergency Management 510 Grumman Road W. Bethpage, NY 11714 nmarks@nassaucountyny.gov 516-573-9650

Profile

Nassau County covers approximately 286.69 square miles¹ and has a total population of 1,358,343 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of Nassau County are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Nassau County Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.5%	Black or African American alone	13.1%
Above 65 Years Old	18.2%	American Indian and Alaska Native alone	0.5%
Individuals with Disabilities	4.6%	Asian alone	10.9%
Persons in Poverty	5.8%	Native Hawaiian and other Pacific Islander alone	0.1%
Renters	19.9%	Two or More Races	2.0%
Without a High School Diploma	8.8%	White alone, not Hispanic or Latino, percent	58.5%
Without Access to Broadband Internet	11.1%	Hispanic or Latino	17.5%

¹ This is inclusive of land area only.

Nassau County is a largely suburban area and continues to see growth and development in various sectors. This includes new single family and multi-family residential construction, particularly in communities with proximity to mass transit. Development projects have also occurred in the retail, office, industrial and warehouse sectors, to meet the demands of various business industries. To support this growth in development, major investments in infrastructure have been and continue to be made. These include the expansion of the Long Island Rail Road's capacity through a new third track on the Main Line, and new access to Grand Central Terminal through the East Side Access Project. Significant investments have also been made to the County's sewer system, particularly through the hardening of the Bay Park Sewage Treatment Plant, and now, the Bay Park Conveyance Project. While growth continues in the County, "open space" continues to be prioritized with the County safeguarding green space and harbors where possible. Nassau County comprises large waterways and long shorelines; therefore, a vast amount of the ongoing construction falls within the 100-year floodplain. The majority of the County's 69 jurisdictions maintain zoning and planning officials. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be mitigated.

Refer to the **County Profile** section of this plan (pages 25 - 32) for additional information related to current and future conditions of the County's vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

Refer to the Risk Assessment section of the base plan (pages 33 - 98) for a complete hazard identification and risk assessment for Nassau County. The Risk Assessment and accompanying Appendix B also contain hazard event history information.

Capability Assessment

This section summarizes the capabilities that Nassau County has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for Nassau County. Nassau County maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, community development plans, comprehensive plans/master plans, site plan review requirements, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the County can consider the capabilities in the table below that the County currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Nassau County Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	N/A	
Capital Improvement Plan	No	
Climate Action Plan	Yes	In Development: Nassau County Shared Mobility Management Study
Community Development Plan	Yes	HUD 5-Year Consolidated Plan (2014 – 2019)
Comprehensive Plan / Master Plan	Yes	2017 CEMP
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Continuity of Operations Plans
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	Yes	The Master Plan
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	Yes	Baldwin Downtown Corridor & Commercial Resiliency Study; Barnum Island/Harbor Isle Drainage Improvement Study; Bay Park & Village of East Rockaway Drainage Infrastructure Plan; Five Towns Drainage Study; Lido Beach/Point Lookout Comprehensive Drainage Study; Silver Lake Park Drainage & Flood Prevention Study
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	NCDPW Stormwater Regulations/Plan
Subdivision Ordinance(s)	Yes	NCPC Subdivision Regulations
Transportation Plan(s)	Yes	NICE Bus Plan; 2005-2030 Regional Transportation Plan
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for Nassau County. Nassau County's primary administrative and technical capabilities include an emergency

manager, building and infrastructure engineers, grant writers, and construction practices personnel. These capabilities provide the County with a wide range of technical capabilities . The County can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards planning.

Table 4: Nassau County Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Nassau County (NC) Office of Emergency Management (OEM)
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	NC Department of Public Works (NCDPW)
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	NCDPW
Engineer(s) with knowledge of land development and land management practices	Yes	NCDPW, NC Office of Community Development (NCOCD)
Grant Writers	Yes	NC Office of Community Development (NCOCD)
Personnel skilled or trained in Geographic Information Systems	Yes	Nassau County Information Technology
Personnel trained in construction practices related to buildings/infrastructure	Yes	NCDPW
Planner(s) with an understanding of natural hazards	Yes	NCDPW, NC Office of Community Development (NCOCD)
Planner(s) with knowledge of land development and land management practices	Yes	NCDPW, NC Office of Community Development (NCOCD)
Scientist(s) familiar with natural hazards	Yes	NCDPW
Surveyors	Yes	NCDPW

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for Nassau County. Funding is often the biggest barrier when implementing mitigation programs. The County is primarily able to fund mitigation programs by incurring debt through general obligation bonds and special tax bonds, levying taxes for specific purposes, withholding public expenditures in hazard prone areas, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers,

and state mitigation grant programs. Nassau County should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Nassau County Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	The Nassau Urban County Consortium is an entitlement community under the CDBG program. The CDBG program provides housing to support housing and community development in low-income and vulnerable communities.
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	HMGP; FMA; PDM

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for Nassau County. Exploring the gaining one or more community classifications will guide the County’s mitigation programs and support capacity building.

Table 6: Nassau County Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	Yes – Climate Smart Community and StormReady Community

National Flood Insurance Program Summary

The National Flood Insurance Program is administered at the municipal level in Nassau County. Refer to page 105 in the Capabilities Assessment of the base plan for a summary of municipal participation in the National Flood Insurance Program. Each jurisdictional annex also contains further description of that municipality's floodplain management program for continued compliance with the National Flood Insurance Program.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Nassau County. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Lawrence Water Pollution Control Plant (WPCP): Plant Hardening: A pile-supported reinforced concrete floodwall and associated landscaping renovations has been selected as the proposed project. The intention of the flood protection structure is to specifically protect the Main Building and Pump and Grit Building, which are the Plant buildings that are critical. In addition to the wall, a stormwater collection system will be installed at the facility for the purpose of collecting precipitation from the storm event that would not be able to run off of the facility once the flood gates are closed. The stormwater will be collected via gravity and fed to the Plant’s existing wet well.	Flooding	Nassau County Department of Public Works	Completed	The Lawrence WPCP was decommissioned and demolished; the remaining building became the Lawrence Pump Station. This pump station was hardened under the S3P311-10G Sandy Repair and Mitigation Contract. Flood proof.	No	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
<p>Housing Elevation Program: One alternative would be to fund the relocation of the structures or their reconstruction at other sites outside of the floodplain. Physical relocation and/or reconstruction would entail acquiring the new site and paying to build or move the structure to that site. Although the benefit would be greater in that the flood risk would be minimized, a program set-up to physically relocate homes would be cost prohibitive and not logistically feasible. Nassau County is a densely populated area, large portions of which lie in the 100 year flood plain. The program would incur very high costs for planning and administration in light of the Uniform Relocation Act and NEPA requirements which would apply to the activities and the front-end legal and real estate hurdles which would need to be overcome in order to identify and acquire available and appropriate new sites. Another alternative would be to acquire and demolish the structure and pay for the homeowners/occupants to relocate elsewhere. This alternative would significantly reduce the risk of flooding since the properties would be removed completely, however, the prospect of acquiring and demolishing the structures along with the cost of paying for residents' relocation costs would far surpass the cost of elevating the property and allowing homeowners to remain.</p>	<p>Flooding</p>	<p>Nassau County Department of Public Works</p>	<p>Not started</p>	<p>This program has not been undertaken. Not feasible for County implementation. Funding is challenging. There is also a lack of political support for this program.</p>	<p>No</p>	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
<p>Hardening of NCPD Marine Bureau Facilities: During Sandy water reached the generator's belly tank and was within inches of inundating the generator. This proposal is to raise the generator 46 inches off the ground using a platform—12 inches over the maximum recorded flood level in the facility. The estimated mitigation cost is \$75,200. The second proposed mitigation effort is to relocate the automatic transfer switch into a newly constructed building attached to the present structure. The building would be raised to a floor elevation of 46". During Sandy the water flooded the transfer switch housing resulting in damaging the ground and neutral bus bar, along with the terminal lugs. The water reached an elevation of 30" at this location and was within inches of inundating the transfer switch. Flooding of the transfer switch would cause the Marine Bureau to lose power until the transfer switch is repaired or replaced.</p>	Flooding	Nassau County Department of Public Works	Not started	<p>The only hardening that was completed at the NCPD Marine Bureau facility was for the fueling facility. Plans were advanced for both the generator hardening and transfer switch upgrade but were not bid due to budget constraints. Plans were also in the works for a boiler replacement and hardening but were not pursued for the same reason. If these projects were to come back into the plans, DPW would have to review all the documents and revise them as necessary for current Code compliance.</p>	Yes	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Glen Cove WPCP Plant Hardening: A pile-supported reinforced concrete floodwall and associated landscaping renovations would be a feasible alternative project. This floodwall will extend around the perimeter of the key structures at the Plant. This alternative project's principal benefit is that it will allow the Glen Cove WPCP to continue providing critical services to the community during a storm or flooding event; however, it is cost prohibitive.	Flooding of wastewater	Nassau County Department of Public Works	Not started	No storm hardening projects have proceeded. The design phase for Glen Cove WWTP Preliminary Treatment (Project No. S35114-13G) will be bid during the summer of 2020. The Glen Cove WWTP was not flooded during Superstorm Sandy. However, electrical power was lost, and wastewater treatment was not maintained during the storm. A manual transfer switch is being installed as part of capital project S35114-13G, which will enable a generator to power the facility and maintain wastewater treatment during a similar event. All capital improvement projects moving forward will be designed with consideration for protection from the 500 year flood.	No	Action column should change to something like, "Each Capital Improvement Project moving forward shall be designed to protect each the wastewater treatment plant against the 500-year flood". Funding shall include County as well as New York State EFC grant and/or loan.

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Cedarhurst WPCP Plant Hardening: The proposed project protects the facility with two pile-supported reinforced concrete flood walls with removable aluminum stop logs to protect the buildings open entrance. A preliminary design of elevation of 15.5' was determined after accounting for freeboard and sea level rising using NAVD88 datum. Based on estimated existing ground elevations, the first concrete flood wall stands approximately 10.0' tall runs approximately 135.0 around the perimeter of the Screenings and Comminutor Chamber Building. The second concrete flood wall stands approximately 7.0' and runs approximately 205.0' around the Pump Building, Meter Pit, and Grit Chamber. The piles are conceptually designed at 6.0' on-center with low displacement steel H-piles. For seepage, a steel sheet pile cut-off system will be installed using Z-shaped interlocking sheets driven approximately 30' deep. As previously mentioned, aluminum stop logs will be installed to allow access to and from the facility during dry times and still provide protection from flood events.	Flooding	Nassau County Department of Public Works	Not started	The Cedarhurst WPCP was decommissioned and demolished and no longer exists.	No	
Cedar Creek WPCP: Plant Hardening and Perimeter Protection: The scope of work for the facilities, especially the southern section of the plant, consists mainly of hardening all potential water infiltration points. Most of the facilities are inter-connected, and therefore must all be mitigated so that water does not pass from facility to facility. Mitigation measures include: <ul style="list-style-type: none"> • Implementing door dams or providing flood proof doors; • Raising or providing flood proof louvers; • Sealing or raising connections on the outside of the facilities, and; • Sealing and waterproofing all vulnerable conduits on the exterior of the facilities 	Flooding	Nassau County Department of Public Works	Not started	No storm hardening projects have proceeded. No action necessary because the Cedar Creek WPCP was not flooded during Superstorm Sandy. However, all capital improvement projects moving forward will be designed with consideration for protection from the 500 year flood.	No	Action column should change to something like, "Each Capital Improvement Project moving forward shall be designed to protect the water pollution control plant against the 500-year flood". Funding shall include County as well as New York State EFC grant and/or loan.

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Bayville Bridge and Long Beach Bridge Electrical Relocation: Design and construction of a project to relocate the motor control center (MCC) and electrical generator for the building to the southern right of way and elevate them above the 500-yr flood level. The project will consist of erecting the structural elements to allow the MCC and generator to be placed at a higher elevation. Studies are underway to determine the updated elevation of the 500-yr flood plain. Elevating the equipment above the 500-yr flood plain will protect the equipment and ensure the operation of the bridge allowing the residents of Long Beach to evacuate the barrier island in the event of an emergency.	Loss of Electrical Power	Nassau County Department of Public Works	In progress	The generator and MCC were placed at least 3-feet above the 100-year floodplain.	Yes	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
<p>Bay Park STP Electrical Distribution System: There are four buildings and two unit substations at Bay Park STP which are vulnerable to the 500-yr flood event, but which sustained only minor damage during Hurricane Sandy. These facilities will be mitigated under this proposal and are:</p> <ol style="list-style-type: none"> 1. Building 02: Power Generation Facility 2. Building 21: Scavenger Waste/Septage Receiving Facility 3. Building 22: Main Building - Central Heating Facility 4. Building 23: Main Building - Personnel Area 5. Building 03: Unit Substation 4 6. Building 45: Unit Substation 5 <p>The first four (4) buildings (excluding the substations) being mitigated are internally connected, and therefore must all be mitigated so that water does not pass from facility to facility during a flood event. The first floor elevation of the lowest facility is 10.83ft (NAVD88) whilst all other facilities are at an elevation of 13.0ft (NAVD88). The scope of work for these facilities consists of hardening all potential water infiltration points and protecting low lying electrical equipment. Mitigation measures include:</p> <ol style="list-style-type: none"> a. Implementing stop log door dams or providing flood proof doors; b. Raising or providing flood proof louvers; c. Sealing or raising connections on the outside of the facilities, and; d. Sealing and waterproofing all vulnerable conduits on the exterior of facilities. 	Flooding	Nassau County Department of Public Works	In progress	<p>Building 02: PSEG feeders under E-4 (E-4 refers to contract). Building 02 will be mitigated when PSEG power is made available. Not started.</p> <p>Building Nos. 21 through 23: Too many entrances, too much effort to ensure sealed up, expensive, serious egress issues once sealed. The decision was made then to add as much tunnel entrance mitigation as we could manage and put in the secondary flood contract. Not feasible.</p> <p>Building No 22: Main Building - Central Heating Facility - See above</p> <p>Building No 23: Main Building - Personnel Area See above</p> <p>Building No 03: Complete Under E-1. (E-1 refers to contract)</p> <p>Building No 45: Complete Under E-1. (E-1 refers to contract)</p>	<p>Building 02, 21, 22, and 23: Yes</p> <p>Building 03: No</p> <p>Building 45: No</p>	<p>Building 03: No changes in description.</p> <p>Building 45: No changes in description. May want to consider revising other descriptions for feasibility.</p>
<p>Barnes Avenue Interceptor: Until a more detailed engineering analysis can be performed, an additional 48" interceptor in parallel to the existing 48" interceptor is being proposed. It is estimated that this will provide enough additional capacity to handle flooding from a 500-year event.</p>	Flooding	Nassau County Department of Public Works	Completed		No	No changes in description.

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Redundant emergency power generation required at main plant.	Frequent power outages	Greater Atlantic Beach Water Reclamation District	In progress	The Greater Atlantic Beach Water Reclamation District is currently finalizing specifications to rehabilitate a building in which the generator will be installed. The phase of installation is expected to start in the coming months.	Yes	This project is being funded through GOSR. Initially, GOSR intended to fund a natural gas generator, but the GABWRD Superintendent explained to them that after Sandy, it was not possible to get natural gas on Long Island for weeks. GOSR then allowed for the project to move forward with a diesel generator.
Install new life and safety generator	Power Failure	Parker Jewish Institute for Health Care & Rehabilitation	Completed	Project completed. The building wide generator is fully operational.	No	No
Install Permanent Generator: A permanent generator will be installed at Adelphi University. It will have sufficient capacity to allow the University to provide response services to its faculty and staff as well as the larger community if necessary	Frequent power outages	Adelphi University	Completed	The project has been completed and will allow the university to stand alone and isolate the campus from the PSEG circuits in the event that electrical power utilities are disrupted.	No	The University Center (currently under construction) is scheduled to open in Fall '20. The building will also have the ability to draw power from this system.
Permanently install a rooftop generator at the Leo F. Giblyn School	Loss of Electrical Power	Freeport School District	Completed		No	No
A permanent generator will be installed at the group home in East Meadow with sufficient capacity to operate critical medical equipment and household appliances necessary for the health and safety of the residents	Frequent power outages	EPIC Long Island	Not started	No funding. Transfer switch installed for quick portable generator hookup.	No	No.

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
A permanent generator will be installed at the group home in Freeport with sufficient capacity to operate critical medical equipment and household appliances necessary for the health and safety of the residents	Frequent power outages	EPIC Long Island	Not started	No funding. Transfer switch installed for quick portable generator hookup.	No	No.
A permanent generator will be installed at the group home in Hicksville with sufficient capacity to operate critical medical equipment and household appliances necessary for the health and safety of the residents	Frequent power outages	EPIC Long Island	Not started	No funding. Transfer switch installed for quick portable generator hookup.	No	No.
Install Permanent Generators at Long Beach & Oceanside community centers	Frequent power outages	Friedberg JCC	Not started	Due to limited excess cash, we have not been able to have a project this size. We would still like to try to find a way to financially pay for this.	Yes	Not at this time.
George Farber Center Back Up Generator	Frequent power outages	Nassau BOCES Facilities Services Department	Not started	The Farber generator was approved by SED on 5/8/19. We are awaiting final pricing utilizing a Suffolk County electrical contract. A project schedule is being developed. We expect this project to be completed in FY 2020/21.	Yes	
Rosemary Kennedy Center Back Up Generator	Frequent power outages	Nassau BOCES Facilities Services Department	Not started	There are no active projects to install a generator at Barry Tech. Currently we do not have the funds to complete the project.	No	
Barry Tech Back Up Generator	Frequent power outages	Nassau BOCES Facilities Services Department	Not started	There are no active projects to replace the small generator at RKC. Currently, we do not have the funds to complete the project.	No	
Install Permanent Emergency Generator at Public Safety Building: A permanent generator will be installed at the NCC Public Safety. It will have sufficient capacity to allow the Public Safety building to remain operational and quickly respond to the campus needs and support shelters on campus.	Loss of Electrical Power	Nassau Community College	Not started	This was to be funded by the State as part of a grant post-Sandy, however it was never funded.	Yes	We are establishing a project for a new Public Safety Building which will include a backup generator.

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
A permanent generator will be installed at 1030 Denton Avenue, Garden City Park, NY. The generator will have sufficient capacity to allow the Fire Station to quickly respond to the community's needs.	Frequent power outages	Garden City Park Water and Fire District	Completed	While HMGP funding was not utilized, the organization was able to purchase a new generator.	No	
Install Permanent generator at 30 Brinkerhoff Lane, Manhasset. A permanent natural gas generator will be installed with sufficient capacity to allow the facility to maintain all necessary patient needs.	High wind events and winter storms have caused loss of electrical power, including power to all alarm systems and critical utilities in facility	Catholic Charities – (Diocese of Rockville Centre) OPWDD Neumann Facility	Not started	Catholic Charities current team did not know about this mitigation action, but it is still a relevant project that will be considered when funding becomes available.	Yes	In case HMGP opens up in 2020 and the applicant cost share is reduced, Catholic Charities would like to move this action into 2020.
Install new life and safety generator	Power Failure	Parker Jewish Institute for Health Care & Rehabilitation	Completed	Project completed. The building wide generator is fully operational.	No	No
A permanent generator will be installed at Plant No.8. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	Frequent power outages	Roslyn Water District	Completed	The installation of the generator became part of a larger project to build a treatment facility at the location.	No	The project was not funded through FEMA HMPG. As a treatment facility was built at that location, the Water District utilized a bond for this initiative and the generator was part of this project.
Two existing generators will be replaced to strengthen the reliability of the emergency distribution system to help ensure the hospital will have adequate emergency power during events when local utility power is not available for several days.	Loss of electrical power	Catholic Health Services - St. Francis Hospital	Completed	St. Francis Hospital replaced generators 1 and 2 in 2015.	No	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Install permanent generator - A permanent generator will be installed at Hatzalah of The Rockaways & Nassau County located in Woodmere, NY. It will have sufficient capacity to allow the EMS Station to quickly respond to the community's needs	Loss of electrical power	Hatzalah of the Rockaways	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Install Permanent Generator - A permanent generator will be installed at Woodmere Community Residence, 145 Irving Place, Woodmere, NY 11598. It will have sufficient capacity to allow the Community Residence to quickly respond to the client's needs.	Loss of Electrical Power	South Shore Association for Independent Living	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Data Center Relocation Project - The hospital proposes to relocate the data center from its current, at-grade elevation to a higher floor within the existing footprint of the hospital, so that it will be less susceptible to flooding. A phased implementation will allow the data center to remain operational throughout the relocation process.	Flooding	South Nassau Communities Hospital	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Generator Relocation Project - address the potential for loss of function during a power outage by installing a new 1500 KW generator with hardening around it to protect against wind-born debris and flooding that could result from extreme weather or coastal storm surge.	Loss of Electrical Power	South Nassau Communities Hospital	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
A permanent generator will be installed at the Fire House. It will be elevated to prevent future flooding. It will also be powered by natural gas to ensure an uninterrupted fuel supply in the event of a power outage. The diesel fuel supply will then be dedicated for exclusive use by the firefighting/rescue equipment so the Department will have sufficient capacity to quickly respond to the community's needs.	Frequent power outages	Seaford Fire Department	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
A permanent generator will be installed at MacArthur High School and Division Ave High School. and It will have sufficient capacity to allow the School District to assist the community in a time of need.	Loss of Electrical Power	Levittown Public Schools	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
A permanent generator will be installed at 188 Doughty Blvd, Inwood, NY 11906. The generator will have sufficient capacity to allow the Fire Station to quickly respond to the community's needs.	Loss of Electrical Power	Inwood Fire District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
A permanent, natural-gas-fed generator will be installed and maintained at Regina Residence in order to provide a reliable power source adequate to provide drainage, keep residents in the facility, and power any necessary medical equipment.	Loss of Electrical Power	Regina Maternity Services (Merrick)	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
A permanent generator will be installed at the Bellmore, Garden City, Inwood and Plainview Fire Stations. It will have sufficient capacity to allow the Fire Stations to quickly response to the community's needs.	Frequent power outages	Terry Farrell Fund	Not Started		Yes	This project is associated with individual fire stations - shouldn't be associated with the Terry Fund.
Two existing generators and transfer switches will be replaced to strengthen the reliability of the emergency distribution system to help ensure the hospital will have adequate emergency power during events when local utility power is not available for several days.	Loss of electrical power	Catholic Health Services - St. Joseph's Hospital	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Install Permanent Generator- It will have sufficient capacity to allow the individuals living in the group home to continue their daily living routines without interruption and without causing them any confusion	High wind events, Hurricanes, Tropical Storms, and winter storms have caused the widespread loss of electrical power.	Family Residences & Essential Enterprises, Inc	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Install Permanent 350KW Roof Mounted Generator: A permanent generator will be installed at the Administration Building that will have sufficient capacity to allow the District to operate all of its communications, sufficient security and data operated systems.	Loss of Electrical Power	Massapequa School District	In Progress	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	N/A
Relocate the existing control system to the second floor of the same building and upgrade from analog to SCADA controls. This will result in the controls located within the 500-year flood zone and the ability to more quickly respond to the community's needs.	Frequent flooding	Oyster Bay Water District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Remove access floor to Pump Station dry well and provide new concrete curb with access door; install flow prevention inserts under manhole covers.	Frequent flooding	Oyster Bay Sewer District	In progress	In lieu of flow prevention cover, plugs have been installed in manhole cover vent holes. The District will be issuing a Request for cost proposal for the work to install a new access door.	Yes	Update Action to read: Remove access floor door to Steamboat Landing Road Pump Station dry well and provide new concrete curb with access door; install flow prevention inserts under manhole covers.
Reconstruct existing maintenance garage at a three foot higher elevation.	Frequent flooding	Oyster Bay Sewer District	Not started	Limitation is the need for funding to conduct the action. Escalate cost estimate to \$325,000	Yes	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Install flood doors at doors to screening and grit chamber building, doors to MCC room in Administration Building, doors to Blower/Thickener/Control Building and raise access doors to influent Pump Station wet well.	Frequent flooding	Oyster Bay Sewer District	Not started	Project is in District capital budget plan. Escalate cost estimate to \$85,000.	Yes	
Increase height of transformer pad by two feet. Provide backup standby power during work.	Frequent flooding, power outages	Oyster Bay Sewer District	Completed	In lieu of raising height of existing pad by two feet, a new pad and transformer were installed at a higher elevation.	No	Construction cost for the work paid for under an Oyster Bay Sewer District capital project at a construction cost of \$90,393.
A permanent generator will be installed at 188 South Street, Oyster Bay, NY 11771. The generator will have sufficient capacity to allow the Fire Station to quickly respond to the community's needs.	Frequent power outages	Oyster Bay Fire Co #1	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Install 40 kw natural gas electrical generator with automatic transfer switch for primary circuits in office and garage facility.	Frequent power outages	Locust Valley Water District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Installation of Underground Primary Electrical Cables @ Well Sites 3 & 12	Frequent power outages	Jericho Water District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
Backup, standby generators will be installed at ten of the District's critical sites. These generators will power wells, filtration equipment and other infrastructure used to provide potable water to 58,000 District residents, two hospitals, several nursing homes and many other businesses and government institutions.	Frequent power outages	Jericho Water District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	

Action	Risk Category	Primary Agency Responsible	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
A permanent generator will be installed at the NW wellfield site. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	Frequent power outages	Massapequa Water District	Completed	Project implemented using internal funding.	No	
A permanent generator will be installed at the NY Avenue wellfield site. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	Frequent power outages	Massapequa Water District	Completed	Project implemented using internal funding.	No	
HSMS Natural Gas Generator Installation	Frequent power outages	Locust Valley Central School District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
A permanent generator will be installed at Well No. 3. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	Frequent power outages	Old Westbury Water District	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	
A permanent generator will be installed at 885 Old Country Road, Plainview NY 11803. It will have sufficient capacity to allow the Fire Station to quickly respond to the community's needs.	Loss of electrical power	Plainview Fire Department	Unresponsive	Multiple attempts were made to contact this entity during the Plan update. No response was received; therefore, the implementation status of this mitigation action is unknown at this time.	No	

Proposed Mitigation Actions

Project Number	NCO_1	NCO_2	NCO_3	NCO_4	NCO_5
Project Name	Bay Park/East Rockaway Drainage Improvements	Beech Street/Park Street Complete Streets and Drainage Improvements	Five Towns Drainage Improvements- Cedarhurst Pump Station	Five Towns Drainage Improvements-Lawrence Pipe Improvements	Island Park Destination Revitalization and Transit-Oriented Development (TOD)
Goal being met	3	3	3	3	1
Hazards to be mitigated	Coastal Flooding	Coastal Flooding	Coastal Flooding	Coastal Flooding	Coastal Flooding
Priority Ranking	High	High	High	High	High
Description of the Problem	<p>During high tide events, tidal water backing up into the drainage system and flows out of the existing grates at the low points flooding Lawson Avenue and the adjacent streets. The existing drainage system on Lawson Avenue does not have the capacity to store the road runoff from any rain event, especially when there is a high tide. The existing drainage system is back pitched and does not function properly. Therefore, several drainage grates have filter bag inserts that collect debris in order to clean the system. However, these bags fill quickly and because they cannot be cleaned quickly during times of swift events, they do not allow stormwater to enter the system, thus causing flooding on Lawson Avenue and adjacent streets. The system becomes filled with debris preventing the stormwater from flowing through the system properly.</p>	<p>Park Street/Beech Street is the primary transportation corridor that links the barrier island from the Atlantic Beach Bridge through the City of Long Beach and it also serves as a coastal evacuation route. Park Street/Beech Street and associated intersections along the route were severely impacted by flooding during Superstorm Sandy. This evacuation route was impassable during and following Superstorm Sandy. Compounded by no working lighting, unsafe conditions were created for first responders, residents, and local businesses.</p>	<p>Significant flood threats face the Five Towns area due to its location on the south shore of Long Island. The resultant flooding and standing water during coastal storm events create public health and safety hazards and significantly affect the quality of life for the surrounding residents.</p>	<p>The study determined that installing check valves to prevent tidal water from entering storm sewers and increasing the diameter of pipes along Meadow Lane, Marbridge Road, Causeway Road, North Road, and Barrett Road would reduce flooding. Installation of pipes of greater diameter will increase system capacity and eliminate flow restrictions such that flooding from storms with up to a 1 year storm event. In addition, new inlet structures will be installed, providing treatment of runoff prior to discharge to surface waters.</p>	<p>Significant damage was sustained due to the Superstorm Sandy's high winds and island-wide flooding. Improvements needed along Long Beach Rd. between Warwick and Sagamore Rd. in the Village of Island Park. Drainage improvements will also be required to ensure that runoff from within the roadway is adequately collected and conveyed to existing systems.</p>

Project Number	NCO_1	NCO_2	NCO_3	NCO_4	NCO_5
Description of the Solution	Installation of various check valves and stormwater treatment devices and drainage improvements to Lawson Avenue in Bay Park and the Village of East Rockaway. The existing drainage system on Lawson Avenue will be replaced with larger pipe and more drainage structures to increase the capacity of the system and remove the pipes that are back pitched and the installation of an in-line check valve to prevent tidal surcharge and a stormwater treatment structure to remove debris, improve the quality of the stormwater, and prevent debris from reaching the in-line check valve thus preserving the life of the in-line check valve	To increase flood resiliency and provide a pedestrian/motorist safety and traffic calming along Park Street (Village of Atlantic Beach) and continuing along Beech Street up to the border of Long Beach. Park Street /Beech Street is the primary transportation corridor that links the barrier island from the Atlantic Beach Bridge through the City of Long Beach and it also serves as a coastal evacuation route.	Installation of a 50 CFS stormwater pump station and check valve. This proposed pump station is derived from the Five towns Drainage Improvement Study and is intended to mitigate flooding along Peninsula Blvd. and the surrounding areas.	Installation of check valves & installation of large diameter pipes along Meadow Ln, Marbridge Rd. Causeway Rd. North Rd. and Barrett Rd. New Inlet structures.	Streetscape improvements may include restriping, tree planting, bulbous with bioswales, and midblock crossings with bio-swales. Drainage improvements will take place along Long Beach Rd. in the Village of Island Park.
Critical Facility	No	No	No	No	No
EHP Issues	No	Yes	No	Yes	Yes
Estimated Timeline	15 Months	21 Months	11 Months	15 Months	13 Months
Lead Agency	Nassau County	Nassau County	Nassau County	Nassau County	Nassau County
Estimated Costs	\$5,671,589	\$18,495,506	\$3,237,000	\$8,776,000	\$1,350,000
Estimated Benefits	This project will correct major drainage problems that continue to flood the streets of East Rockaway and Bay Park.	This project will address major drainage problems throughout the corridor as well as implement traffic safety mitigations and a multi-use trail.	To mitigate flooding along Peninsula Blvd during intense rain storm events, clearing a major storm evacuation route.	This project will correct major drainage problems that continue to flood the streets	Developing a placemaking streetscape, to provide for a more economically resilient downtown
Potential Funding Sources	GOSR/CDBG-DR	GOSR/CDBG-DR, Nassau County Capital Plan, Empire State Development Grant	GOSR/CDBG-DR	GOSR/CDBG-DR	GOSR/CDBG-DR

Project Number	NCO_6	NCO_7	NCO_8	NCO_9
Project Name	Lido Beach/Point Lookout Comprehensive Drainage Study and Improvement	Silver Lake Drainage Improvements	Shoreline Protection at Various County Parks	Seawall Rehabilitation at Sands Point Preserve
Goal being met	3	3	3	3
Hazards to be mitigated	Flooding, Severe storms	Flooding	Coastal Flooding	Property Erosion; Landslides
Priority Ranking	High	High	High	High
Description of the Problem	Roadway flooding occurs within the Lido Boulevard area in Lido Beach and Point Lookout. There is a need for stormwater management improvements along local roadways and replaced drainage systems, between Greenway Road and Regent Drive on Lido Blvd. Additionally there is a need for improved access to the Nassau County drainage easement off Regent Drive.	Flooding of Silver Lake Park in Baldwin spills over into local roadways.	Various waterfront County parks properties experience shoreline erosion and flooding. These include North Woodmere Park in Valley Stream, Inwood Park in Inwood, and Cow Meadow Park in Freeport. Certain areas with existing bulkheading may need to have bulkheading replaced, while other areas may need additional types of erosion control measures implemented.	During storms such as mild Nor'easters, the Sands Point Preserve's shoreline frequently loses cliffside and large areas are lost. The most urgent shoreline repairs needed are for the area directly below and adjacent to the Falaise mansion (eastern edge of the property). The remaining areas of the coastline are unprotected at this time and face erosion concerns. Many years ago, when the Hempstead House (western part of property) was a private residence, there was a seawall-type structure in place. The wall has since fully collapsed, with many portions missing, buried in the beach, or underwater at high tide. It is estimated that 5,000 to 6,000 feet of shoreline is currently in need of protection.
Description of the Solution	Installation of check valves the removal and replacement of curb inlets on local roadways, the replacements of drainage piping between Greenway Road and Regent Drive on Lido Blvd.	Installation of a tide gate, construction of higher bulkhead around pond perimeter, and the installation of a fish passage for promoting ecological sustainability	Study, design, and construct shoreline protection measures including living shorelines and/or hard structures such as bulkheads at the following County properties: North Woodmere Park, Inwood Park, and Cow Meadow Park.	Study, design, and construct shoreline protection measures along the Sands Point Preserve's approximately 5,000 foot shoreline. Measures would include living and/or hard shoreline structures.
Critical Facility	No	No	No	No
EHP Issues	Yes	Yes	No	No
Estimated Timeline	14 Months	12 Months	TBD	TBD
Lead Agency	Nassau County	Nassau County	Nassau County	Nassau County
Estimated Costs	\$2,420,000	\$2,500,000	To be determined	To be determined
Estimated Benefits	Will assist in protecting from tidal flooding through outfalls in Lido Beach and mitigate flooding on Lido Boulevard	Will assist in protecting from tidal flooding in the areas surrounding Silver Lake in Baldwin	Park properties will be better protected from erosion and flooding.	Park property will be better protected from erosion and flooding.

Project Number	NCO_6	NCO_7	NCO_8	NCO_9
Potential Funding Sources	GOSR/CDBG-DR	GOSR/CDBG-DR	Unknown	Unknown

Project Number	NCO_10	NCO_11	NCO_12	NCO_13	NCO_14
Project Name	Nassau County Master Plan Update	Bayville Bridge and Long Beach Bridge Electrical Relocation	NCPD Marine Bureau Facilities Hardening	Critical Facility Flood Risk Education	Bay Park STP Electrical Distribution System:
Goal being met	1	1, 2, 5	3	4	3
Hazards to be mitigated	All-Hazards	Power Outages Severe Storms	Flooding Severe Storms Flooding	Flooding	Flooding
Priority Ranking	High	High	High	High	High

Project Number	NCO_10	NCO_11	NCO_12	NCO_13	NCO_14
Description of the Problem	<p>The County is in the process of incorporating sustainability and resiliency into all facets of its planning and operations. Funding limitations have impacted the implementation of a comprehensive sustainability and resiliency approach across all areas.</p>	<p>The Bayville Bridge and Long Beach Bridge electrical generators need to be relocated the 500-Year flood level. Studies are underway to determine the updated elevation of the 500-Year flood plain. Elevating the equipment above the 500-Year flood plain will protect the equipment and ensure the operation of the bridge allowing the residents of Long Beach to evacuate the barrier island in the event of an emergency.</p>	<p>During Superstorm Sandy water reached the generator's belly tank and was within inches of inundating the generator. Additionally, the water flooded the transfer switch housing resulting in damaging the ground and neutral bus bar, along with the terminal lugs. The water reached an elevation of 30" at this location and was within inches of inundating the transfer switch. Flooding of the transfer switch would cause the Marine Bureau to lose power until the transfer switch is repaired or replaced.</p>	<p>Many critical facilities in Nassau County have the potential to be flooded if a 100 or 500 year flood were to occur. Many of these facilities fall outside of the jurisdiction of local municipalities and the County, making it difficult to fully account for their level of protection.</p>	<p>There are four buildings and two unit substations at Bay Park STP that are vulnerable to the 500-yr flood event but sustained only minor damage during Hurricane Sandy.</p>

Project Number	NCO_10	NCO_11	NCO_12	NCO_13	NCO_14
Description of the Solution	The County will update its Master Plan to address storm/climate resiliency and sustainability, along with other physical, social, environmental and transportation initiatives.	Design and construction of a project to relocate the MCC and electrical generator for the building to the southern right of way and elevate them above the 500-Year flood level. The project will consist of erecting the structural elements to allow the MCC and generator to be placed at a higher elevation.	This proposal is to raise the generator 46 inches off the ground using a platform—12 inches over the maximum recorded flood level in the facility. The second proposed mitigation effort is to relocate the automatic transfer switch into a newly constructed building attached to the present structure. The building would be raised to a floor elevation of 46".	The County will conduct targeted outreach to the facilities exposed to the 100 and 500 year flood events (see Appendix B for details) to educate about flood risk and provide some mitigation options to consider.	These facilities will be mitigated under this proposal and are: 1. Building 02: Power Generation Facility 2. Building 21: Scavenger Waste/Septage Receiving Facility 3. Building 22: Main Building - Central Heating Facility 4. Building 23: Main Building - Personnel The four buildings being mitigated are internally connected, and therefore must all be mitigated so that water does not pass from facility to facility during a flood event. The first floor elevation of the lowest facility is 10.83 ft (NAVD88) whilst all other facilities are at an elevation of 13.0 ft (NAVD88). The scope of work for these facilities consists of hardening all potential water infiltration points and protecting low lying electrical equipment.
Critical Facility	No	Yes	Yes	No	Yes
EHP Issues	No	No	No	No	No
Estimated Timeline	12 months	Previous Target Date: 2016 - 2017 (Approximately one year) Status: Not Started	Previous Target Date: 2014 - 2015 (Approximately one year) Status: Not Started	2 years	5 years
Lead Agency	Nassau County	Nassau County Department of Public Works	Nassau County Department of Public Works	Nassau County Office of Emergency Management	Nassau County Department of Public Works
Estimated Costs	\$1,000,000	\$345,750	\$260,748	< \$1000	To be determined

Project Number	NCO_10	NCO_11	NCO_12	NCO_13	NCO_14
Estimated Benefits	Improvements will have been identified and prioritized to address resiliency and sustainability issues that the County faces.	Continued operation of the bridges and protection against flooding.	Enhanced resiliency of Marine Bureau facilities and increased ability to continue operations in the event of power loss and the need to use generators	Protect critical facilities in the County through risk education and outreach.	Reduce risk of interruptions to electrical power generation and delivery due to flooding.
Potential Funding Sources	County Capital Plan	FEMA HMGP & FEMA Pre-Disaster Mitigation Program	To be determined	Nassau County operating budget	FEMA HMGP & FEMA Pre Disaster Mitigation Program

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: *Village of East Rockaway*

NYS DHSES Action Worksheet			
Project Name:	Bay Park/East Rockaway: Drainage Improvements		
Project Number:	NCO_1		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	During high tide events, tidal water backing up into the drainage system and flows out of the existing grates at the low points flooding Lawson Avenue and the adjacent streets; the existing drainage system on Lawson Avenue does not have the capacity to store the road runoff from any rain event especially when there is a high tide; the existing drainage system is back pitched and does not function properly; several drainage grates have filter bag inserts that collect debris in order to clean the system, however, these bags are filling quickly and not being cleaned thus not allowing stormwater to enter the system and flooding Lawson Avenue and adjacent streets; and the system becomes filled with debris preventing the stormwater to flow through the system properly.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of various check valves and stormwater treatment devices and drainage improvements to Lawson Avenue in Bay Park and the Village of East Rockaway. The existing drainage system on Lawson Avenue will be replaced with larger pipe and more drainage structures to increase the capacity of the system and remove the pipes that are back pitched and the installation of an in-line check valve to prevent tidal surcharge and a stormwater treatment structure to remove debris, improve the quality of the stormwater, and prevent debris from reaching the in-line check valve thus preserving the life of the in-line check valve.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	1-Year storm	Estimated Benefits (losses avoided):	This project will correct major drainage problems that continue to flood the streets of East Rockaway and Bay Park.
Useful Life:	50 Years		
Estimated Cost:	\$5,671,589.05		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	February 28, 2020
Estimated Time Required for Project Implementation:	15 Months	Potential Funding Sources:	GOSR/CDBG-DR
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	0	
	Purchase additional filter bag inserts and establish a system for rapid-replacement of filters.	<\$100,000 + annual maintenance.	This might provide some flood reduction benefits, but would require significant staff time and availability without providing the same level of risk reduction.
Upgrade the system to accommodate a larger storm event	>\$6,000,000	While upgrading the drainage infrastructure to accommodate even larger storm events would be desirable, it is believed to be cost prohibitive.	
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020,		
Report of Progress:	Design phase almost complete, Construction phase set to begin by the end of the year.		

Update Evaluation of
the Problem and/or
Solution:

N/A

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: *Lido Beach*

NYS DHSES Action Worksheet			
Project Name:	Beech Street/Park Street Complete Streets and Drainage Improvements		
Project Number:	NCO_2		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	Park Street/Beech Street is the primary transportation corridor that links the barrier island from the Atlantic Beach Bridge through the City of Long Beach and it also serves as a coastal evacuation route. Park Street/Beech Street and associated intersections along the route were severely impacted by flooding during Superstorm Sandy. This evacuation route was impassable during, following, Superstorm Sandy and, compounded by no working lighting, created unsafe conditions for first responders, residents, and local businesses.		
Action or Project Intended for Implementation			
Description of the Solution:	To increase flood resiliency and provide a pedestrian/motorist safety and traffic calming along Park Street (Village of Atlantic Beach) and continuing along Beech Street up to the border of Long Beach. Park Street/Beech Street is the primary transportation corridor that links the barrier island from the Atlantic Beach Bridge through the City of Long Beach and it also serves as a coastal evacuation route.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	10-Year Storm	Estimated Benefits (losses avoided):	This project will address major drainage problems throughout the corridor as well as implement traffic safety mitigations and a multi-use trail.
Useful Life:	50 Years		
Estimated Cost:	\$18,495,506.61		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	February 28, 2022,
Estimated Time Required for Project Implementation:	21 Months	Potential Funding Sources:	GOSR/CDBG-DR, NC Capital Plan, Empire State Development Grant
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Correct deficiencies in the existing drainage system, in addition to the other proposed improvements.	Over \$25,000,000	Not pursued because this area's drainage system is part of a larger network. Work would be much more cost and labor-intensive.
	Increase the sizes of pipes in the existing drainage system in addition to the other proposed improvements.	Unknown	Not pursued because most work would need to take place outside of the County's ROW.
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020		
Report of Progress:	Design phase almost complete, construction phase set to begin by the end of the year.		
Update Evaluation of the Problem and/or Solution:	n/a		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: Village of Cedarhurst

NYS DHSES Action Worksheet			
Project Name:	Five Towns Drainage Improvements-Cedarhurst Pump Station		
Project Number:	NCO_3		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	Significant flood threats face the Five Towns area due to its location on the south shore of Long Island. The resultant flooding and standing water during coastal storm events create public health and safety hazards and significantly affect the quality of life for the surrounding residents. 50 CFS pump station at Hanlon Dr, and Peninsula Blvd. in the Village of Cedarhurst.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of a 50 CFS stormwater pump station and check valve. This proposed pump station is derived from the Five Towns Drainage Improvement Study and is intended to mitigate flooding along Peninsula Blvd. and the surrounding areas.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Pump will operate to prevent 10-year storm flooding in the roadway.	Estimated Benefits (losses avoided):	To mitigate flooding along Peninsula Blvd during intense rain storm events, clearing a major storm evacuation route.
Useful Life:	50 Years		
Estimated Cost:	\$3,237,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	February 28, 2022,
Estimated Time Required for Project Implementation:	11 Months	Potential Funding Sources:	GOSR/CDBG-DR
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Use an alternative type of pump for the pump station. Types considered are submersible pump with propeller in discharge tube, axial flow pump, screw pump.	Variable	Each pump has a different cost factor involved, flow rate and discharge head; none represent a superior cost/benefit ratio to the preferred solution.
Identify alternate evacuation routes that can be used during flood events.	\$25,000-\$50,000 for a study	Alternate route options are limited; reduction of flood along Peninsula Blvd and in surrounding areas is strongly preferred.	
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020		
Report of Progress:	Design phase nearing completion; commencing construction phase by the end of the year.		
Update Evaluation of the Problem and/or Solution:	N/A		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: *Village of Lawrence*

NYS DHSES Action Worksheet			
Project Name:	Five Towns Drainage Improvements: Lawrence Pipes		
Project Number:	NCO_4		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	The study determined that installing check valves to prevent tidal water from entering storm sewers and increasing the diameter of pipes along Meadow Lane, Marbridge Road, Causeway Road, North Road, and Barrett Road would reduce flooding. Installation of pipes of greater diameter will increase system capacity and eliminate flow restrictions such that flooding from storms with up to a 1-Year storm event. In addition, new inlet structures will be installed, providing treatment of runoff prior to discharge to surface waters.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of check valves & installation of large diameter pipes along Meadow Ln, Marbridge Rd. Causeway Rd. North Rd. and Barrett Rd. New Inlet structures.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Tidal: 1-year rainfall event occurring during the highest annual tide recorded in a 1-year time period. Rainwater: 5-year rainfall during low tide.	Estimated Benefits (losses avoided):	This project will correct major drainage problems that continue to flood the streets
Useful Life:	50 years		
Estimated Cost:	\$8,776,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	02/28/2022
Estimated Time Required for Project Implementation:	15 Months	Potential Funding Sources:	GOSR - CDBG-DR
Responsible Organization:		Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Drainage improvements at Bay Berry Road south and Barrett Road.	TBD - the exact cost would be significantly below the estimated cost of the preferred alternative.	Considered an add on to base bid if costs allow - this would not be nearly as effective as preferred alternative.
	Drainage improvements at intersection of Barret Road and Washington Ave.	TBD - exact cost would be significantly below the estimated cost of the preferred alternative.	Again, this is would not be nearly as effective as preferred alternative. If implemented as an add on, it would improve the overall risk reduction.
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020		
Report of Progress:	Design phase almost complete, Construction phase set to begin by the end of the year		
Update Evaluation of the Problem and/or Solution:			

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: *Village of Island Park*

NYS DHSES Action Worksheet			
Project Name:	Island Park Destination Revitalization and Transit-Oriented Development (TOD)		
Project Number:	NCO_5		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	Significant damage was sustained due to the Superstorm Sandy's high winds and island-wide flooding. Improvements needed along Long Beach Rd. between Warwick and Sagamore Rd. in the Village of Island Park. Drainage improvements will also be required to ensure that runoff from within the roadway is adequately collected and conveyed to existing systems.		
Action or Project Intended for Implementation			
Description of the Solution:	Streetscape improvements may include restriping, tree planting, bulbouts with bioswales, and midblock crossings with bio-swales. Drainage improvements will take place along Long Beach Rd. in the Village of Island Park.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Developing a placemaking streetscape, to provide for a more economically resilient downtown.
Useful Life:	50 Years		
Estimated Cost:	\$1,350,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	February 28, 2020,
Estimated Time Required for Project Implementation:	13 Months	Potential Funding Sources:	GOSR/CDBG-DR
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Additional check valves near California Ave.	TBD, depending upon number of check valves	Outside of County jurisdiction.
Streetscape improvements without bioswales	Less than preferred alternative;	While less costly, the absence of bioswales would reduce the overall functionality of integrated stormwater, drainage, and streetscape improvements.	
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020,		
Report of Progress:	Design phase nearing completion; commencing construction phase by the end of the year.		
Update Evaluation of the Problem and/or Solution:	N/A		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: Lido Beach

NYS DHSES Action Worksheet			
Project Name:	Lido Beach/Point Lookout Comprehensive Drainage Study and Improvement		
Project Number:	NCO_6		
Risk / Vulnerability			
Hazard of Concern:	Flooding, Severe storms		
Description of the Problem:	Roadway flooding occurs within the Lido Boulevard area in Lido Beach and Point Lookout. There is a need for stormwater management improvements along local roadways and replaced drainage systems, between Greenway Road and Regent Drive on Lido Blvd. Additionally, there is a need for improved access to the Nassau County drainage easement off Regent Drive.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of check valves the removal and replacement of curb inlets on local roadways, the replacements of drainage piping between Greenway Road and Regent Drive on Lido Blvd.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	10-Year frequency or recurring storm event	Estimated Benefits (losses avoided):	Will assist in protecting from tidal flooding through outfalls in Lido Beach and mitigate flooding on Lido Boulevard
Useful Life:	50 Years		
Estimated Cost:	\$2,420,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	February 28, 2020,
Estimated Time Required for Project Implementation:	14 Months	Potential Funding Sources:	GOSR/CDBG-DR
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Install additional check valves and drainage piping to cover a broader area.	Additional costs could exceed \$500,000 depending on the scale of additional check valves and drainage piping.	Higher cost, a greater area protected.
	Install fewer check valves and drainage piping to cover only the highest priority areas.	Cost reduction would depend upon the total number of check valves and drainage piping.	Lower cost, greater area unprotected.
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020,		
Report of Progress:	Design phase almost complete, construction phase set to begin by the end of the year.		
Update Evaluation of the Problem and/or Solution:	n/a		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County: Town of Hempstead

NYS DHSES Action Worksheet			
Project Name:	Silver Lake Drainage Improvements		
Project Number:	NCO_7		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding of Silver Lake Park in Baldwin, flooding will spill over into local roadways.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of a tide gate, construction of higher bulkhead around the pond perimeter, and the installation of fish passage for promoting ecological sustainability		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	10-Year rainfall with normal high tide; 1-Year tide event with 1-Year rainfall event.	Estimated Benefits (losses avoided):	Will assist in protecting from tidal flooding in the areas surrounding Silver Lake in Baldwin
Useful Life:	50 Years		
Estimated Cost:	\$2,500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	February 28, 2022,
Estimated Time Required for Project Implementation:	12 Months	Potential Funding Sources:	GOSR/CDBG-DR
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Don't raise perimeter walkway/bulkhead of Silver Lake to Elevation 5.0' but complete all other improvements.	Save approximately \$800,000	The pond is currently at 3.0' elevation and would continue flooding frequently during rainfalls and high tides.
	Don't install tidal gates on Silver Lake outfalls.	Save approximately \$700,000	Flooding during tidal surges would continue with the same frequency.
Progress Report (for plan maintenance)			
Date of Status Report:	August 14, 2020,		
Report of Progress:	Design phase almost complete, construction phase set to begin by the end of the year.		
Update Evaluation of the Problem and/or Solution:	n/a		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County

NYS DHSES Action Worksheet			
Project Name:	Shoreline Protection at Various County Parks		
Project Number:	NCO_8		
Risk / Vulnerability			
Hazard of Concern:	Coastal Flooding		
Description of the Problem:	Various waterfront County parks properties experience shoreline erosion and flooding. These include North Woodmere Park in Valley Stream, Inwood Park in Inwood, and Cow Meadow Park in Freeport. Certain areas with existing bulkheading may need to have bulkheading replaced, while other areas may need additional types of erosion control measures implemented.		
Action or Project Intended for Implementation			
Description of the Solution:	Study, design, and construct shoreline protection measures including living shorelines and/or hard structures such as bulkheads at the following County properties: North Woodmere Park, Inwood Park, and Cow Meadow Park.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	TBD	Estimated Benefits (losses avoided):	Park properties will be better protected from erosion and flooding.
Useful Life:	TBD		
Estimated Cost:	TBD		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within the next 5-10 years.
Estimated Time Required for Project Implementation:	TBD	Potential Funding Sources:	Unknown
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$	Erosion will get worse and property loss may occur.
	Hard shoreline only.	TBD	Does not provide a natural shoreline edge which enhances local habitats. The cost may be higher per sq. ft. than a living shoreline.
Living shoreline only.	TBD	Cost may be less per sq. ft. than bulkheading. May require more regular maintenance for County.	
Progress Report (for plan maintenance)			
Date of Status Report:	August 13, 2020,		
Report of Progress:	This is the first request to add this project. Limited work is currently taking place at Inwood Park to address bulkheading, but the work is focusing near the boat launch ramp. There are a number of other areas at the park such as near the ball fields that have eroded and need protection. A comprehensive evaluation of all areas will need to be done.		
Update Evaluation of the Problem and/or Solution:	N/A		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County

NYS DHSES Action Worksheet			
Project Name:	Seawall Rehabilitation at Sands Point Preserve		
Project Number:	NCO_9		
Risk / Vulnerability			
Hazard of Concern:	Property Erosion; Landslides		
Description of the Problem:	During storms such as mild Nor'easters, the Sands Point Preserve's shoreline frequently loses cliffside and large areas are lost. The most urgent shoreline repairs needed are for the area directly below and adjacent to the Falaise mansion (eastern edge of the property). The remaining areas of the coastline are unprotected at this time and face erosion concerns. Many years ago, when the Hempstead House (western part of the property) was a private residence, there was a seawall-type structure in place. The wall has since fully collapsed, with many portions missing, buried in the beach, or underwater at high tide. It is estimated that 5,000 to 6,000 feet of shoreline is currently in need of protection.		
Action or Project Intended for Implementation			
Description of the Solution:	Study, design, and construct shoreline protection measures along the Sands Point Preserve's approximately 5,000-foot shoreline. Measures would include living and/or hard shoreline structures.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	TBD	Estimated Benefits (losses avoided):	Park property will be better protected from erosion and flooding.
Useful Life:	TBD		
Estimated Cost:	TBD		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within the next 5-10 years. (Excludes any emergency repairs needed in the short term.)
Estimated Time Required for Project Implementation:	TBD	Potential Funding Sources:	Unknown
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$	Erosion will get worse and property loss may occur.
	Hard shoreline only.	TBD	Does not provide a natural shoreline edge which enhances local habitats. The cost may be higher per sq. ft. than a living shoreline.
	Living shoreline only.	TBD	Cost may be less per sq. ft. than hard structures (e.g. bulkheading). May require more regular maintenance for County.
Progress Report (for plan maintenance)			
Date of Status Report:	August 13, 2020		
Report of Progress:	An NYSDEC permit has been secured for temporary repairs of the shoreline near the Falaise mansion. Temporary repairs near Falaise are expected to cost between \$500,000 and \$1,000,000. A cost for addressing the entire shoreline has not been determined.		
Update Evaluation of the Problem and/or Solution:	N/A		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Nassau County

NYS DHSES Action Worksheet			
Project Name:	Nassau County Master Plan Update		
Project Number:	NCO_10		
Risk / Vulnerability			
Hazard of Concern:	All-Hazards, Severe storms, Inclement Weather		
Description of the Problem:	The County is in the process of incorporating sustainability and resiliency into all facets of its planning and operations. Funding limitations have impacted the implementation of a comprehensive sustainability and resiliency approach across all areas.		
Action or Project Intended for Implementation			
Description of the Solution:	The County will update its Master Plan to address storm/climate resiliency and sustainability, along with other physical, social, environmental and transportation initiatives.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	TBD	Estimated Benefits (losses avoided):	Improvements will have been identified and prioritized to address resiliency and sustainability issues that the County faces.
Useful Life:	TBD		
Estimated Cost:	\$1,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within the next 5-10 years.
Estimated Time Required for Project Implementation:	12 months	Potential Funding Sources:	County Capital Plan
Responsible Organization:	Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$	Certain County initiatives may not properly address sustainability and resiliency.
	Master plan update without sustainability or resiliency addressed.	\$1 million	Certain County initiatives may not properly address sustainability and resiliency.
Master plan update with just sustainability and resiliency addressed.	TBD	Certain County initiatives may have sustainability and resiliency addressed, but other areas of planning importance may not be properly addressed.	
Progress Report (for plan maintenance)			
Date of Status Report:	August 13, 2020		
Report of Progress:	A capital project (92038) has been included in the County Executive's proposed 2020 Capital Improvement Plan. The plan has not yet been approved by the County Legislature.		
Update Evaluation of the Problem and/or Solution:			

City of Glen Cove Annex

This document presents the City of Glen Cove’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Mayor Timothy Tenke, Mayor City of Glen Cove 9 Glen Street Glen Cove, NY 11542 ttenke@glencoveny.gov 516-676-2004	Maureen Basdavanos, Deputy Mayor City of Glen Cove 9 Glen Street Glen Cove, NY 11542 mbasdavanos@glencoveny.gov 516-676-2000

Profile

The City of Glen Cove covers approximately 6.66 square miles¹ and has a total population of 27,166 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the City of Glen Cove are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: City of Glen Cove Demographic Information

Demographic		Demographic	
Below 5 Years Old	6.7%	Black or African American alone	8.7%
Above 65 Years Old	18.0%	American Indian and Alaska Native alone	0.7%
Individuals with Disabilities	5.5%	Asian alone	5.0%
Persons in Poverty	14.1%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	49.2%	Two or More Races	2.9%
Without a High School Diploma	19.5%	White alone, not Hispanic or Latino, percent	54.3%
Without Access to Broadband Internet	15.4%	Hispanic or Latino	27.3%

¹ This is inclusive of land area only.

Glen Cove continues to grow in population and development. Currently, there are three major development projects underway; Garvies Point, The Villas, and One Village Square. These projects will increase the current apartment stock by over 1,000 units combined. This will add to the current population and will bring with it additional commercial business opportunities to the area. In the past five years, Garvies Point and One Village Square have been started and are nearing completion. Two buildings in the early stages of the Garvies Pint project are currently occupied by tenants. The Garvies Point project is almost exclusively being developed in the 100-year floodplain. This project will continue in the coming five years. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the City of Glen Cove. The jurisdiction identified coastal hazards, flooding, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the City of Glen Cove include: **Coastal Hazards, Flooding, and Wind.**

Table 2: City of Glen Cove Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	Community
Flooding	Community, Infrastructure, Natural and Cultural Resources
Ground Failure	Natural and Cultural Resources
Hurricane and Tropical Storms	Community, Natural and Cultural Resources
Hail	Community
Lightning	Community
Severe Winter Weather	Community

Hazard	Impact Categories
Tornados	Community, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources
Wind	Community

Capability Assessment

This section summarizes the capabilities that the City of Glen Cove has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the City of Glen Cove. The City of Glen Cove maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, community development plans, comprehensive plans/master plans, site plan review requirements, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the City can consider the capabilities in the table below that the City currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: City of Glen Cove Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Glen Cove Code of Ordinance
Capital Improvement Plan	Yes	Glen Cove Capital Improvement Plan
Climate Action Plan	No	
Community Development Plan	Yes	CDA Plan
Comprehensive Plan / Master Plan	Yes	Glen Cove Master Plan
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Building Department Policy
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Glen Cove Code of Ordinance

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the City of Glen Cove. The City of Glen Cove's primary administrative and technical capabilities include an emergency manager, building and infrastructure engineers, grant writers, and construction practices personnel. These capabilities provide the City with a wide range of technical capabilities. The City can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards planning.

Table 4: City of Glen Cove Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Director of Emergency Management
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Director of Building Department
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	Yes	CDA Director
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	Director of Building Department

Staff / Personnel Resource	Yes / No	Details
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the City of Glen Cove. Funding is often the biggest barrier when implementing mitigation programs. The City is primarily able to fund mitigation programs by incurring debt through general obligation bonds and special tax bonds, levying taxes for specific purposes, withholding public expenditures in hazard prone areas, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. City of Glen Cove should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: City of Glen Cove Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	Yes	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	Yes	
Capital improvements project funding	Yes	Glen Cove Capital Improvement Plan
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	Yes	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the City of Glen Cove. Exploring gaining one or more community classifications will guide the City's mitigation programs and support capacity building.

Table 6: City of Glen Cove Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

The flood prone areas in the City include low lying areas on the North Shore that abut the Long Island Sound. These areas include the land surrounding the Glen Cove Creek, land adjacent to Crescent Beach, and the land that constitutes Pryibil's Beach. This section provides a summary of the floodplain management capabilities for City of Glen Cove and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The City's Building Director is responsible for floodplain management. The City administers the NFIP through building permit and site plan review. The City noted that education was a current barrier to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The City of Glen Cove is in good standing with the NFIP. Based on documentation received from NYSDEC, the City had its last Community Assistance Contact on 02/28/2020 and its last Community Assistance Visit on 06/26/2015. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance was last amended 07/28/2009 and can be referenced in Chapter 154, City Code, L.L. No. 6-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for City of Glen Cove. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Conduct an infrastructure analysis and design process for East Island Tidegates and Pryill Beach Sluiceway.	Construct and install the recommended infrastructure improvements.
Risk Category	Flooding	Flooding
Project Status	Completed	Not Started
Project Status Description	The analysis and design have been undertaken and completed.	The project was not completed but is currently scheduled to begin.
Carried Forward to 2020 Plan	No	Yes
Required Changes	None	Yes. We need to complete the repairs.

Proposed Mitigation Actions

Project Number	CGC_1	CGC_2	CGC_3
Project Name	Morgan Island Bridge Sluiceway Repair	Morgan Park Sea Wall Evaluation Study	Sea Cliff Ave. Flood Mitigation
Goal being met	3	3, 5	1, 3
Hazards to be mitigated	Flooding	Flooding and Erosion	Flooding
Priority Ranking	High	High	High
Description of the Problem	The tide control gates are in disrepair and not functioning correctly	The sea wall at Morgan Park has been continuously damaged during storms. This has caused large granite rocks to shift, and they are now susceptible to undermining. The damage has also resulted in erosion of the land behind the seawall to the point where it is not being properly retained and has the potential to slide. This has caused erosion in the area and has compromised to real property above the sea wall.	The roadway on Sea Cliff Ave is prone to flooding
Description of the Solution	Repair gates	Explore numerous sustainable options to retain the real property above the sea wall and slow or stop the erosion process. This study would find the most viable course of action for the City of Glen Cove to repair the entire system; sea wall, retaining walls and hillside erosion controls	Increase the storm drainage capacity in this area so that the creek and roadway can properly drain.
Critical Facility	No	No	No
EHP Issues	NA	NA	NA
Estimated Timeline	1 Year	One year	One Year
Lead Agency	TBD	Department of Public Works	Department of Public Works
Estimated Costs	\$5,000,000	\$1,000,000	\$800,000
Estimated Benefits	Control flooding in Dosoris Pond and surrounding properties	\$15,000,000	Control flooding on roadway / \$1,000,000
Potential Funding Sources	Local Budgets / Bonds?	Department of Public works and/or Building Department	FEMA Hazard Mitigation Assistance

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: City of Glen Cove

NYS DHSES Action Worksheet			
Project Name:	Sea Cliff Ave Flood Correction		
Project Number:	CGC_3		
Risk / Vulnerability			
Hazard of Concern:	Flood		
Description of the Problem:	The low-lying area of Sea Cliff Ave is prone to flooding during storm events. The area has a small creek that runs perpendicular to the roadway and the creek is prone to flooding during storm events and spills onto the roadway making it unpassable.		
Action or Project Intended for Implementation			
Description of the Solution:	Increase the storm drainage capacity in this area so that the creek and roadway can properly drain.		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	10 year flood	Estimated Benefits (losses avoided):	\$1,000,000
Useful Life:	30 years		
Estimated Cost:	\$800,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Six months
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	FEMA Hazard Mitigation Assistance
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	Building Department
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Repair drainage for roadway only	\$200,000	This would assist in minor floods, but a major flood involving the creek would inundate this repair.
	Repair drainage for creek only	\$400,000	This would resolve major flooding issues, but would not address roadway flooding.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: City of Glen Cove

NYS DHSES Action Worksheet			
Project Name:	Morgan Park Seawall Evaluation Study		
Project Number:	CGC_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding and Erosion		
Description of the Problem:	The sea wall at Morgan Park has been continuously damaged during storms. This has caused large granite rocks to shift, and they are now susceptible to undermining. The damage has also resulted in erosion of the land behind the seawall to the point where it is not being properly retained and has the potential to slide. This has caused erosion in the area and has compromised to real property above the sea wall.		
Action or Project Intended for Implementation			
Description of the Solution:	Explore numerous sustainable options to retain the real property above the sea wall and slow or stop the erosion process. This study would find the most viable course of action for the City of Glen Cove to repair the entire system; sea wall, retaining walls and hillside erosion controls.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Ten-year flood	Estimated Benefits (losses avoided):	\$15,000,000
Useful Life:	Ten years		
Estimated Cost:	\$1,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Six months
Estimated Time Required for Project Implementation:	One Year	Potential Funding Sources:	Department of Public works and/or Building Department
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	Building Department
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Basic Repair	\$200,000	The study will explore several sustainable options for mitigating the erosion in the Morgan Park area.
	Repair sea wall and drainage	\$2,000,000	Make repairs to the existing sea wall and install drainage to dissipate the sea water and mitigate erosion.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

City of Long Beach Annex

This document presents the City of Long Beach’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Donna M. Gayden City of Long Beach 1 West Chester Street Long Beach, NY 11561 citymanager@longbeachny.gov 516-431-1001	Scott Kemins City of Long Beach 1 West Chester Street Long Beach, NY 11561 lbbuilding@longbeachny.gov 516-510-1005

Profile

The City of Long Beach covers approximately 2.22 square miles¹ and has a total population of 33,454 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the City of Long Beach are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: City of Long Beach Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.7%	Black or African American alone	6.8%
Above 65 Years Old	18.4%	American Indian and Alaska Native alone	0.1%
Individuals with Disabilities	7.9%	Asian alone	3.3%
Persons in Poverty	6.9%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	43.5%	Two or More Races	3.3%
Without a High School Diploma	5.5%	White alone, not Hispanic or Latino, percent	74.1%
Without Access to Broadband Internet	12.3%	Hispanic or Latino	13.5%

¹ This is inclusive of land area only.

There are currently two major developments being undertaken within City boundaries: (1) a ten story multi-family dwelling located at 50 West Broadway and (2) a six story multi-family dwelling located at 661 West Broadway. Approximately 10% of the residential structures have been elevated and therefore brought into FEMA compliance since Super Storm Sandy, equating to approximately 1,200 residential properties. All of the work that has been undertaken is located in the 100-year floodplain because the entire City is in the 100-year floodplain. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the City of Long Beach. The jurisdiction identified Coastal Hazards, Flooding, and Hurricane as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the City of Long Beach include: **Coastal Hazards, Flooding, and Hurricane.**

Table 2: City of Long Beach Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	Economy, Health and Social Services
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources

Hazard	Impact Categories
Tornados	No Impact
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the City of Long Beach has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the City of Long Beach. The City of Long Beach maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plans, building codes, capital improvement plans, climate action plans, community development plans, comprehensive/master plans, economic development plans, emergency response plans, floodplain management plans, growth management plans, NFIP flood damage prevention ordinances, open space plans, post disaster recovery ordinances, post disaster recovery plans, real estate disclosure requirements, resilience plans, site plan review requirements, small area development plans, special purpose ordinances, stormwater management plans, subdivision ordinances, transportation plans, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the City can consider the capabilities in the table below that the City currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: City of Long Beach Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	2020 International Building Code
Capital Improvement Plan	No	2021-2025 Capital Improvement Plan
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	Yes	Draft Comprehensive Plan Not Yet Adopted
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	2013 Emergency Response Plan for Maintaining Supplies
Floodplain Management Plan(s)	Yes	2020 Floodplain Management Plan
Growth Management Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
NFIP Flood Damage Prevention Ordinance(s)	Yes	Located in the City of Long Beach Code of Ordinances
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	City of Long Beach Code of Ordinances
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	City of Long Beach Code of Ordinances
Subdivision Ordinance(s)	Yes	City of Long Beach Zoning Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	City of Long Beach Zoning Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the City of Long Beach. The City of Long Beach has a high level of primary administrative and technical capabilities to support mitigation. This includes management, administration, grant writing, engineering, construction, and analysis. Increasing training capacity and expertise of these individuals will support mitigation practice in the City. Diversifying expertise to be inclusive of planning skills will also support mitigation practice.

Table 4: City of Long Beach Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Director of Emergency Management
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Commissioner of Public Works
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Deputy Commissioner of Public Works
Engineer(s) with knowledge of land development and land management practices	Yes	Zoning Inspector
Grant Writers	Yes	Director of Economic Development

Staff / Personnel Resource	Yes / No	Details
Personnel skilled or trained in Geographic Information Systems	Yes	Deputy Commissioner of Public Works
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Commissioner
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the City of Long Beach. Funding is often the biggest barrier when implementing mitigation programs. The City is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, levying taxes for specific purposes, utilizing user fees for utility services, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. City of Long Beach should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: City of Long Beach Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	Yes	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	City of Long Beach Zoning Code
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	Yes	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the City of Long Beach. Participation in the Climate Smart Community program demonstrates increased capabilities of the City related to mitigation. Exploring gaining additional community classifications will guide the City's mitigation programs and support capacity building.

Table 6: City of Long Beach Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes – BCEGS Rating of 3
Public Protection Classification Program	No
Community Rating System (CRS)	Yes – CRS Class 7
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for City of Long Beach and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). As detailed in their 2020 Floodplain Management Plan, the "City of Long Beach has significant exposure to flooding as one of New York State's barrier island communities. The city is bordered by the Atlantic Ocean to the south and the Reynolds Channel to the north, and is impacted by heavy rainfall events. Historically and most recently, storm events such as Superstorm Sandy have demonstrated how the City of Long Beach can be significantly impacted by flooding."

The City's Building Commissioner is responsible for floodplain management. Training from relevant regulatory agencies such as New York State Department of Environmental Conservation and the Environmental Protection Agency will support the future growth of the City's floodplain management program. The NFIP is administered through the City of Long Beach Building Department. Some of the barriers to running a successful NFIP program in the City include trying to satisfy a myriad of government rules and regulations with limited staff and resources. After flood events, substantial damage determinations are determined by in-house inspectors. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The City reported that 2000 properties were substantially damaged as a result of recent flood events. The City of Long Beach is in good standing with the NFIP. Based on documentation received from NYSDEC, the City had its last Community Assistance Contact on 02/15/2013 and its last Community Assistance Visit on 07/22/2014. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Subsequent to Hurricane Sandy, over 1200 homes in the City were elevated to mitigate future flood losses at these properties. The City used hazard mitigation funding available through FEMA's Public Assistance program to harden various facilities including, but not limited to, City Hall, MLK Center, Ice Arena, Senior/Recreation Center, West End Community Center,

Wastewater Treatment Plant, and Water Purification Plant. In addition, there are several New York State Governor's Office of Storm Recovery (GOSR) projects that the City has undertaken, including various drainage projects. The City is also installing new bulkheads to the height of the Base Flood Elevation (BFE) to mitigate future flooding and erosion at various locations. The Flood Damage Prevention Ordinance for the City of Long Beach meets minimum requirements. The ordinance was last amended 04/01/1997 and can be referenced in Article 12 of the City of Long Beach Code of Ordinances. Other steps that the City takes to support the floodplain management program and meet NFIP requirements include participating in the Community Rating System. Participation in this program helps to reduce flood insurance premiums for City residents that have policies through the NFIP.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for City of Long Beach. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Project Table #1 – 6:

Action	Install and Raise Bulk Heading Along Reynolds Channel	Install Check Valves for Critical Infrastructure	Build City Command Center	Comprehensive Drainage Analysis of the City	Canal flood gates Along Reynolds Channel	City Wide Tree Maintenance and Pruning Program
Risk Category	Flooding, Severe Weather, Wave Action, Erosion	Flooding	Earthquakes, Severe Weather, Extreme Winds, Erosion, Wave Action, Flooding	Flooding	Flooding	Severe Weather, Flooding, extreme Winds
Project Status	In Progress 40% Complete	In Progress	Complete	Not Started	Not Started	Complete
Project Status Description	Construction in progress: West End Bulkhead, Heron and Doyle canals, Bay Drive Washington to Magnolia	Check valve installations will continue through the City's Annual Marine Construction contract.	The office of Emergency Management is fully operational.	Funding not approved.	Funding not approved.	Developed tree planting master plan.
Carried Forward to 2020 Plan	Yes	Yes	No	No	No	No
Required Changes	No	No	N/A	N/A	N/A	N/A

Project Table #7 - 12:

Action	Perform Routine Maintenance of City's Storm Drains	Annual Event to promote Disaster Resistant Development	Mitigation of Masonry Exterior. Installation of parapet walls and water-resistant materials.	Install Permanent Generator - installed at the Long Beach Medical Center	Install permanent generators at the Lido Complex, Lindell Elementary School & East Elementary School	Upgrade Exterior Envelope at Long Beach High School
Risk Category	Flooding	Earthquakes, Severe Weather, Extreme Winds, Flooding	Infiltration of Water	Loss of electrical power	Loss of Electrical Power	Damage to roof and curtainwall systems
Project Status	Ongoing	Ongoing	Complete	Complete	Complete	Complete

Action	Perform Routine Maintenance of City's Storm Drains	Annual Event to promote Disaster Resistant Development	Mitigation of Masonry Exterior. Installation of parapet walls and water-resistant materials.	Install Permanent Generator - installed at the Long Beach Medical Center	Install permanent generators at the Lido Complex, Lindell Elementary School & East Elementary School	Upgrade Exterior Envelope at Long Beach High School
Project Status Description	The City's Sewer Maintenance Dept. cleans catch basins and storm drains as part of the phase II Storm Water program.	The City participates in Disaster Resistance Development.	Parapet reconstruction was completed at the Long Beach Nursing Home at 375 East Bay Drive.	The permanent generator for the South Nassau Free Standing Emergency Department was installed	Parapet reconstruction was completed at the Long Beach Nursing Home at 375 East Bay Drive.	They have completed the upgrade of the exterior envelope of the High School.
Carried Forward to 2020 Plan	No	Yes	No	No	No	No
Required Changes	N/A	No	N/A	N/A	N/A	N/A

Proposed Mitigation Actions

Project Table #1-7:

Project Number	CLB_1	CLB_2	CLB_3	CLB_4	CLB_5	CLB_6	CLB_7
Project Name	Annual Event to promote Disaster Resistant Development	City of Long Beach/Nassau County Waste Water Treatment Plant Diversion Project (FEMA 406 Mitigation)	Drainage Improvement Project (GOSR)	Dry Flood Proofing Municipal Building Complex (PW-04066)	Hazard Mitigation-150 W. Pine St. Complex (PW-433528 Emmie-0449)	Hazard Mitigation-Animal Shelter (PW-433524 Emmie-04134)	Hazard Mitigation-Fire Houses Station 1 Maple, Station 2 Indiana (PW-433525 Emmie-04134)
Goal being met	4	1,2,3,4,5,6	1,2,3,4,5	1, 3	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5
Hazards to be mitigated	Earthquakes, Severe Weather, Extreme Winds, Flooding	Flooding	Flooding	Flooding	Flooding	Flooding	Flooding
Priority Ranking	High	High	High	High	High	High	High
Description of the Problem	Development in the City of Long Beach should be constructed in a way that is resistant and resilient to future disasters of all kinds.	The City of Long Beach WWTP is antiquated and not compliant with existing regulatory requirements.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	The Municipal Building Complex, located at 1 West Chester Avenue, Long Beach, NY, is a critical facility that houses City Hall, the Police Department, and the Fire Department. During Hurricane Sandy, this facility	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during

Project Number	CLB_1	CLB_2	CLB_3	CLB_4	CLB_5	CLB_6	CLB_7
				s flooded by storm surge from the Atlantic Ocean that rose to approximately 9" above ground floor level, or 18" above ground grade of 7.41" NAVD88.			Hurricane Sandy.
Description of the Solution	Hold an annual event to promote disaster resistant development and familiarize the construction and development industry about resilient building practices as well as local and state standards and regulations.	Convert Wastewater Treatment Plant to a pump station and divert flow to the Bay Park Sewage Treatment Plant.	Address chronic flood prone areas.	Dry flood proof the buildings and elevate City Hall mechanicals above the SFHA to reduce risk of flood damage in the future.	Floodproof complex. Install sump pumps. Install elevated emergency generator.	Replace four doors with flood proof units. Replace three windows with flood resistant units. Seal all exterior penetrations. Fortify exterior wall surfaces by wrapping building with fiber-reinforced polymer material. Install sump pump system and backflow prevention device.	Flood proof buildings.
Critical Facility	No	Yes	Yes	Yes	Yes	No	Yes
EHP Issues	No	No	No	Yes	No	No	No
Estimated Timeline	Ongoing	Design for Long Beach portion 90% complete. Construction Fall 2020.	Construction Fall 2020	In progress	Design 90% complete. Construction Fall 2022.	Design not initiated. Construction Fall 2022.	Hazard Mitigation Plan pending approval by FEMA.
Lead Agency	Community Development	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach
Estimated Costs	\$10,000	\$80,000,000	\$5,045,000	\$847,014	\$3,086,378	\$89,623	\$156,733
Estimated Benefits	Encourage disaster resistant development in the City of Long Beach.	Protect critical facility Infrastructure.	Mitigate flooding.	Protect critical facilities.	Protect against loss of equipment.	Avoid future property damage.	Avoid future property damage.
Potential Funding Sources	Municipal budget	FEMA	FEMA	FEMA	FEMA	FEMA	FEMA

Project Table #8-15:

Project Number	CLB_8	CLB_9	CLB_10	CLB_11	CLB_12	CLB_13	CLB_14	CLB_15
Project Name	Hazard Mitigation-Long Beach City Hall (PW-433520 Emmie-04066)	Hazard Mitigation-Long Beach Ice Arena (PW-433532 Emmie-03978)	Hazard Mitigation-MLK Center (PW-433529 Emmie-03901)	Hazard Mitigation-Recreation and Senior Center (PW-433505 Emmie-04154)	Hazard Mitigation-Waste Water Treatment Plant (PW-433508 Emmie-00309)	Hazard Mitigation-Water Purification Plant (PW-4333509 Emmie-0293)	Install Check Valves for Critical Infrastructure	Northshore Critical Infrastructure Project (FEMA 404 Mitigation Project)
Goal being met	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6	1,2,3,4,5	1, 3	1,2,3,4,5
Hazards to be mitigated	Flooding	Flooding	Flooding	Flooding	Flooding	Flooding	Flooding	Flood Mitigation, Coastal Erosion Protection and Infrastructure Preservation
Priority Ranking	High	High	High	High	High	High	High	High
Description of the Problem	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	This facility is in the floodplain and vulnerable to repetitive flooding. It was damaged during Hurricane Sandy.	The existing shoreline located on the Northshore of Long Beach between Monroe Blvd and Long Beach Veterans Memorial Park is in an extreme state of decay. This area is subject to extreme flooding
Description of the Solution	Install stop log system at all points, sump pumps. Replace front entry. Flood proof brick façade.	Replace entry doors. Install Stop log system. Replace windows with flood resistant windows. Seal exterior penetrations. Install sump pumps and backflow preventer on sanitary sewer line.	Strengthen masonry wall and corrugated steel walls. Install flood resistant doors, backflow devices and sump pumps.	Stop log system at all points, sump pumps, replacement of frontal perimeter doors with flood proof units, flood proofing brick façade, erection of perimeter walls.	Protect proposed pump station that will be built as part of the diversion project.	Protect Water Purification Plant and ancillary facilities.	Install Check Valves for Critical Infrastructure	Construct new bulkhead adjacent to critical facilities along Reynolds Channel and a storm water pump at Riverside Blvd.

Project Number	CLB_8	CLB_9	CLB_10	CLB_11	CLB_12	CLB_13	CLB_14	CLB_15
Critical Facility	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
EHP Issues	No	No	No	No	No	No	No	No
Estimated Timeline	Hazard Mitigation Plan pending approval by FEMA.	Design 60% complete. Construction Spring 2021.	Design 60% complete. Construction Spring 2021.	Hazard Mitigation Plan pending approval by FEMA.	Hazard Mitigation Plan submitted and pending approval by FEMA.	Hazard Mitigation Plan pending approval by FEMA.	In Progress	Construction Spring 2021
Lead Agency	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach	City of Long Beach Department of Public Works	City of Long Beach
Estimated Costs	\$170,985	\$58,950	\$351,846	\$561,574	\$94,000,000	\$638,096	To be determined	\$32,332,175
Estimated Benefits	Protect critical facility.	Avoid future property damage.	Avoid future property damage.	Avoid future property damage.	Protect critical infrastructure.	Protect critical infrastructure.	Protect critical facilities.	Protect critical infrastructure.
Potential Funding Sources	FEMA	FEMA	FEMA	FEMA	FEMA	FEMA	Municipal budget	FEMA

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: City of Long Beach

NYS DHSES Action Worksheet			
Project Name:	Northshore Critical Infrastructure Protection Project - FEMA 404 Mitigation Project		
Project Number:	CLB_15		
Risk / Vulnerability			
Hazard of Concern:	Flood Mitigation, Coastal Erosion Protection and Infrastructure Preservation		
Description of the Problem:	The existing shoreline located on the Northshore of Long Beach between Monroe Blvd and Long Beach Veterans Memorial Park is in an extreme state of decay. This area is subject to extreme flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	The proposed project will stabilize the shoreline by installing bulkheading. In addition a storm water pump station will be installed to discharge storm water during a flood event. Utilities (i.e., water, sewer, gas) will be replaced as well.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	100 year flood (Base Flood Elevation)	Estimated Benefits (losses avoided):	Qualitative. Protect infrastructure including gas, electric, water, sewer, Long Island Rail Road
Useful Life:	100 Years		
Estimated Cost:	\$32,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Two Years
Estimated Time Required for Project Implementation:	Six Months	Potential Funding Sources:	FEMA 404
Responsible Organization:	City of Long Beach	Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Shoreline vulnerable
	Bulkheading only	\$15,000,000	Limited mitigation. Flooding to remain a concern.
	Install only the storm water pump station	To be determined	The shoreline will still be vulnerable and the utilities will still need to be replaced.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: City of Long Beach

NYS DHSES Action Worksheet			
Project Name:	City of Long Beach Nassau County Waste Water Treatment Plant (WWTP) Diversion Project		
Project Number:	CLB_2		
Risk / Vulnerability			
Hazard of Concern:	Flood Mitigation		
Description of the Problem:	The City of Long Beach WWTP is antiquated and not compliant with existing regulatory requirements.		
Action or Project Intended for Implementation			
Description of the Solution:	Convert WWTP to a pump station and divert flow to Bay Park Sewage Treatment Plant.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	500 year flood	Estimated Benefits (losses avoided):	Protection of critical infrastructure and redirection of pollutants to Reynolds Channel
Useful Life:	100 years		
Estimated Cost:	\$80,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Two years
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	FEMA 406 Mitigation WIIA Consolidated Funding
Responsible Organization:	City of Long Beach/Nassau County	Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	\$0
	Renovate WWTP to meet current codes and standards.	\$100,000,000	Additional cost and detriment to the environment.
	Conduct a study to develop other alternatives.	To be determined.	This does not solve the current problem in a timely matter.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Town of Hempstead Annex

This document presents the Town of Hempstead’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Edward W. Powers, Director Of Emergency Management Department of Public Safety 200 North Franklin Street Hempstead, NY 11550 epowers@tohmail.org 516-538-1900	Thomas De Maria, Commissioner Of Public Safety, Department of Public Safety 200 North Franklin Street Hempstead, NY 11550 tdemaria@tohmail.org 516-538-1900

Profile

The Town of Hempstead covers approximately 118.59 square miles¹ and has a total population of 766,980 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Town of Hempstead are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Town of Hempstead Demographic Information

Demographic	Demographic
Below 5 Years Old	5.8%
Above 65 Years Old	16.0%
Individuals with Disabilities	4.7%
Persons in Poverty	6.2%
Renters	19.1%
Without a High School Diploma	10.1%
Without Access to Broadband Internet	11.4%
Black or African American alone	17.3%
American Indian and Alaska Native alone	0.3%
Asian alone	6.0%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	3.7%
White alone, not Hispanic or Latino, percent	63.9%
Hispanic or Latino	20.5%

¹ This is inclusive of land area only.

The Town of Hempstead's robust tax led to positive growth in business and residential development, including multi-family housing and mixed-used developments. The Town has notable development on the Barnum Island and Harbor Isle. A large amount of recent development includes repurposing infrastructure from industrial and or manufacturing uses. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County's vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Town of Hempstead. The jurisdiction identified coastal hazards, flooding, and severe winter weather as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Town of Hempstead include:
Coastal Hazards, Flooding, and Severe Winter Weather.

Table 2: Town of Hempstead Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	Community
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	Community
Lightning	Community
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	Community, Housing, Infrastructure

Hazard	Impact Categories
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Town of Hempstead has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Town of Hempstead. The Town of Hempstead maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plan, community development plans, emergency response plans, floodplain management plans, NFIP flood damage prevention ordinances, post disaster recovery ordinances, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Town can consider the capabilities in the table below that the Town currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Town of Hempstead Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Town Building Zone Ordinance
Capital Improvement Plan	Yes	Passed by Town Board each year.
Climate Action Plan	No	
Community Development Plan	Yes	Baldwin Overlay District
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Town Emergency Preparedness Plan
Floodplain Management Plan(s)	Yes	Part of Building Code
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	NFIP Compliant Community
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	Yes	Disaster Rebuilding Fee Waivers
Post Disaster Recovery Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Site Plan for Developments required
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Stormwater Management Plan updated each year.
Subdivision Ordinance(s)	Yes	Subdivision Approval Required
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Tow Building Zone Ordinance

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Town of Hempstead. The Town of Hempstead has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Town.

Table 4: Town of Hempstead Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Edward W. Powers	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	6 Civil Engineers and Construction Managers
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	6 Civil Engineers and Construction Managers
Engineer(s) with knowledge of land development and land management practices	6 Civil Engineers and Construction Managers	
Grant Writers	Yes	1 Grant Writer
Personnel skilled or trained in Geographic Information Systems	Several	
Personnel trained in construction practices related to buildings/infrastructure	20 Positions in the Building Department	
Planner(s) with an understanding of natural hazards	10 Positions in the Building Department	
Planner(s) with knowledge of land development and land management practices	20 Positions in the Building Department	

Staff / Personnel Resource	Yes / No	Details
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Town of Hempstead. Funding is often the biggest barrier when implementing mitigation programs. The Town is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, levying taxes for specific purposes, utilizing user fees for utility services, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. Town of Hempstead should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Town of Hempstead Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Town Capital Program
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	Yes	Tax Anticipation Notes
Authority to levy taxes for specific purposes	Yes	Park District Taxes
Authority to utilize user fees for utility services	Yes	Town Water Department 39,000 customers
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	Passed by Town Board each year.
Community Development Block Grants (CDBG)	Yes	Town's Planning Department
Impact fees for home buyers and/or developers	Yes	Fee Caps on certain developments. Fee Caps on certain developments.
State mitigation grant programs	Yes	New York Rising program

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Town of Hempstead. Participation in the Climate Smart Community program demonstrates increased capabilities of the Town related to mitigation. Exploring gaining additional community classifications will guide the Town's mitigation programs and support capacity building.

Table 6: Town of Hempstead Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	Yes
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

All of the back bay communities in the Town of Hempstead located on the south shore of Nassau County are prone to flooding. This section provides a summary of the floodplain management capabilities for Town of Hempstead and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Town's Floodplain Manager is responsible for floodplain management. They are also a Certified Floodplain Manager. The Town would like to train additional individuals to become Certified Floodplain Managers in the future. NFIP is administered mainly through education and outreach and the building permit process. One barrier to running a successful NFIP program in the Town of Hempstead is accounting for properties that have changed hands within a family over many years without proper documentation changes made. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made through in-person site inspections. The Town of Hempstead is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Town will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The elevation of homes, businesses, roads, and bulkheads have been the Town's primary mitigation tool in flood-prone areas. The Flood Damage Prevention Ordinance for the Town of Hempstead meets minimum requirements. The ordinance was last amended 01/19/2020 and can be referenced in Town Code Section 144-3.G.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Town of Hempstead. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Reference Number	Hamlet	Risk Category	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Road Elevation Project: Road Elevation - East and West Blvd. Area	TOH 1	Bay Park	Flood	In progress	Design	Yes	Revised Date: 2022 and Revised Cost: \$5 Million
Road Elevation Project: Road Elevation - Army, Navy, Marine Place area	TOH 2	Bellmore	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$3.9 Million
Road Elevation Project: Road Elevation - Harold Street, Moreland Ave.	TOH 3	Oceanside	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021
Road Elevation Project: Road Elevation - Various areas	TOH 4	Seaford	Flood	New		Yes	
Road Elevation Project: Road Elevation - Neptune & Roanoke	TOH4A	Seaford	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$400000
Road Elevation Project: Road Elevation - Neptune & Beaver Turn	TOH4B	Seaford	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$800000
Road Elevation Project: Road Elevation - South Street	TOH4C	Seaford	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$825000
Road Elevation Project: Road Elevation - Miami Street	TOH4D	Seaford	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$1.6 Million
Road Elevation Project: Road Elevation - Anglers, Widgeon & Plover	TOH4E	Seaford	Flood	In progress	Construction	Yes	Revised Date: 2020 and Revised Cost: \$528000
Road Elevation Project: Road Elevation - South Wantagh area	TOH 5	Wantagh	Flood	New		Yes	
Road Elevation Project: Road Elevation - South Wantagh Mermaid & Canal	TOHA	Wantagh	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$1 Million
Road Elevation Project: Road Elevation - California Place North and South area	TOH 6	Barnum Island	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$5.25 Million
Road Elevation Project: Road Elevation - Trafalgar & Broadway	TOH6A	Barnum Island	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$1.6 Million

Action	Reference Number	Hamlet	Risk Category	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Road Elevation Project: Road Elevation - Island Parkway / Sheridan Pl.	TOH6B	Harbor Isle	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$2.5 Million
Road Elevation Project: Roadway improvements and grade raising to VAN BUREN Pl.	TOH 7	Baldwin Harbor	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$565000
Road Elevation Project: Roadway improvements and grade raising to JACKSON Pl.	TOH7A	Baldwin Harbor	Flood	Completed		No	Revised Date: 2018 and Revised Cost: \$840000
Road Elevation Project: Road Elevation - Helen and George	TOH 76	Merrick	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$1.45 Million
Road Elevation Project: Road Elevation - Carrel Blvd. Area	TOH 77	Oceanside	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021 and Revised Cost: \$2.1 Million
Road Elevation Project: Road Elevation -Royal Ave.	TOH 78	Oceanside	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021
Road Elevation Project: Road Elevation - Inwood (Bayswater Area)	TOH 79	Inwood	Flood	In progress	Easement Procurement	Yes	Revised Date: 2021
Road Elevation Project: Road Elevation - Jedwood Place	TOH 80	S. Valley Stream	Flood	In progress	Construction	Yes	Revised Date: 2020 and Revised Cost: \$1.135 Million
Infrastructure Project: East Marina - Bulkhead, Breakwater, raise 2 buildings, generator, raise power, raise piles, decking, sanitary system	TOH 9	Point Lookout	Flood	In Progress		Yes	
Infrastructure Project: West Marina - Bulkhead, Breakwater, raise 2 buildings, new building, primary electric, micro grid, 2 generators, raise power, sheet piles, raise piles, decking, fishing pier	TOH 10	Point Lookout	Flood	In Progress		Yes	
Infrastructure Project: Guy Lombardo Marina - Bulkheads, generator, primary electric, raise piles, fire alarm	TOH 11	Freeport	Flood	In Progress		Yes	
Infrastructure Project: Inwood Marina - bulkheads, raise building, raise piles	TOH 12	Inwood	Flood	In Progress		Yes	
Infrastructure Project: Hanse Ave. Facility - Raise building, bulkhead, debris facility, truck canopy	TOH 13	Freeport	Flood	In Progress		Yes	
Infrastructure Project: Sanitation Dept. Admin Building - demolition of existing building & rebuild to proper elevation to eliminate repetitive loss	TOH 14	Merrick	Flood	In Progress		Yes	
Infrastructure Project: Repair damage to Lido-Point Lookout water meter infrastructure	TOH 16	TOH	Various	In Progress		Yes	
Infrastructure Project: Replacement of Lido-Point Lookout admin building	TOH 17	TOH	Various	In Progress		Yes	

Action	Reference Number	Hamlet	Risk Category	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Infrastructure Project: Elevation of sanitary seals at Lido-Point Lookout wells 1A, 2A, and 3A	TOH 18	TOH	Various	In Progress		Yes	
Infrastructure Project: Expansion of SCADA system for full control of Lido-Point Lookout District	TOH 19	TOH	Various	In Progress		Yes	
Infrastructure Project: Improve Lido-Point lookout district booster system	TOH 21	TOH	Various	In Progress		Yes	
Infrastructure Project: Check Valve Replacement, Installation & Testing	TOH 80	TOH	Various	In Progress	Construction	Yes	
Infrastructure Project: GOSR Check Valve Replacement, Installation & Testing	TOH 81	TOH	Various	In Progress	Nearing Bidding	Yes	
Infrastructure Project: "Oceanside Detention"	TOH 82	TOH	Oceanside Various			Yes	
Infrastructure Project: "Oceanside Pipes"	TOH 83	TOH	Oceanside Various	In Progress	Easement Procurement	Yes	
Infrastructure Project: Woodmere Drainage Improvements	TOH 84	TOH	Woodmere Various	In Progress	Design	Yes	
Infrastructure Project: Meadowbrook Green Infrastructure	TOH 85	TOH	Merrick Various	In Progress	Design	Yes	
Infrastructure Project: Meadowmere Park Footbridge	TOH 86	TOH	Meadowmere Park	In Progress	Design	Yes	
Infrastructure Project: Street Lighting Resiliency Program	TOH 87	TOH	Various	In Progress	Construction	Yes	
Shoreline Project: Point Lookout East Shoreline - Revetment rehabilitation and improvement	TOH 88	Point Lookout	Flood	In progress	Permit Review		Revised Date: 2021
Shoreline Project: Oceanside Park - Revetement & riprap restoration and improvement at Garrett's Lead	TOH 24	Oceanside	Flood	New			
Shoreline Project: Baldwin Park - Revetement & riprap restoration and improvement at Middle Bay	TOH 25	Baldwin	Flood	In progress	Design		Revised Date: 2021
Shoreline Project: Merrick Rd. Park Golf Course - Revetement & riprap restoration and improvement at Merrick Bay	TOH 26	Merrick	Flood	New			
Shoreline Project: Newbridge Rd. Park - Revetement & riprap restoration and improvement at Cedar Swamp Creek	TOH 27	Bellmore	Flood	New			
Shoreline Project: Seamans Neck Park - Revetement & riprap restoration and improvement at Seamans Creek	TOH 28	Seaford	Flood	New			

Action	Reference Number	Hamlet	Risk Category	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Shoreline Project: Sanitation Dept. Norman Levy Park and Preserve - revetement and riprap rehabilitation and improvements to shoreline	TOH 29	Merrick	Flood	New			
Shoreline Project: Sanitation Dept. Oceanside transfer station - rehabilitation and improvements to eroded shoreline	TOH 30	Oceanside	Flood	New			
Shoreline Project: Court Street W. Bulkhead	TOH 31	Bay Park	Flood	Completed			
Shoreline Project: Dewey Street W. masonry seawall W/sluceway	TOH 32	Bay Park	Flood	New			
Shoreline Project: Sampson Street W. masonry seawall w/sluceway	TOH 33	Bay Park	Flood	New			
Shoreline Project: Sperry Street W. masonry seawall w/sluceway	TOH 34	Bay Park	Flood	Completed			
Shoreline Project: Hudson Street W. masonry seawall w/sluceway	TOH 35	Bay Park	Flood	Completed			
Shoreline Project: Williamson Street masonry seawall with basin	TOH 36	Bay Park	Flood	New			
Shoreline Project: Evans Street W. masonry seawall w/sluceway	TOH 37	Bay Park	Flood	New			
Shoreline Project: Evans Street W. bulkhead	TOH 38	Bay Park	Flood	Completed			
Shoreline Project: Washington Place bulkhead with outfall	TOH 39	Baldwin	Flood	Completed			
Shoreline Project: Hayes Place bulkhead with outfall	TOH 40	Baldwin	Flood	New			
Shoreline Project: Van Buren Place bulkhead with outfall	TOH 41	Baldwin	Flood	New	Part of GOSR		
Shoreline Project: Jackson Place bulkhead with outfall	TOH 42	Baldwin	Flood	Completed			
Shoreline Project: Northern Blvd. bulkhead with outfall	TOH 43	Baldwin	Flood	New			
Shoreline Project: Centre Ave. masonry seawall with basin	TOH 44	Bellmore	Flood	New			
Shoreline Project: Barnum Island California Pl. North at NY Ave. - Bulkhead with outfall	TOH 45	Island Park	Flood	New			
Shoreline Project: Barnum island at Brennan Place - bulkhead with outfall	TOH 46	Island Park	Flood	New			

Action	Reference Number	Hamlet	Risk Category	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Shoreline Project: Barnum Island California Pl. South at NY Ave. - Bulkhead with outfall	TOH 47	Island Park	Flood	New			
Shoreline Project: Harbor Isle President Pl. - Bulkhead with sluiceway	TOH 48	Island Park	Flood	New			
Shoreline Project: Elliot Street bulkhead with sluiceway	TOH 49	Merrick	Flood	New			
Shoreline Project: Royal Ave. bulkhead with outfall	TOH 50	Oceanside	Flood	New			
Shoreline Project: Golf Drive bulkhead with outfall	TOH 51	Oceanside	Flood	New			
Shoreline Project: West Waukena Ave. bulkhead with 2 outfalls	TOH 52	Oceanside	Flood	New			
Shoreline Project: Murdoch Ave. bulkhead	TOH 53	Oceanside	Flood	New			
Shoreline Project: Oceanlea Drive bulkhead with 2 outfalls	TOH 54	Oceanside	Flood	New			
Shoreline Project: Almo Place bulkhead with outfall	TOH 55	Seaford	Flood	Completed			
Shoreline Project: Bayview St. @ Treasure Lagoon bulkhead with outfall	TOH 56	Seaford	Flood	Completed			
Shoreline Project: Bayview St. @ Silver Lagoon partial bulkhead with outfall	TOH 57	Seaford	Flood	New			
Shoreline Project: Bayview St. @ Sunset Lagoon bulkhead and masonry with outfall	TOH 58	Seaford	Flood	New			
Shoreline Project: Naomi Street bulkhead with sluiceways	TOH 59	Seaford	Flood	New			
Shoreline Project: Shore Place rubble with outfall	TOH 60	Seaford	Flood	New			
Shoreline Project: S.V.S. Path and Park	TOH 61	S. Valley Stream	Flood	Completed			
Emergency Power Generation Project: New Town Hall - Generator	TOH 61	Hempstead	Various	In Progress			
Emergency Power Generation Project: Old Town Hall - Generator	TOH 62	Hempstead	Various	In Progress			
Emergency Power Generation Project: Town Main Highway Yard - Generator	TOH 64	Roosevelt	Various	In Progress			

Action	Reference Number	Hamlet	Risk Category	Project Status	Project Status Description	Carried Forward to 2020 Plan	Required Changes
Emergency Power Generation Project: Town Franklin Square Highway Yard - Generator	TOH 65	Franklin Square	Various	In Progress			
Emergency Power Generation Project: Town Levittown Hall POD / Shelter - Generator	TOH 66	Levittown	Various	In Progress			
Emergency Power Generation Project: Town Animal Shelter - Generator	TOH 67	Wantaugh	Various	In Progress			
Emergency Power Generation Project: Back-up generator for Lido-Point Lookout well 3	TOH 68	TOH	Various	In Progress			
Emergency Power Generation Project: Replacement of back-up generator Uniondale wells 1-4	TOH 69	TOH	Various	In Progress			
Emergency Power Generation Project: Install back-up generator at Levittown well 13	TOH 70	TOH	Various	In Progress			
Emergency Power Generation Project: Installation of auto back-up generator for Levittown Wells 7A-8A	TOH 71	TOH	Various	In Progress			
Emergency Power Generation Project: Replacement of back-up generator at East Meadow operation center for water district	TOH 72	TOH	Various	In Progress			
Emergency Power Generation Project: Replacement of back-up generator Bowling Green Water district wells 1 and 2	TOH 73	TOH	Various	In Progress			
Emergency Power Generation Project: Install auto back-up generator at Roosevelt Field Well 7	TOH 74	TOH	Various	In Progress			
Emergency Power Generation Project: Improvements to Carmen Ave. Booster station (SCADA, generator)	TOH 75	TOH	Various	In Progress			
Emergency Power Generation Project: Atlantic Beach Fire Department	TOH 89	E. Atlantic Beach		In progress	Construction		
Emergency Power Generation Project: Meadowmere Park Fire Department	TOH 90	Meadowmere Park		In progress	Punch-List		

Proposed Mitigation Actions

Project Number	TOH_1	TOH_2	TOH_3	TOH_4
Project Name	Emergency Power Generator Projects	Infrastructure Projects	Road Elevation Projects	Shoreline Projects
Goal being met	1, 3	1, 3	1, 2, 3	1, 5
Hazards to be mitigated	Flooding High Wind Events, Loss of Electrical Power	Flooding, storm surge	Flooding	Flooding
Priority Ranking	High	High	High	High
Description of the Problem	High wind events and flood events caused the widespread loss of electrical power, including power to Town Hall, Old Town Hall, Highway Yards, Animal Shelter and Water Department Operations Center and Water Wells. These critical town facilities must have power during power outages to operate properly.	Recurring losses to Hempstead Town infrastructure and facilities from flooding and storm surge events in the unincorporated hamlets of Point Lookout, Lido, Freeport, Inwood and Merrick.	Flooding of homes, businesses, and municipal structures, as well as disruption of surface transportation and impediment of emergency services during flood events. The area averages property damage of about \$500,000 per year and business interruptions of 25 days per year.	Shorelines identified throughout Hempstead Town back bay and barrier island communities are susceptible to flooding as a result of degraded revetments, riprap, berms, and bulkheads due to past storm impacts.
Description of the Solution	A permanent generator will be installed in at various locations with sufficient capacity to power spaces and equipment required for emergency response, disaster recovery and critical administrative operations during power outages and other disruptive events.	Install and upgrade bulkheads and breakwaters, elevate buildings, install back-up generators, elevate utilities, raise piling and decking system, and raise sanitary system	Raise roadways in the unincorporated hamlets of Bay Park, Bellmore, Oceanside, Seaford, Wantagh, Barnum Island, and Baldwin Harbor.	Repair and upgrade existing shoreline structures to prevent flooding of critical infrastructure and improved property. This project would include elevating bulkheads higher to meet current floodplain standard and upgrading the bulkhead material to the current Tyvek synthetic to provide greater effectiveness and a longer expected useful life for new bulkheads.
Critical Facility	No	No	No	Yes
EHP Issues	No	No	No	No
Estimated Timeline	Next several years	Next several years	Its continuous and ongoing: Anywhere from 1 year to 10 years.	The projects are completed, in-process or will be in process from now through 2020 and beyond.

Project Number	TOH_1	TOH_2	TOH_3	TOH_4
Lead Agency	Town of Hempstead Engineering, General Services, Highway and Water Departments	Town of Hempstead Engineering, Conservation, Sanitation and Water Departments	Town of Hempstead Engineering and Highway Departments.	Town of Hempstead Conservation, Engineering, Parks, and Sanitation Departments.
Estimated Costs	The estimated cost for installations is \$16,602,500	Total cost of the 11 projects is \$38,097,522	\$26,350,000	Total cost of all 38 Projects is \$73,790,000
Estimated Benefits	Emergency Operations for the Town of Hempstead and partner agencies can be supported from these critical facilities. This will provide for more rapid and efficient response to be properly supported and executed by requisite officials and emergency managers than if these components were to be deployed elsewhere, potentially savings lives, reducing property damage and facilitating recovery operations.	Keep critical town infrastructure operational during flooding events.	Reduction of flooding and economic losses.	Repetitive flooding of critical infrastructure and improved property.
Potential Funding Sources	Capital Budget; FEMA grant	Capital Budget; FEMA grant	Capital Budget - funds will be requested during a subsequent budget cycle for either the full cost of the project or matching funds for a FEMA grant.	Capital Budget - funds will be requested during a subsequent budget cycle for either the full cost of the project or matching funds for a FEMA grant.

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Hempstead

NYS DHSES Action Worksheet			
Project Name:	Road Elevation Projects		
Project Number:	TOH_3		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding of homes, businesses, and municipal structures, as well as disruption of surface transportation and impediment of emergency services during flood events. The area averages property damage of about \$500,000 per year and business interruptions of 25 days per year.		
Action or Project Intended for Implementation			
Description of the Solution:	Raise roadways in the unincorporated hamlets of Bay Park, Bellmore, Oceanside, Seaford, Wantagh, Barnum Island, and Baldwin Harbor.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100 Years	Estimated Benefits (losses avoided):	Reduction of flooding and economic losses
Useful Life:	50 Years		
Estimated Cost:	\$26,350,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	25 to 30 Years
Estimated Time Required for Project Implementation:	Its continuous and ongoing: Anywhere from 1 year to 10 years.	Potential Funding Sources:	Capital Budget - funds will be requested during a subsequent budget cycle for either the full cost of the project or matching funds for a FEMA grant.
Responsible Organization:	Town of Hempstead Engineering and Highway Departments.	Local Planning Mechanisms to be Used in Implementation, if any:	Town of Hempstead Planning Department.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Evaluate the possibility of building an alternate or bypass route.	The feasibility study cost could be over \$100,000.	We know the area and don't believe there are any viable bypass routes.
	Increase the capacity of the storm water infrastructure and enhance the Green infrastructure marsh lands in the town's back bays.	The feasibility study cost could be over \$500,000.	Previous studies have indicated this sort of action would not relieve flood impacts
Progress Report (for plan maintenance)			
Date of Status Report:	August 11, 2020		
Report of Progress:	As listed in the project spreadsheet, many projects were in progress or completed through the Governor's Office of Storm Recovery and the town's capital plan.		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	-	\$0
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Hempstead

NYS DHSES Action Worksheet

Project Name: Shoreline Projects

Project Number: TOH_4

Risk / Vulnerability

Hazard of Concern: Flooding

Description of the Problem: Shorelines identified throughout Hempstead Town back bay and barrier island communities are susceptible to flooding as a result of degraded revetments, riprap, berms, and bulkheads due to past storm impacts.

Action or Project Intended for Implementation

Description of the Solution: Repair and upgrade existing shoreline structures to prevent flooding of critical infrastructure and improved property. This project would include elevating bulkheads higher to meet current floodplain standard and upgrading the bulkhead material to the current Tyvek synthetic to provide greater effectiveness and a longer expected useful life for new bulkheads.

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection: 500-Year flood event

Useful Life: 50 Years

Estimated Cost: Cost of all 38 Projects is \$73,790,000

Estimated Benefits (losses avoided):

Repetitive flooding of critical infrastructure and improved property.

Plan for Implementation

Prioritization: High

Desired Timeframe for Implementation:

1 to 10 Years

Estimated Time Required for Project Implementation: The projects are completed, in-process or will be in process from now through 2020 and beyond.

Potential Funding Sources:

Capital Budget - funds will be requested during a subsequent budget cycle for either the full cost of the project or matching funds for a FEMA grant.

Responsible Organization: Town of Hempstead Conservation, Engineering, Parks, and Sanitation Departments.

Local Planning Mechanisms to be Used in Implementation, if any:

Three Alternatives Considered (including No Action)

Alternatives:

Action

Estimated Cost

Evaluation

No Action

\$
0

Complete 20 of these projects.

Approximately \$40 million

These projects would help reduce flooding in certain areas, but the overall impact is hard to gauge and would not be as comprehensive in protecting our community.

Complete these projects in phases, with approximately 10 projects implemented per year. There are several phases to these projects.

\$73,790,000.

Delaying the implementation of some of these projects would reduce the effectiveness of other projects.

Progress Report (for plan maintenance)

Date of Status Report: August 11, 2020

Report of Progress: As listed in the project spreadsheet, many projects were in progress or completed through the Governor's Office of Storm Recovery and the town's capital plan.

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Town of North Hempstead Annex

This document presents the Town of North Hempstead’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Shawn Brown, Commissioner Department of Public Safety 51 Orchard Street Roslyn Heights, NY 11577 516-869-6311	None Provided

Profile

The Town of North Hempstead covers approximately 53.51 square miles¹ and has a total population of 230,933 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Town of North Hempstead are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Town of North Hempstead Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.6%	Black or African American alone	6.1%
Above 65 Years Old	19.4%	American Indian and Alaska Native alone	0.2%
Individuals with Disabilities	3.7%	Asian alone	18.4%
Persons in Poverty	5.2%	Native Hawaiian and other Pacific Islander alone	0.1%
Renters	21.7%	Two or More Races	2.3%
Without a High School Diploma	8.3%	White alone, not Hispanic or Latino, percent	59.5%
Without Access to Broadband Internet	10.5%	Hispanic or Latino	14.3%

¹ This is inclusive of land area only.

North Hempstead has seen the re-utilization and development of local industrial, retail, and office space buildings. Retail centers are emerging along populated commercial roads. While the Town has made efforts to maintain open space, such as harbors and green space, North Hempstead is largely a suburban area. The jurisdiction itself lay near water; therefore, the 100-year floodplain is considered in its development. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Town of North Hempstead. The jurisdiction identified Coastal Hazards, Hurricane, and Severe Winter Weather as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Town of North Hempstead include:

Coastal Hazards, Hurricane, and Severe Winter Weather.

Table 2: Town of North Hempstead Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	Community, Economy, Housing, Infrastructure, Natural and Cultural Resources

Hazard	Impact Categories
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	No Impact
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Town of North Hempstead has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Town of North Hempstead. The Town of North Hempstead maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, community development plans, comprehensive/master plan, economic development plans, emergency response plans, floodplain management plans, open space plans, post disaster recovery plans, resilience plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Town can consider the capabilities in the table below that the Town currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Town of North Hempstead Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	NY State Building & Town Code
Capital Improvement Plan	Yes	2020 Capital Plan
Climate Action Plan	No	
Community Development Plan	Yes	Community Development Block Grant / Town of North Hempstead Community Development Agency
Comprehensive Plan / Master Plan	Yes	2019 North Hempstead Cultural Master Plan
Economic Development Plan(s)	Yes	The Supervisor's Chamber of Commerce Roundtable was instituted in 2018 to see how the Town can work together with the Chambers to address the challenges our downtowns are facing.

Regulatory Tool	Yes / No	Citation (if applicable)
Emergency Response Plan(s)	Yes	2019 Comprehensive Emergency Management Plan
Floodplain Management Plan(s)	Yes	Town Code. All construction within flood plans must file a separate flood plain permit.
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	Regulated by Town Code
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	Yes	Regulated by Town Code
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	Yes	Regulated by Town Code
Site Plan Review Requirement(s)	Yes	Regulated by Town Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Regulated by Town Code
Subdivision Ordinance(s)	Yes	Regulated by Town Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Regulated by Town Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Town of North Hempstead. The Town of North Hempstead has a high-level of primary administrative and technical capabilities to support mitigation. This includes engineering, grant writing, administration, construction, analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Town.

Table 4: Town of North Hempstead Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Jill Guiney, Donna Plante, Miles Mott
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Jill Guiney
Engineer(s) with knowledge of land development and land management practices	Yes	Jill Guiney

Staff / Personnel Resource	Yes / No	Details
Grant Writers	Yes	Thomas Devaney
Personnel skilled or trained in Geographic Information Systems	Yes	Michael Levine, Michael Tumbarello
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Department
Planner(s) with an understanding of natural hazards	Yes	Michael Levine, Kevin Braun
Planner(s) with knowledge of land development and land management practices	Yes	Michael Levine
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Town of North Hempstead. Funding is often the biggest barrier when implementing mitigation programs. The Town is primarily able to fund mitigation programs by incurring debt through general obligation bonds, levying taxes for specific purposes, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. The Town of North Hempstead should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Town of North Hempstead Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Roads, parks and equipment.
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	Special Districts or Authorities.
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	2020 Capital Plan

Resources	Yes / No	Additional Details
Community Development Block Grants (CDBG)	Yes	The Town of North Hempstead Community Development Agency
Impact fees for home buyers and/or developers	Yes	The Town of North Hempstead Community Development Agency The Town of North Hempstead Community Development Agency
State mitigation grant programs	Yes	New storm drains on Crescent Drive in Albertson.

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Town of North Hempstead. Participation in the BCEGS and Climate Smart Community program demonstrates increased capabilities of the Town related to mitigation. Exploring gaining additional community classifications will guide the Town's mitigation programs and support capacity building.

Table 6: Town of North Hempstead Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Town of North Hempstead and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). There are only 35 properties in the Town's jurisdiction that are located in the flood zone. The majority of these properties are along Main Street and Shore Road in Port Washington.

The Town's Building Commissioner is responsible for floodplain management. The Town administers the NFIP by requiring that all construction within floodplains file a separate floodplain permit. The Town did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made through in-person site inspections.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Town of North Hempstead is in good standing with the NFIP. Based on documentation received from NYSDEC, the town had its last Community Assistance Contact on 12/05/2012 and its last Community Assistance Visit on 09/25/2015. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Town is installing a new bulkhead at 10 Shore Road, in Greenvale, to help mitigate future erosion. The Flood Damage Prevention Ordinance for the Town of North Hempstead meets minimum requirements. The ordinance was last amended 06/23/2009 and can be referenced in L.L. No. 13-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Town of North Hempstead. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	North Hempstead Beach Park — Install bulkhead, remove asphalt & concrete from the waterway and boat ramp	Manhasset Valley Park— Dredge the retention pond to create more room for drainage	Town Hall Generator—Upgrade a permanent generator	Install New Generator at Tully Park—Install a permanent generator
Risk Category	Flooding & Dangers to health and safety	Flooding	Loss of Electrical Power	Loss of Electrical Power
Project Status	In progress	Not Started	Not Started	Not Started
Project Status Description	The Town hired a consultant to complete a visioning project at NHBP, which included all amenities to see how to best utilize this facility. The final vision also included restoring the bulkhead to halt the flooding. The final vision called for shrinking of the asphalt area and restoring wetlands that will accept the tidal surges and stop the flooding.	Funding was not awarded. A second grant was applied for under the Long Island Sound Futures Fund to remove various dams and clean up the waterways.	Town Hall has a partial generator, with minimal redundancy. The HMGP was to fully generate the building.	Tully Park Center was utilized during Sandy as a temporary shelter for electrical workers. There is a partial generator, this request was to fully generate the facility.
Carried Forward to 2020 Plan	Y	Y	Y	Y
Required Changes	Project has changed slightly, but a better mitigation project for the park.	Project may change based upon funding made available.	Funding was not available to upgrade generator. Until funding is made available, this project cannot be completed.	Funding was not available to upgrade generator. Until funding is made available, this project cannot be completed.

Action	Town Sumps—Upgrade the existing recharge basins & protect from future flooding & wear and tear on the roads	Mill Pond—Remove & replace the swell separators which maintain the sand filters	Harbor Hills Park—Repair and mitigate the sea wall	Document Digitizing—Hire an electronic document scanning service that would digitize each document
Risk Category	Flooding & Drainage	Flooding	Flooding	Flooding, Critical Infrastructure, Fire
Project Status	In progress	Not Started	In progress	Not Started
Project Status Description	The Town completed an assessment of each of the outfall pipes. The Town has been making repairs as necessary.	This project was to help stop the flooding of the area around the tidal pond. The major limitation to this project is lack of funding.	This project was fortunate to receive funding under FEMA's 406 program. The seawall is in the process of undergoing permit approvals with the NYS DEC	The Town wanted to go paperless in order to be able to maintain continuity of government. Although many departments have moved in this direction, historical records has not been completed.
Carried Forward to 2020 Plan	Y	Y	Y	Y
Required Changes	FEMA did award the Town funding under the 406 program for evaluation and repair of some pipes, as a restoration to pre-Sandy conditions.	FEMA did award the Town funding under the 406 program for dredging of some materials, as a restoration to pre-Sandy conditions.	FEMA did award the Town funding under 406 to replace the seawall, which was damaged beyond the 50% threshold during Sandy.	The Town applied for multiple sources of funding, including the LGRMIF. However we remain unsuccessful.

Action	Manorhaven park project—remove and replace 582 linear feet corrugated steel bulkhead-phase two proposed mitigation is to remove and replace a boat ramp	Roslyn pond project—Dredge out silt	Improve drainage New Hyde Park—Hinge the neighborhood drainage	Tully park pipe—Remove and replace drainage pipe-add cleanouts
Risk Category	Flooding, Erosion, Wave Action	Flooding	0	Flooding
Project Status	Completed	In progress	Not Started	Not Started

Project Status Description	The Town was fortunate to receive funding from FEMA's 406 program and applied for an improved project in order to complete this project.	The Town hired a contractor to start this project in April 2020. This project is underway.	This project was halted due to the lack of funding available.	This project was halted due to the lack of funding available.
Carried Forward to 2020 Plan	N	Y	Y	Y
Required Changes	The project was completed.	Project is being funded through FEMA 406 funding, in conjunction with other capital improvements to the park, which is a natural filtration system of 3 ponds for runoff into the harbor.	No funding.	No funding.

Action	Crescent drive pump station—Install several essential parts for the pumps	Bayview Ave Manhasset project—Backfill over 1000 ft of shoreline	Fallout pipes—Dredge out each retention pond	Port Washington Flooding project—Rehabilitate the drainage to alleviate future flooding
Risk Category	Flooding	Flooding	Flooding	Flooding
Project Status	Completed	In progress	In progress	Not Started
Project Status Description	This project was awarded funding in 2014 from FEMA 404 program.	This project was awarded funding from FEMA 406 program. This project is undergoing permits from the DEC.	FEMA awarded the Town funding through 406 to dredge most of the ponds due to Sandy. Some ponds are being dredged now, others will follow	Project was halted due to lack of funding
Carried Forward to 2020 Plan	N	Y	Y	Y
Required Changes	Project was awarded HMGP 404 funding, and project was completed as designed.	Project is underway thanks to FEMA 406 funding.	Project is underway thanks to FEMA 406 funding.	0

Action	A dike will be installed around the Pump Station J, doors will be flood proofed and emergency generator will be raised; the sump pump system will be modified to accommodate 2 new submersible pumps.	A dike will be installed around the Pump Station F, doors will be flood proofed and transformer will be raised.	This project is for the construction of new 24-inch outfall sewer buried to the desired depth and new effluent pumping station to pump the treated wastewater during high tides and storm surges. The new outfall sewer will be installed using directional drilling method.	A permanent generator will be installed at Well 6. It will have sufficient capacity to allow the Water Authority to run this Well in the event of a power outage and supply needed water capacity and pressure for the needs of the community.
Risk Category	Frequent flooding	Frequent flooding	Frequent power outages	Frequent power outages
Project Status	0	0	In progress	Completed
Project Status Description	UNABLE TO REACH ANYONE DUE TO PANDEMIC.	UNABLE TO REACH ANYONE DUE TO PANDEMIC.	EFC awarded a \$5-million WQIP grant and gave notice to proceed, however due to the Pandemic, they put the grant project on hold.	Authority went ahead with the generator after not hearing back from the HMGP grant.
Carried Forward to 2020 Plan	0	0	Y	N
Required Changes	0	0	The district was awarded funding from WQIP and WIIA grants.	The district was able to budget and push off other projects in order to complete this project themselves due to lack of cooperation from Federal and State partners.

Action	A permanent generator will be installed at Well 10A. It will have sufficient capacity to allow the Water Authority to run this Well in the event of a power outage and supply needed water capacity and pressure for the needs of the community.	Replace existing bulkhead with a new bulkhead in same footprint.	Relocate mixing system within the adjacent Digester Building. New mixing systems comprising of mixing pumps, ductile iron piping, and mixing nozzles would be located in the lower levels of the digester building where they would be protected by the building superstructure from the elements. The concrete coping hardening would include sounding of exposed concrete, cutting, chipping and removal of all	Replace the existing force main with a 16-inch ductile iron force main which would be better equipped to handle the additional pipe stress that occurs during major storm events.
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			deteriorated unsound concrete and replacing with a polymer modified form and repair mortar. Prior to repair mortar placement the existing steel reinforcement would be coated with a rust inhibitive epoxy-cementitious coating. The entire coping would then be provided with and epoxy type protective coating system.	
Risk Category	Frequent power outages	Frequent flooding	Frequent flooding	0
Project Status	0	0	0	0
Project Status Description	LEFT A VOICEMAIL NEVER HEARD BACK	LEFT A VOICEMAIL NEVER HEARD BACK	LEFT A VOICEMAIL NEVER HEARD BACK	LEFT A VOICEMAIL NEVER HEARD BACK
Carried Forward to 2020 Plan	0	0	0	0
Required Changes	0	0	0	0

Action	Install a new, permanent, emergency generator, that operates on natural gas, at the pump station locations Bayview Avenue Pump Station, the Manhasset Valley Pump Station, and the Blue Bird Court Pump Station.	The installation of a passive flood barrier around this pump station would minimize the risk of flooding the station. Passive flood barriers are deployed by the rising floodwater with the dependency of District personnel or oer. The system would be designed to prevent impact to the pumping station based on the 500-year storm flood elevation.	A permanent generator will be installed at the Port Washington's Fire Stations. It will have sufficient capacity to allow the Fire Station to quickly response to the community's needs.	A permanent natural gas generator will be installed at 30 Brinkerhoff Lane, Manhasset, NY 11030. It will have sufficient capacity to allow the facility to maintain all necessary patient needs.
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Risk Category	Frequent power outages	Storm surge, flooding	Frequent power outages	Loss of Electrical Power
Project Status	0	0	Not Started	0
Project Status Description	LEFT A VOICEMAIL NEVER HEARD BACK	LEFT A VOICEMAIL NEVER HEARD BACK	Port Washington Fire Department has 5 stations throughout the district. In order to apply for the grant, they needed an electrical engineer and architect design each location, at a cost of \$10k, and the FEMA HMGP program was never awarded.	In HMGP Grant Process
Carried Forward to 2020 Plan	0	0	Y	0
Required Changes	0	0	There is no possible way without grant funding that the PWFD can afford to undertake this endeavor due to a state-imposed tax cap.	0

Proposed Mitigation Actions

Project Table #1 – 9:

Project Number	TNH_1	TNH_2	TNH_3	TNH_4	TNH_5	TNH_6	TNH_7	TNH_8	TNH_9
Project Name	Bayview Ave	Bayview Ave - Manhasset Project	Document Digitizing	Harbor Hills Park	Manhasset Valley Park	Mill Pond	New Hyde Park	Wetland and Open Space Restoration Project	North Hempstead Beach Park
Goal being met	3	3, 4	2	1, 3	1, 3	1, 3	1, 3	2, 3	1, 2, 3
Hazards to be mitigated	Tidal Flooding	Flooding	Flooding, Critical Infrastructure, Etc.	Flooding	Flooding	Flooding	Flooding	Flooding	Flooding & Dangers to health and safety
Priority Ranking	High	High	High	High	High	High	High	High	High

Project Number	TNH_1	TNH_2	TNH_3	TNH_4	TNH_5	TNH_6	TNH_7	TNH_8	TNH_9
Description of the Problem	Tidal Flooding occurs along Bayview Ave	The current shoreline infrastructure does not completely prevent shoreline erosion	The Town wanted to go paperless in order to be able to maintain continuity of government. Although many departments have moved in this direction, historical records have not been completed.	The seawall was damaged beyond 50% the threshold during Hurricane Sandy	The current infrastructure of the retention pond does not allow for adequate drainage	The area around the tidal pond floods during times of heavy rain	The current drainage infrastructure in New Hyde Park is insufficient for typical drainage needs	Currently the parking lots flood at the beach park. This happens even with tidal surges. Numerous vehicles have been damaged as a result of flooding at the beach park.	Flooding occurs at North Hempstead Beach Park during times of heavy rainfall
Description of the Solution	implement a riprap and bulkhead to prevent flooding on Bayview Ave.	Backfill over 1000 Feet of shoreline	Hire an electronic document scanning service that would digitize each document	Repair and mitigate the seawall	Dredge the retention pond to create more room for drainage	Remove and Replace the swell separators	Hinge the neighborhood drainage	Redesigning and reconfiguring the parking lot to reduce flood risk. This project would include restoring wetlands and open space in the areas most susceptible to flooding and installing riprap to allow for the tidal surges to take place without flooding the new parking lot	Shrinking the asphalt area through removal of asphalt & concrete from the waterway and boat ramp; restoring the bulkhead, and restoring the wetlands that will accept the tidal surges and stop the flooding
Critical Facility	No	No	No	No	No	No	No	No	No
EHP Issues	No	No	No	No	No	No	No	No	Unknown
Estimated Timeline	5 Years	Target Date: 2014 - 2015 Status: In Progress and undergoing permits from the DEC	Target Date: 2015 - 2016 Status: Not Started	Target Date: 2014 - 2015 Status: The Seawall is in the process of undergoing permit approvals with the New York State	Target Date: 2014-2015 Status: Not Started	Target Date: 2014 - 2015 Status: Not Started	Target Date: 2014 - 2015 Status: Not Started	1 Year	Target Date: 2014 - 2015 Status: In Progress

Project Number	TNH_1	TNH_2	TNH_3	TNH_4	TNH_5	TNH_6	TNH_7	TNH_8	TNH_9
				Department of Environmental Conservation (NYS DEC)					
Lead Agency	Town of North Hempstead	OEM	OEM	OEM	OEM	OEM	OEM	Town of North Hempstead	OEM
Estimated Costs	\$1,000,000	\$3,000,000	\$2,000,000	\$2,500,000	\$9,000,000	\$2,000,000	\$5,000,000	\$2,000,000	\$7,500,000
Estimated Benefits	This road is an evacuation route on the Peninsula	This will prevent shoreline erosion and flooding	Historical records would be preserved electronically and enhance continuity of operations	Repairing the seawall would decrease the risk of flooding in the Harbor Hills Park area	This action would increase the drainage capacity of the retention pond, decreasing the risk of flooding	This action would decrease flooding in the area surrounding tidal pond	This action would increase the drainage capacity of the Tully Park area	This action is expected to save the Town millions in flood damages	The proposed actions would halt flooding, increase capacity for accepting tidal surges, and decrease risk to resident health and safety
Potential Funding Sources	406 Mitigation Funding	This project was awarded funding from the FEMA 406 program.	Municipal Budget	This project received funding under FEMA's 406 program.	Municipal Budget	Municipal Budget	Municipal Budget	HMPG	Municipal Budget, FEMA GrantD133H137D134:P139D132:P139H137D134:P139D2:P1D131:P139

Project Table #10 – 18:

Project Number	TNH_10	TNH_11	TNH_12	TNH_13	TNH_14	TNH_15	TNH_16	TNH_17	TNH_18
Project Name	Outfall Sewer	Port Washington Fire Station Generators	Port Washington Flooding Project	Retention Pond Dredging	Roslyn Pond Project	Town Hall Generator	Town Sumps Upgrade	Tully Park Generator	Tully Park Pipe
Goal being met	3, 4	2, 3	3, 4	3, 4	1, 3	2	1, 3	2	1, 3
Hazards to be mitigated	Power Outages	Loss of Electrical Power	Flooding	Flooding	Flooding	Continuity of Governmental Operations	Flooding & Drainage	Loss of Electrical Power	Flooding
Priority Ranking	High	High	High	High	High	High	High	High	High

Project Number	TNH_10	TNH_11	TNH_12	TNH_13	TNH_14	TNH_15	TNH_16	TNH_17	TNH_18
Description of the Problem	The current pumping station does not adequately pump wastewater during high tides and storm surges	Currently fire stations are not able to handle community demands during frequently experienced power outages	The current drainage infrastructure does not prevent flooding	Hurricane Sandy produced conditions which required ponds to be dredged throughout the Town	Roslyn Pond rains during times of heavy rainfall	Town Hall currently has a partial emergency power generator and not all offices are powered.	The current recharge basin does not effectively prevent flooding	Tully Park Center was used as a temporary shelter for electrical workers during Hurricane Sandy, however only a partial generator was available	The current drainage infrastructure in Tully Park is insufficient for typical drainage needs
Description of the Solution	Construct a new 24 inch outfall sewer buried to the desired depth and new effluent pumping station to pump the treated wastewater during high tides and storm surges. The new outfall sewer will be installed using directional drilling method.	Install a permanent generator at the Port Washington Fire Stations.	Rehabilitate the drainage to alleviate future flooding	Dredge each retention pond and install fallout pipes	Dredge out the silt	A full Natural Gas Generator with an automatic transfer switch will allow for continuity of operations.	Upgrade the existing recharge basins	A permanent generator would be utilized during times when electrical power is lost and increase the capacity to fully generate the facility	Replace drainage pipe, and add cleanouts
Critical Facility	No	Yes	No	No	No	No	No	No	No
EHP Issues	No	No	No	No	No	No	No	No	No
Estimated Timeline	Target Date: 2014 - 2015 Status: In Progress	Target Date: 2014 - 2016 Status: Not Started	Target Date: 2014 - 2015 Status: Not started	Target Date: 2014 - 2015 Status: In Progress, some retention ponds have	Target Date: 2014 - 2015 Status: In progress, the Town hired a contractor to start this project in April 2020	1 Year	Target Date: 2014-2015 Status: In Progress	Target Date: 2014 - 2015 Status: Not Started	Target Date: 2014 - 2015 Status: Not Started

Project Number	TNH_10	TNH_11	TNH_12	TNH_13	TNH_14	TNH_15	TNH_16	TNH_17	TNH_18
				been dredged					
Lead Agency	Belgrave Water Pollution Control	Port Washington Fire Department	OEM	OEM	OEM	Town of North Hempstead	OEM	OEM	OEM
Estimated Costs	10,275,000	\$795,800	\$12,000,000	\$2,500,000	\$4,500,000	\$1,000,000	\$1,500,000	\$700,000	\$10,000,000
Estimated Benefits	This action will provide adequate pumping capability for treated wastewater during high tides and storm surges.	A permanent generator will allow Port Washington Fire Station's to have sufficient capacity to respond to the community's needs	This action will help eliminate area flooding in the future	The proposed action would prevent area flooding	Dredging out the Roslyn Pond Slit would prevent flooding	Actions would ensure governmental continuity of operations and are expected to save the Town millions	This upgrade would protect from future flooding, as well as wear and tear of the roads	A permanent generator will allow Tully Park Center to be utilized as a temporary shelter during emergencies and disasters without the risk of limited electrical power access	This action would increase the drainage capacity of the New Hyde Park area
Potential Funding Sources	EFC awarded a \$5-million WQIP grant and gave notice to proceed, however due to the Pandemic, they put the grant project on hold.	HMPG	Unknown this project was halted due to a lack of funding	This project was awarded funding from the FEMA 406 program.	Funded through FEMA 406 funding, in conjunction with other capital improvements to the park	HMGP	Municipal Budget, FEMA Grant	Municipal Budget, FEMA Grant	Municipal Budget

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of North Hempstead

NYS DHSES Action Worksheet			
Project Name:	<u>Town Hall Generator</u>		
Project Number:	<u>TNH_15</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Continuity of Governmental Operations</u>		
Description of the Problem:	<u>Town Hall currently has a partial emergency power generator and not all offices are powered.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>A full Natural Gas Generator with an automatic transfer switch will allow for continuity of operations.</u>		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>Full</u>	Estimated Benefits (losses avoided):	Actions would ensure governmental continuity of operations and are expected to save the Town millions
Useful Life:	<u>20 Years</u>		
Estimated Cost:	<u>\$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>5 years</u>
Estimated Time Required for Project Implementation:	<u>1 Year</u>	Potential Funding Sources:	<u>HMGP</u>
Responsible Organization:	<u>Town of North Hempstead</u>	Local Planning Mechanisms to be Used in Implementation, if any:	<u>N/A</u>
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>No action</u>	<u>No Cost</u>	<u></u>
	<u>Close down government operations</u>	<u>No Cost</u>	<u>The cost would be millions for the town. Not feasible for the governmental needs of the Town</u>
	<u>Prepare employees to work remotely</u>	<u>Minimal</u>	<u>Not practical to adequately provide City services.</u>
Progress Report (for plan maintenance)			
Date of Status Report:	<u></u>		
Report of Progress:	<u></u>		
Update Evaluation of the Problem and/or Solution:	<u></u>		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of North Hempstead

NYS DHSES Action Worksheet			
Project Name:	Wetland and Open Space Restoration Project		
Project Number:	TNH_8		
Risk / Vulnerability			
Hazard of Concern:	Prevent Flooding		
Description of the Problem:	Currently the parking lots flood at the beach park. This happens even with tidal surges. Numerous vehicles have been damaged as a result of flooding at the beach park.		
Action or Project Intended for Implementation			
Description of the Solution:	Redesigning and reconfiguring the parking lot to reduce flood risk. This project would include restoring wetlands and open space in the areas most susceptible to flooding and installing riprap to allow for the tidal surges to take place without flooding the new parking lot.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Full	Estimated Benefits (losses avoided):	This action is expected to save the Town millions in flood damages
Useful Life:	20 years		
Estimated Cost:	\$2,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5 Years
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	HMGP
Responsible Organization:	Town of North Hempstead	Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Seawall	\$5,000,000	This action would push tidal surges elsewhere
	No action	\$0	
	Move parking lots to be further from the coast	Minimal	This action would not provide adequate access to the beach park.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Town of Oyster Bay Annex

This document presents the Town of Oyster Bay’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Robert Mangano, Deputy Commissioner Town Of Oyster Bay 150 Miler Place Syosset, NY 11791 rmangano@oysterbay-ny.gov 516-677-5352	Justin McCaffrey, Commissioner Town Of Oyster Bay 150 Miler Place Syosset, NY 11791 jmccaffrey2@oysterbay-ny.gov 516-677-5357

Profile

The Town of Oyster Bay covers approximately 103.75 square miles¹ and has a total population of 298,391 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Town of Oyster Bay are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Town of Oyster Bay Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.5%	Black or African American alone	2.4%
Above 65 Years Old	18.1%	American Indian and Alaska Native alone	0.1%
Individuals with Disabilities	4.5%	Asian alone	11.7%
Persons in Poverty	4.0%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	11.8%	Two or More Races	1.9%
Without a High School Diploma	5.1%	White alone, not Hispanic or Latino, percent	81.9%

¹ This is inclusive of land area only.

Demographic		Demographic	
Without Access to Broadband Internet	10.2%	Hispanic or Latino	7.9%

Prominent development and growth has occurred in the residential, business, industrial, including light-industrial, and natural sectors. In the last five years, the Town of Oyster Bay has seen new construction as well as upgrades and redevelopment to existing construction, and new business construction. Home elevations continue to occur in the 100-year floodplain. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Town of Oyster Bay. The jurisdiction identified Coastal Hazards, Flooding, Hurricane, and Severe Winter Weather as natural hazards that impact the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Town of Oyster Bay include: **Coastal Hazards, Flooding, Hurricane, and Severe Winter Weather.**

Table 2: Town of Oyster Bay Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Housing, Infrastructure
Drought	No Impact
Extreme Temperatures	Health and Social Services, Natural and Cultural Resources
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	Infrastructure
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources

Hazard	Impact Categories
Hail	Housing, Infrastructure, Natural and Cultural Resources
Lightning	Housing, Infrastructure
Severe Winter Weather	Community, Infrastructure
Tornados	Housing, Infrastructure
Wind	Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Town of Oyster Bay has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Town of Oyster Bay. The Town of Oyster Bay maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plans, building codes, capital improvement plans, community development plans, comprehensive/master plans, economic development plans, emergency response plans, floodplain management plans, growth management plans, NFIP flood damage prevention ordinances, post disaster recovery ordinances, post disaster recovery plans, resilience plans, site plan review requirements, special purpose ordinances, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Town can consider the capabilities in the table below that the Town currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Town of Oyster Bay Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	Yes	
Building Code	Yes	
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	Yes	
Comprehensive Plan / Master Plan	Yes	
Economic Development Plan(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	Yes	
Growth Management Plan(s)	Yes	
NFIP Flood Damage Prevention Ordinance(s)	Yes	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	Yes	
Post Disaster Recovery Plan(s)	Yes	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	Yes	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	Yes	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Town of Oyster Bay. The Town of Oyster Bay has a high level of administrative and technical capabilities to support mitigation. Increasing training capacity and expertise of these individuals will support mitigation practice in the Town.

Table 4: Town of Oyster Bay Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Director of Emergency Management
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Professional Engineer
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Professional Engineer
Engineer(s) with knowledge of land development and land management practices	Yes	Professional Engineer
Grant Writers	Yes	Intergovernmental Affairs

Staff / Personnel Resource	Yes / No	Details
Personnel skilled or trained in Geographic Information Systems	Yes	GIS Coordinator IT
Personnel trained in construction practices related to buildings/infrastructure	Yes	Professional Engineer
Planner(s) with an understanding of natural hazards	Yes	Emergency Manager
Planner(s) with knowledge of land development and land management practices	Yes	Emergency Manager
Scientist(s) familiar with natural hazards	Yes	Meteorologists
Surveyors	Yes	Engineering Division

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Town of Oyster Bay. Funding is often the biggest barrier when implementing mitigation programs. The Town is primarily able to fund mitigation programs by capital improvements project funding, CDBG programs, and state mitigation grant programs. Town of Oyster Bay should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Town of Oyster Bay Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Town of Oyster Bay. Participation in the BCEGS, Public Protection Classification program and Climate

Smart Community program demonstrates increased capabilities of the Town related to mitigation. Exploring gaining additional community classifications will guide the Town's mitigation programs and support capacity building.

Table 6: Town of Oyster Bay Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes
Public Protection Classification Program	Yes
Community Rating System (CRS)	No
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Town of Oyster Bay and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The northern and southern shores of the Town of Oyster Bay are prone to flooding. There are 4,527 NFIP policies enforced in the Town of Oyster Bay. Total coverage is \$1,361,641,300 and total premium is \$5,499,195.

The Town's Commissioner of Planning and Development Department is responsible for floodplain management. The Town administers the NFIP through education, permits, site plan review, and inspections. The Town did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made through in-person site inspections. The Town reported that 60 properties were substantially damaged as a result of recent flood events. The Town of Oyster Bay is in good standing with the NFIP. Based on documentation received from NYSDEC, the Town had its last Community Assistance Contact on 11/29/2012 and its last Community Assistance Visit on 09/09/2014. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The elevation of homes, businesses, roads, and bulkheads have been the Town's primary mitigation tool in flood-prone areas. The Flood Damage Prevention Ordinance for the Town of Oyster Bay meets minimum requirements. The ordinance was last amended 2019 and can be referenced in Chapter 121. Other steps that the Town takes to support the floodplain management program and meet NFIP requirements includes conducting regular education and outreach coordinated through the Public Information Officer (PIO).

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Town of Oyster Bay. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Note: Some mitigation actions from the previous plan associated with non-participating entities within the Town of Oyster Bay have been carried forward into this plan update within the Nassau County Mitigation Strategy.

Previous Project Table #1 – 8:

Action	Permanent generators installed at 10 critical facilities and locations throughout the Town.	Restore and enhance Massapequa Watershed	Rebuild Fireman Parking Field w/green infrastructure and Rainstore 3 water management systems.	Muscle Wall Mitigation System	Tidal Gauge and Tidal check valves	Improved bulkheading in multiple vulnerable public and private locations	Emergency Response Vehicles	Reconstruction of Bay Constable Building
Risk Category	Extreme weather	Storm surge	Flooding	Flooding	Flooding	Flooding	Flooding	Flooding
Project Status	In Progress	Not provided	Not started	Not started	In Progress	In Progress	In Progress	Complete
Project Status Description	Permanent generators have been installed at 5 locations within the Town of Oyster Bay since 2014 Mitigation Plan adoption. The need for additional generators at critical facilities remains.	Not provided	Town of Oyster Bay twice applied for NYS grant funding for this project but was not selected for funding.	Funding for this purpose was pursued through the NYS Hazard Mitigation Grant Program but was not selected for funding.	Tidal check valves are being installed with use of funding through the NY Rising Community Reconstruction Program. Presently, this project is within the Design Phase and check valve installations are anticipated summer 2020 - spring 2021. Check valves being installed through this	Some bulkhead improvements have been completed or are underway; however more bulkhead improvements are required.	The Town of Oyster Bay has purchased emergency response vehicles since the adoption of the 2014 Mitigation Plan. However; the need for additional vehicles remains.	Repairs/renovations to the Bay Constable Building had been completed with use of FEMA PA funding. However, the need for further enhancements may arise. This action should be carried forward.

Action	Permanent generators installed at 10 critical facilities and locations throughout the Town.	Restore and enhance Massapequa Watershed	Rebuild Fireman Parking Field w/green infrastructure and Rainstore 3 water management systems.	Muscle Wall Mitigation System	Tidal Gauge and Tidal check valves	Improved bulkheading in multiple vulnerable public and private locations	Emergency Response Vehicles	Reconstruction of Bay Constable Building
					project do not represent the entirety of need for check valves/gauges throughout Town of Oyster Bay.			
Carried Forward to 2020 Plan	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Required Changes	The number of generators should not be quantified. The need for additional generators may be realized at a later date.	Not provided	The Rainstore 3 water system should not be referenced by product name; superior or more appropriate products/technologies may be identified. 'Rebuild Fireman Field Parking Field w/ Green Infrastructure and drainage and stormwater treatment improvements' would be a more appropriate project title.	Not provided	Not provided	Not provided	Not provided	N/A (Completed)

Previous Project Table #9 – 14:

Action	Home elevations	Road Elevations	Replace 155 outfall pipes and valves	Relocate Town OEM to Nassau County OEM	Two existing generators and transfer switches will be replaced to strengthen the reliability of the emergency distribution system to help ensure the hospital will have adequate emergency power during events when local utility power is not available for several days.	Install Permanent Generator- It will have sufficient capacity to allow the individuals living in the group home to continue their daily living routines without interruption and without causing them any confusion
Risk Category	Flooding	Flooding	Flooding	Extreme weather	Loss of electrical power	High wind events, Hurricanes, Tropical Storms, and winter storms have caused the widespread loss of electrical power.
Project Status	In progress	In progress	In progress	Not provided	Not provided	Not provided
Project Status Description	The Town of Oyster Bay has elevated private homes with use of NYS Hazard Mitigation Funding. However, the Town continues to receive inquiries from additional homeowner about the potential to participate in the HMGP program for this purpose.	Road elevations have been completed and are presently in progress. However, the need for additional road elevations remains.	Outfall pipes and valves are being installed with use of funding through the NY Rising Community Reconstruction Program. Presently, this project is within the Design Phase and check valve installations are anticipated summer 2020 - spring 2021. Outfall Pipes and valves being installed through this project do not represent the entirety of need throughout Town of Oyster Bay.	Not provided	Not provided	Not provided

Action	Home elevations	Road Elevations	Replace 155 outfall pipes and valves	Relocate Town OEM to Nassau County OEM	Two existing generators and transfer switches will be replaced to strengthen the reliability of the emergency distribution system to help ensure the hospital will have adequate emergency power during events when local utility power is not available for several days.	Install Permanent Generator- It will have sufficient capacity to allow the individuals living in the group home to continue their daily living routines without interruption and without causing them any confusion
Carried Forward to 2020 Plan	Yes	Yes	Yes	No	No	No
Required Changes	Not provided	Not provided	The number of outfall pipes/valves should not be quantified. It is not known at this time the quantity of outfall pipes/valves which may fall into a state of disrepair in the future.	Not provided	Not provided	Not provided

Previous Project Table #15 – 19:

Action	Install Permanent 350KW Roof Mounted Generator: A permanent generator will be installed at the Administration Building that will have sufficient capacity to allow the District to operate all of its communications, sufficient security and data operated systems.	Relocate the existing control system to the second floor of the same building and upgrade from analog to SCADA controls. This will result in the controls located within the 500-year flood zone and the ability to respond to the community's needs more quickly.	Reconstruct existing maintenance garage at a three-foot higher elevation.	Increase height of transformer pad by two feet. Provide backup standby power during work.	A permanent generator will be installed at 188 South Street, Oyster Bay, NY 11771. The generator will have sufficient capacity to allow the Fire Station to quickly response to the community's needs.
Risk Category	Loss of Electrical Power	Frequent flooding	Frequent flooding	Frequent flooding, power outages	Frequent power outages
Project Status	In Progress	Not provided	Not started	Completed	Not provided
Project Status Description	They applied for the generator through state funding. They went through multiple application rounds but never got approved. Later they went through and went through a bond process to fund.	Not provided	Limitation is the need for funding to conduct the action. Escalate cost estimate to \$325,000	In lieu of raising height of exiting pad by two feet, a new pad and transformer were installed at a higher elevation.	Not provided
Carried Forward to 2020 Plan	No	No	Yes	No	No
Required Changes	N/A	Not provided	Not provided	Construction cost for the work paid for under an Oyster Bay Sewer District capital project at a construction cost of \$90,393.	Not provided

Previous Project Table #20-27:

Action	Install 40 kw natural gas electrical generator with automatic transfer switch for primary circuits in office and garage facility.	Installation of Underground Primary Electrical Cables @ Well Sites 3 & 12	Backup, standby generators will be installed at ten of the District's critical sites. These generators will power wells, filtration equipment and other infrastructure used to provide potable water to 58,000 District residents, two hospitals, several nursing homes and many other businesses and government institutions.	A permanent generator will be installed at the NW wellfield site. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	A permanent generator will be installed at the NY Avenue wellfield site. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	HSMS Natural Gas Generator Installation	A permanent generator will be installed at Well No. 3. It will have sufficient capacity to allow the site to provide potable water to quickly respond to the community's needs.	A permanent generator will be installed at 885 Old Country Road, Plainview NY 11803. It will have sufficient capacity to allow the Fire Station to quickly respond to the community's needs.
Risk Category	Frequent power outages	Frequent power outages	Frequent power outages	Frequent power outages	Frequent power outages	Frequent power outages	Frequent power outages	Loss of electrical power
Project Status	Not provided	Not provided	Not provided	Completed	Completed	Not provided	Not provided	Not provided
Project Status Description	Not provided	Not provided	Not provided	Project implemented using internal funding.	Project implemented using internal funding.	Not provided	Not provided	Not provided
Carried Forward to 2020 Plan	No	No	No	No	No	No	No	No
Required Changes	Not provided	Not provided	Not provided	N/A (Completed)	N/A (Completed)	Not provided	Not provided	Not provided

Proposed Mitigation Actions

Proposed Project Table #1-7:

Project Number	TOB_1	TOB_2	TOB_3	TOB_4	TOB_5	TOB_6	TOB_7
Project Name	Bayfront Park Bulkhead / Green Infrastructure Enhancements	Business Continuity Program	Emergency Cell Phone Service	Emergency Preparedness and Disaster Action Planning	Enhancements to Bay Constable Building	Flood Diversion and Control	Green Infrastructure Pilots
Goal being met	1	2	1	2	1,3	3	1, 3, 5
Hazards to be mitigated	Flooding	Various	Power Outage	Flooding - Emergency Response Capability	Flooding	Flooding	Flooding
Priority Ranking	High	High	High	High	High	High	High
Description of the Problem	Flooding during storms.	Detrimental economic impacts on businesses due to hazards.	Loss of cell service during storms and power outages.	Emergency responders were unable to respond effectively to the hardest hit areas in the Town of Oyster Bay during Superstorm Sandy due to insufficient equipment to handle flooded roads	Bay Constable Building was repaired and renovated after sustaining considerable flood damage due to Hurricane Sandy. This building continues to be at risk of flooding due to its proximity to large water bodies.	Flooding during storms.	Flooding during storms.
Description of the Solution	Surge Prevention; Drainage	Create a Business Continuity Program to assist small business owners with creating plans for continuing their operations after major storms and other emergencies.	Work with local cellular service providers and regulatory agencies to broaden service areas and equip cell towers with backup power in case of emergency.	Create a disaster action plan centered around upgrading emergency vehicles and an improved coordinated response system.	Evaluate and complete mitigative enhancements to further protect the Bay Constable Building from future flood events.	Divert flood water to designated catchment areas, install new tidal check valves and backflow preventers, install outflow pipe lining and install new infrastructure where needed. Inspect	A pilot program to supplement hard infrastructure with natural systems.

Project Number	TOB_1	TOB_2	TOB_3	TOB_4	TOB_5	TOB_6	TOB_7
						existing drainage basins to ensure they are functioning.	
Critical Facility	No	No	No	No	No	No	No
EHP Issues	No	No	No	No	No	No	No
Estimated Timeline	2 Years	2 Years	2 Years	2 Years	5 Years	2 Years	2 Years
Lead Agency	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay
Estimated Costs	<\$1,000,000	<\$1,000,000	<\$1,000,000	<\$1,000,000	<\$1,000,000	<\$1,000,000	<\$1,000,000
Estimated Benefits	Reduce flood losses to property and infrastructure due to storm surge.	Reduce economic losses due to continued business operations during times of disaster and interruption.	Cell service would not be lost.	Emergency responders would not be delayed by flooding.	Prevent future flood damage to the building.	Infrastructure and facilities/homes will remain undamaged by floods.	Mitigation of damage cause by flooding
Potential Funding Sources	FEMA, DHS, NYS	FEMA, NYSDHSES	FEMA, NYSDHSES	FEMA, NYSDHSES	FEMA, NYS DHSES, Capital Budget	FEMA, NYSDHSES	FEMA, NYSDHSES

Proposed Project Table #8-14

Project Number	TOB_8	TOB_9	TOB_10	TOB_11	TOB_12	TOB_13
Project Name	Muscle Wall Mitigation System	Permanent Generators for Critical Community Facilities	Repair and Rebuild Stormwater Management System at Fireman's Memorial Field	Roadway Elevation / Lifeline Road Network	Storm Water System Modeling and Analysis	Street Lighting / Lifeline Road Network
Goal being met	2,3	3	1, 3, 5	1	1	1
Hazards to be mitigated	Flooding	Power Outage	Flooding	Flooding	Flooding	Power Outage
Priority Ranking	High	High	High	High	High	High
Description of the Problem	Critical facilities, infrastructure, and assets are vulnerable to coastal and flash flooding.	Loss of power to Critical Facilities.	Fireman's Memorial Field experiences drainage and stormwater management issues during times of heavy rain. This interrupts the use and safety of this facility.	Flooding during storms.	Flooding during storms.	Non-operational streetlights and signals during power outages.
Description of the Solution	Evaluate and purchase muscle wall mitigation system that can be deployed to temporarily protect critical facilities and assets from flooding.	Install permanent generators at critical facilities.	Rebuild Fireman's Memorial Field with Green Infrastructure, drainage, and stormwater treatment improvements.	Raise the elevation of flood susceptible roads.	A comprehensive analysis to determine the causes of localized flooding and identify measures to combat it.	Retrofit streetlights and signals to operate on battery backup power.
Critical Facility	Yes	Yes	No	No	No	No
EHP Issues	No	No	Yes	No	No	No
Estimated Timeline	5 Years	2 Years	5 Years	2 Years	2 Years	2 Years
Lead Agency	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay	Town of Oyster Bay

Project Number	TOB_8	TOB_9	TOB_10	TOB_11	TOB_12	TOB_13
Estimated Costs	\$60,848	<\$1,000,000	\$3,300,000	>\$1,000,000	<\$1,000,000	<\$1,000,000
Estimated Benefits	Protect buildings and assets from sustaining flood damage.	Critical facilities will continue to have power.	Reduce damage to the field and parking lots due to flooding.	Reduction in flooding of roads.	Improved Drainage	No loss of power to streetlights and signals.
Potential Funding Sources	FEMA, Capital Budget	FEMA, NYSDHSES	FEMA, Capital Budget	FEMA, NYS	FEMA, NYS	FEMA, NYS

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Bayfront Park Bulkhead / Green Infrastructure Enhancements</u>		
Project Number:	<u>TOB_1</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Flooding</u>		
Description of the Problem:	<u>During storm and coastal flooding events, Bayfront Park and the adjacent residential properties experience flooding.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>Improved and/or new bulk heading to prevent storm surge. Implementation of drainage improvements inclusive of Green Infrastructure (i.e., permeable paving, raingardens, bio swales).</u>		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>+50 years</u>	Estimated Benefits (losses avoided):	<u>Reduce flood damage to homes and infrastructure from storm surge.</u>
Useful Life:	<u>25 years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>Greater than five years</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES, NYS OPRHP</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>Elevation Projects</u>	<u>Less than \$1,000,000.00</u>	<u>There is no addition of green infrastructure and the cost is the same as doing the more comprehensive project.</u>
	<u>Road and house elevations</u>	<u>Greater than \$5,000,000.00</u>	<u>The cost is too high.</u>
	<u>No Action</u>	<u>\$0</u>	<u>Homes and the park continue to flood and sustain damage.</u>
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Business Continuity Program</u>		
Project Number:	<u>TOB_2</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Various (i.e., Flooding, Winds)</u>		
Description of the Problem:	<u>Small businesses throughout the Town of Oyster Bay suffered physical damage through flooding and other hazards like falling trees during Superstorm Sandy. Many also suffered from a public misperception that they were closed when they were open. Many employees suffered reduced hours and paychecks.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>Creation of a Business Continuity Program to assist small business owners with creating plans for continuing operations after major storms or other emergencies. Run by Adelphi University and the Business Continuity Institute, the program would help small business owners create plans for backup power needs, access to alternative sites if needed, and backup provisions for vital records. The program would also provide assistance and guidance to small businesses for future funding needs.</u>		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>50 years</u>	Estimated Benefits (losses avoided):	<u>Reduce economic losses due to continued business operations during times of disaster and interruption.</u>
Useful Life:	<u>Five years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>No action</u>	<u>\$0</u>	<u>Interruptions to businesses continue.</u>
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Emergency Cell Phone Service</u>		
Project Number:	<u>TOB_3</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Power loss during storms</u>		
Description of the Problem:	<u>Town of Oyster Bay residents have ongoing issues with quality cell phone service during storms due to power outages. Reliable cell phone networks are imperative for communication to inform community on updated conditions, evacuation routes, and shelter locations during storms, particularly among more vulnerable people such as children, seniors, and persons with disabilities.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>Work with local cellular service providers and regulatory agencies to broaden service areas and equip cell towers with backup power in case of emergency.</u>		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>100 year flood</u>	Estimated Benefits (losses avoided):	<u>Cell service would not be lost.</u>
Useful Life:	<u>Ten years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>Purchase a temporary cell on wheels (COW) to provide a temporary cellular network.</u>	<u>Less than \$1,000,000</u>	<u>Demand very high/Unavailable when needed</u>
	<u>No action</u>	<u>\$0</u>	<u>Cellular outages continue to occur during storms and power outages.</u>
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Emergency Preparedness and Disaster Action Planning</u>		
Project Number:	<u>TOB_13</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Flooding - Emergency Response Capability</u>		
Description of the Problem:	<u>Emergency responders were unable to respond effectively to the hardest hit areas in the Town of Oyster Bay during Superstorm Sandy due to insufficient equipment to handle flooded roads. Homes burned and other community assets were damaged.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>A disaster action plan centered around upgrading emergency vehicles and an improved coordinated response system. The plan would include a network for contacting seniors in an emergency, installation of tidal gauges to better prepare evacuations, purchase of additional emergency response vehicles with modern communications equipment, purchase of a five-ton army truck with pump and tack to access burning buildings in flooded areas, and purchase of a Muscle Wall Mitigation system to protect buildings in lieu of sand bags. Other potential purchases: sandbags, emergency boat for Bay Constables, portable water pumps and heavy duty boat trailers.</u>		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>100 year flood</u>	Estimated Benefits (losses avoided):	<u>Emergency responders would not be delayed by flooding.</u>
Useful Life:	<u>Five to ten years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>N/A</u>	<u>\$0</u>	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Flood Diversion and Control</u>		
Project Number:	<u>TOB_6</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Flooding</u>		
Description of the Problem:	<u>Failing drainage pipes and flood valves during Superstorm Sandy caused expensive infrastructure damage in many Town neighborhoods. Sumps became overrun with storm water as storm pipe outfalls were damaged.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>Control flood waters by locating structural drainage features in the Town to divert flood water into designated catchment areas. Install new tidal check valves and backflow preventers to protect roads and adjacent structures from flooding. Install outflow pipe lining and install new infrastructure where needed and inspect existing drainage basins to ensure they are functioning properly.</u>		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>100 year</u>	Estimated Benefits (losses avoided):	Infrastructure and facilities/homes will remain undamaged
Useful Life:	<u>25 years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>N/A</u>	<u>\$0</u>	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	Permanent Generators for Critical Community Facilities		
Project Number:	TOB_9		
Risk / Vulnerability			
Hazard of Concern:	Power outage		
Description of the Problem:	Many Town residents voiced concern that many community facilities including shelters, community centers, and fire stations lacked power during Superstorm Sandy, rendering them inoperable.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of permanent generators on the roofs or upper floors of key Town community sites to reduce the risk of power loss at critical facilities that are used as points of coordinated emergency notifications during a storm. Providing backup power sources through generators will ensure food storage, cell phone charging capabilities, and other critical needs at these key community locations.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Power restored immediately and remain on.
Useful Life:	Ten years		
Estimated Cost:	Less than \$1,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One year
Estimated Time Required for Project Implementation:	Two years	Potential Funding Sources:	FEMA, NYS DHSES
Responsible Organization:	Town of Oyster Bay	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	N/A	\$0	
	Install permanent generators only at Fire Stations	To be determined	Fire stations need to have power to respond to emergencies, but this solution does not solve issues related to providing all necessary critical services to the community.
	Investigate the usage of solar panels and batteries.	To be determined.	Installing solar panels might be very expensive compared to generators.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Green Infrastructure Pilots</u>		
Project Number:	<u>TOB_7</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Flooding</u>		
Description of the Problem:	<u>Flooding and associated damage occurs regularly during storm events throughout the Town, and was particularly severe during Superstorm Sandy.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>A pilot program to supplement hard infrastructure with natural systems including but not limited to a rain garden program, wetlands restoration and shared ownership of storm water infrastructure as part of a region-wide comprehensive Green Infrastructure Program. A broad Green Infrastructure Program would encourage more permeable paving in new developments and in parking lots across the Town</u>		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>100 year flood</u>	Estimated Benefits (losses avoided):	Mitigation of damage cause by flooding
Useful Life:	<u>Ten years</u>		
Estimated Cost:	<u>Greater than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>Pumping with pumps</u>	<u>Less than \$1,000,000</u>	<u>Not effective, flooding remains</u>
	<u>No Action</u>	<u>\$0</u>	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	Roadway Elevation / Lifeline Road Network		
Project Number:	TOB_11		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Many TOB roadways experienced flooding during Superstorm Sandy, limiting mobility and making evacuation hazardous. Many residents also suffered property damage to homes and automobiles. Trash collection and mail services were disrupted.		
Action or Project Intended for Implementation			
Description of the Solution:	Streets susceptible to flooding or storm surge would be raised to provide safe access along roadways.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	100 year flood	Estimated Benefits (losses avoided):	Reduction in flooding of roads.
Useful Life:	Ten years		
Estimated Cost:	Greater than \$1,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One year
Estimated Time Required for Project Implementation:	Two years	Potential Funding Sources:	FEMA, NYS DHSES
Responsible Organization:	Town of Oyster Bay	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	N/A	\$0	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Storm Water System Modeling and Analysis</u>		
Project Number:	<u>TOB_12</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Flooding</u>		
Description of the Problem:	<u>Periods of heavy rainfall cause localized flooding in many communities in the Town of Oyster Bay, a problem that is exacerbated by monthly spring tides.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>A comprehensive analysis to determine the causes of localized flooding and identify measures to combat it. The analysis would consist of key stakeholders (Town of Oyster Bay, Nassau County, local villages, NYS Department of Transportation, U.S. Geological Survey and other agencies) examining drainage assets within the Town to determine the level, size, line, and condition of drainage pipes. A catchment model would be built to determine the specific cause of flooding and appropriate solutions such as drainage improvement projects or green infrastructure projects such as permeable paving and storm water ponds.</u>		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>100 year flood</u>	Estimated Benefits (losses avoided):	<u>Improved drainage</u>
Useful Life:	<u>25 years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>N/A</u>	<u>\$0</u>	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Town of Oyster Bay

NYS DHSES Action Worksheet			
Project Name:	<u>Street Lighting / Lifeline Road Network</u>		
Project Number:	<u>TOB_13</u>		
Risk / Vulnerability			
Hazard of Concern:	<u>Power outage</u>		
Description of the Problem:	<u>Downed trees and utility poles during storm events may render streetlights and signals inoperative. Many Town neighborhoods felt deserted and unsafe, with limited mobility.</u>		
Action or Project Intended for Implementation			
Description of the Solution:	<u>Retrofit streetlights and signals to operate on battery backup power. These improvements would allow residents to evacuate safely during a storm event and power outage</u>		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	<u>100 year</u>	Estimated Benefits (losses avoided):	<u>Loss of power to streetlights and signals.</u>
Useful Life:	<u>Ten years</u>		
Estimated Cost:	<u>Less than \$1,000,000</u>		
Plan for Implementation			
Prioritization:	<u>High</u>	Desired Timeframe for Implementation:	<u>One year</u>
Estimated Time Required for Project Implementation:	<u>Two years</u>	Potential Funding Sources:	<u>FEMA, NYS DHSES</u>
Responsible Organization:	<u>Town of Oyster Bay</u>	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	<u>N/A</u>	<u>\$0</u>	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Atlantic Beach Annex

This document presents the Village of Atlantic Beach’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Steven Cherson – Superintendent of D.P.W. Inc. Village of Atlantic Beach 65 The Plaza Atlantic Beach, NY 11509 info@villageofatlanticbeach.com 516-371-4600	Emily Siniscalchi, Village Clerk Inc. Village of Atlantic Beach 65 The Plaza Atlantic Beach, NY 11509 info@villageofatlanticbeach.com 516-371-4600

Profile

The Village of Atlantic Beach covers approximately 0.48 square miles¹ and has a total population of 1,473 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Atlantic Beach are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Atlantic Beach Demographic Information

Demographic		Demographic	
Below 5 Years Old	1.8%	Black or African American alone	1.4%
Above 65 Years Old	26.0%	American Indian and Alaska Native alone	0.2%
Individuals with Disabilities	Information not provided	Asian alone	2.2%
Persons in Poverty	2.4%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	18.0%	Two or More Races	1.2%
Without a High School Diploma	2.7%	White alone, not Hispanic or Latino, percent	91.2%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	3.1%

¹ This is inclusive of land area only.

Since the last plan update, Atlantic Beach has seen an influx of people moving into the area or purchasing seasonal property. Therefore, the Village has had a lot of residential development in the last five years. The jurisdiction maintains its zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Atlantic Beach. The jurisdiction did not identify any additional natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

Table 2: Village of Atlantic Beach Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Information not provided
Drought	Information not provided
Extreme Temperatures	Information not provided
Flooding	Information not provided
Ground Failure	Information not provided
Hurricane and Tropical Storms	Information not provided
Hail	Information not provided
Lightning	Information not provided
Severe Winter Weather	Information not provided
Tornados	Information not provided
Wind	Information not provided

Capability Assessment

This section summarizes the capabilities that the Village of Atlantic Beach has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Atlantic Beach. The Village of Atlantic Beach maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, NFIP flood damage prevention ordinances, site plan review requirements, stormwater management plans, and subdivision ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Atlantic Beach Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Atlantic Beach. The Village of Atlantic Beach's primary administrative and technical capabilities include an emergency manager and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Atlantic Beach Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Atlantic Beach. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt via obligation bonds and private activity bonds and capital improvement projects. Village of Atlantic Beach should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Atlantic Beach Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	Yes	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	

Resources	Yes / No	Additional Details
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment existing community classifications for the Village of Atlantic Beach. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Atlantic Beach Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

Most of the Village is located in a 100-year floodplain and many areas are vulnerable to impacts from waves greater than three feet. This section provides a summary of the floodplain management capabilities for Village of Atlantic Beach and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Superintendent of Public Works/Building Inspector is responsible for floodplain management. The Village administers the NFIP through building permit and site plan review, and zoning. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village reported that three properties were substantially damaged as a result of recent flood events. The Village of Atlantic Beach is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Contact was conducted in the Village about five years ago. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To mitigate future damage to flood-prone properties, structures that exceed the 50% replacement value and new construction must comply with FEMA regulations. The Flood Damage Prevention Ordinance for the Village of Atlantic Beach meets minimum requirements. The ordinance was last amended 08/10/2009 and can be referenced in L.L. No. 3-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Atlantic Beach. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Initiate community hazard awareness program. Through various forms of community outreach, residents will be informed of critical steps to take to prepare for an unexpected emergency, and actions to take during and following a local emergency.	Redundant emergency power generation required at main plant.
Risk Category	Severe weather events	Frequent power outages
Project Status	Not started	In progress
Project Status Description	This project has not been started due to a lack of funding and resources. The action will not be carried forward because it is infeasible at this time.	The Greater Atlantic Beach Water Reclamation District is currently finalizing specifications to rehabilitate a building in which the generator will be installed. The phase of installation is expected to start in the coming months.
Carried Forward to 2020 Plan	No	Yes - But it should be carried forward within the Nassau County section of the plan. This has been added to the Nassau County 2014 Mitigation Action Spreadsheet with the implementation status update details.
Required Changes		This project is being funded through GOSR. Initially, GOSR intended to fund a natural gas generator, but the GABWRD Superintendent explained to them that after Sandy, it was not possible to get natural gas on Long Island for weeks. GOSR then allowed for the project to move forward with a diesel generator.

Proposed Mitigation Actions

Project Number	VAB_1	VAB_2	VAB_3	VAB_4	VAB_5	VAB_6
Project Name	Atlantic Beach Public Works Garage	Atlantic Beach Village Hall	Emergency Generator Village Hall	Emergency Generator Public Works Garage	Bulkhead Replacement-Duchess Boulevard	Suffolk Boulevard Bulkhead
Goal being met	1, 3	1, 2, 3	2	2	1, 3	1, 3
Hazards to be mitigated	Flooding	Flooding	Severe Weather Events	Frequent power outages caused by severe weather events	Flooding	Flooding
Priority Ranking	High	High	High	High	High	High
Description of the Problem	The Village Public Works garage is constructed below grade level and is vulnerable to flooding. Vehicles parked in this garage are vulnerable to damage from flooding.	The Village Hall is constructed at grade level and vulnerable to flooding.	Loss of power in the Village Hall during severe weather.	There are frequent power outages at the Public Works Garage.	Aging bulkhead does not provide adequate protection from coastal flooding at this location.	Aging bulkhead does not provide adequate protection from coastal flooding at this location.
Description of the Solution	Elevate the garage to the FEMA base flood elevation of 13 feet plus an additional two feet to remove the building from potential future flood hazards	Since this building is considered a critical facility, it will be elevated high enough to protect it against the 500-year flood event. Initial estimates indicate that this elevation may be two feet above the FEMA base flood elevation of 13 feet.	Install a generator.	Install a generator.	Replace the bulkheads at this location.	Explore options to repair or replace the existing bulkheads at this location or develop nature-based solutions.
Critical Facility	No	Yes	Yes	No	No	No
EHP Issues	Yes	Yes	No	No	Yes	Yes
Estimated Timeline	When money is available and secured.	When money is available and secured.	2021	2021	2021	2021
Lead Agency	Public Works Department	Public Works Department	Village of Atlantic Beach	Village of Atlantic Beach	Village of Atlantic Beach	Village of Atlantic Beach
Estimated Costs	\$500,000	\$4,000,000	To be determined	To be determined	To be determined	To be determined

Project Number	VAB_1	VAB_2	VAB_3	VAB_4	VAB_5	VAB_6
Estimated Benefits	Prevent flood damage to the garage structure and contents (vehicles).	Reduce and prevent structural and contents damage due to flooding	Power during severe weather events.	Power during severe weather events.	Reduce flooding on roadways and protect property	Reduce flooding on roadways and protect property
Potential Funding Sources	Outside sources, including federal and state grants	Outside sources, including federal and state grants	HMGP	HMGP	HMGP	HMGP

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Atlantic Beach

NYS DHSES Action Worksheet			
Project Name:	Atlantic Beach Public Works Garage		
Project Number:	VAB_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	The Village Public Works garage is constructed below grade level and is vulnerable to flooding. Vehicles parked in this garage are vulnerable to damage from flooding. The Public Works garage is south of the Atlantic Beach Bridge. Atlantic Beach is on the Long Beach barrier Island and the soil condition is mostly sand. During Super Storm Sandy, the Village lost power for three weeks.		
Action or Project Intended for Implementation			
Description of the Solution:	Elevate the garage to the FEMA base flood elevation of 13 feet plus an additional two feet to remove the building from potential future flood hazards.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100 Year Storm	Estimated Benefits (losses avoided):	Prevent flood damage to the garage structure and contents (vehicles)
Useful Life:	20 Years		
Estimated Cost:	\$500,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	When money is available and secured
Estimated Time Required for Project Implementation:	Approximately five years	Potential Funding Sources:	Outside sources, including federal and state grants
Responsible Organization:	Public Works Department	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Elevate the garage to only the FEMA base flood elevation.	To be determined.	The building would not be fully protected from hazards.
	Build a new garage above ground and at a different location.	To be determined.	This would be very expensive.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:	None		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Atlantic Beach

NYS DHSES Action Worksheet			
Project Name:	Atlantic Beach Village Hall		
Project Number:	VAB_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	The Village Hall is constructed at grade level and is vulnerable to flooding. During Super Storm Sandy, the Village lost power for three weeks. The community relied on the Village to have the Hall operational. If the facility had been severely flooded, there would not have been any continuity of government operations. The Village Hall is located at 65 The Plaza, with a cross street of Pacific Boulevard. The Village Hall is south of the Atlantic Beach Bridge. Atlantic Beach is on the Long Beach Barrier Island and the soil condition is mostly sand.		
Action or Project Intended for Implementation			
Description of the Solution:	Since this building is considered a critical facility, it will be elevated high enough to protect it against the 500-year flood event. Initial estimates indicate that this elevation may be two feet above the FEMA base flood elevation of 13 feet.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	500 Year Flood	Estimated Benefits (losses avoided):	Reduce and prevent structural and contents damage due to flooding
Useful Life:	20 Years		
Estimated Cost:	\$4,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	When money is available and secured
Estimated Time Required for Project Implementation:	Approximately five years	Potential Funding Sources:	Outside sources, including federal and state grants
Responsible Organization:	Public Works Department	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Construct a new Village Hall at a different location.	To be determined	This project would be significantly more expensive than the proposed project.
	Abandon the first floor of Village Hall and construct a second floor at least two feet above the base flood elevation. Floodproof the old first floor with flood vents.	To be determined	This project may be less expensive than elevating the existing structure. It could, however, change the use and function of the building.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:	None		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Baxter Estates Annex

This document presents the Village of Baxter Estates’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Nora Haagenon, Mayor Village of Baxter Estates 315 Main Street Port Washington, NY 11050 mayor@baxterestates.org 516-767-0096	Chrissy Kiernan, Village Clerk-Treasurer Village of Baxter Estates 315 Main Street Port Washington, NY 11050 clerk@baxterestates.org 516-767-0096

Profile

The Village of Baxter Estates covers approximately 0.18 square miles¹ and has a total population of 1,018 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Baxter Estates are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Baxter Estates Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.3%	Black or African American alone	1.2%
Above 65 Years Old	19.0%	American Indian and Alaska Native alone	0.1%
Individuals with Disabilities	Information not provided	Asian alone	6.0%
Persons in Poverty	10.4%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	32.0%	Two or More Races	1.4%
Without a High School Diploma	7.4%	White alone, not Hispanic or Latino, percent	74.4%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	16.8%

¹ This is inclusive of land area only.

The Village of Baxter Estates occupies a small commercial development with no undeveloped land. Despite stagnate development, the Village has seen many property renovations to existing residences. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Baxter Estates. The jurisdiction identified coastal hazards, flooding, hurricane, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Baxter Estates include: **Coastal Hazards, Flooding, Hurricane, and Wind.**

Table 2: Village of Baxter Estates Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Economy, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Baxter Estates has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources,

and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Baxter Estates. The Village of Baxter Estates maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, site review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Baxter Estates Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village of Baxter Estates Village Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Comprehensive Emergency Management Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village of Baxter Estates Village Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Village MS4 Annual Report
Subdivision Ordinance(s)	Yes	Village of Baxter Estates Village Code

Regulatory Tool	Yes / No	Citation (if applicable)
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village of Baxter Estates Village Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Baxter Estates. The Village of Baxter Estates' primary administrative and technical capabilities include an emergency manager and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Baxter Estates Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Nora Haagenson, Mayor; Alice Peckelis, Trustee
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Robert Barbach, RA, Superintendent of Buildings; Joshua Speisman, Code Enforcement Officer
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Baxter Estates. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds and special tax bonds, levying taxes for specific purposes, withholding expenditures in hazard prone areas, CDBG programs, and state mitigation grant programs. Village of Baxter Estates should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Baxter Estates Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	Yes	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	Yes	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Baxter Estates. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Baxter Estates Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

Flood-prone areas include those located along Baxter Beach and Shore Road. This section provides a summary of the floodplain management capabilities for Village of Baxter Estates and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Superintendent of Buildings is responsible for floodplain management. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Baxter Estates is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 03/25/2020 and its last Community Assistance Visit on 08/04/2010. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To mitigate future damage to flood-prone properties, the Village worked with Nassau County to fund a Conceptual Shoreline Study of the Village's beach. As part of this study, the Village has a plan to stop erosion of the beach, shore up Shore Road, and create pedestrian connectivity. The Flood Damage Prevention Ordinance was last amended 7/2/2009 and can be referenced in L.L. No. 1-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Baxter Estates. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VBE_1	VBE_2	VBE_3
Project Name	Implementation of Continuity of Operations Plan	Shoreline Stabilization of Baxter Beach	Hazard Risk Awareness Outreach and Education Program
Goal being met	2	1, 3, 5	4
Hazards to be mitigated	All hazards	Flooding, Coastal Erosion	Tropical storms, nor’easters, high winds, and other hazards that cause power outages
Priority Ranking	High	High	High
Description of the Problem	During Covid-19, the Village Office was unable to continue its operations fully.	The erosion has diminished the natural habitat of the beach which is home to plant and marine life. It has also begun to undermine the pedestrian sidewalk and will eventually cause Shore Road, a Nassau County roadway on which 8,000 people travel daily, to collapse.	Tropical storms, nor’easters, high winds and other natural hazards threaten residential structures, some of which occur every year (e.g., wind). Even as recently as August 2020, Tropical Storm Isaias caused significant damage to properties in Baxter Estates. Residents and business owners could benefit from better understanding of hazard-resistance building materials and non-structural retrofits that could be completed. As many families in Baxter Estates have moved from NYC and are first-time homebuyers, several are not very knowledgeable about building codes.
Description of the Solution	The Village of Baxter Estates is seeking to create a Continuity of Operations Plan so that when there is an event that prohibits staff to be physically present, that a system is in place to continue village operations	The Village of Baxter Estates is seeking to address coastal erosion along a portion of Shore Road abutting Manhasset Bay, as well as providing a multi-use walk extending up to the southern end of the Bay Walk Park path. Shore Road is a Nassau County roadway which is utilized by 8,000+ cars daily and serves as one of two emergency evacuation routes for the Port Washington peninsula	Establish outreach and education program to raise awareness amongst residents and business-owners about disaster-resilience construction practices and non-structural retrofits. The program can discuss recent disasters, the damage that they caused and which types of damage could have been mitigated. New homebuyers could be provided targeted information.

Project Number	VBE_1	VBE_2	VBE_3
	that will be applicable to all staff.	including the Villages of Port Washington North, Manorhaven, and Sands Point. The erosion concerns include failing gabion units, undermining of the existing sidewalk and roadway, soil loss, reduction of vegetation, and reduction of natural beach area. The multi-use walk will serve as a continuation of the Bay Walk Park walk to serve residents and non-residents of Baxter Estates and to provide connectivity to the downtown Port Washington businesses. We have just completed a Conceptual Phase Study of the beach in which we engaged Cameron Engineering.	
Critical Facility	No	No	No
EHP Issues	No	Yes	Unknown
Estimated Timeline	1 Year	2 Years from time of securing funds	36 Months
Lead Agency	Clerk's Office	Village of Baxter Estates Capital Projects	Village of Baxter Estates
Estimated Costs	\$1,000	\$3,000,000	\$10,000 - \$25,000
Estimated Benefits	By implementing a continuity of operations plan, we are maintaining the health and safety of Village personnel, visitors, and residents. The ability to continue operations without disruption also has financial savings. We will avoid wasting village taxpayer dollars by avoiding disrupting or closing services.	Loss of property (homes along Shore Road) loss of the roadway (Shore Road), loss of the natural habitat which is home to marine and plant life.	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.
Potential Funding Sources	VBE General Fund	State and Federal	HMGP + Village Staff and/or Volunteer Time

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Baxter Estates

NYS DHSES Action Worksheet			
Project Name:	Hazard Risk Awareness Outreach and Education Program		
Project Number:	VBE_3		
Risk / Vulnerability			
Hazard of Concern:	Tropical storms, nor'easters, high winds, and other hazards that cause power outages		
Description of the Problem:	Tropical storms, nor'easters, high winds and other natural hazards threaten residential structures, some of which occur every year (e.g., wind). Even as recently as August 2020, Tropical Storm Isaias caused significant damage to properties in Baxter Estates. Residents and business owners could benefit from better understanding of hazard-resistance building materials and non-structural retrofits that could be completed. As many families in Baxter Estates have moved from NYC and are first-time homebuyers, several are not very knowledgeable about building codes.		
Action or Project Intended for Implementation			
Description of the Solution:	Establish outreach and education program to raise awareness amongst residents and business-owners about disaster-resilience construction practices and non-structural retrofits. The program can discuss recent disasters, the damage that they caused and which types of damage could have been mitigated. New homebuyers could be provided targeted information.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	N/A (Outreach)	Estimated Benefits (losses avoided):	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.
Useful Life:	3-5 years		
Estimated Cost:	\$10,000-\$25,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Beginning within one year.
Estimated Time Required for Project Implementation:	36 Months	Potential Funding Sources:	HMGP + Village Staff and/or Volunteer Time
Responsible Organization:	Village of Baxter Estates	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Require residents and/or businesses to adopt hazard-resistant building practices.	Unknown	Not politically feasible
Establish grant program to subsidize non-structural retrofits.	Unknown	No known appropriate/scalable funding mechanisms to support this type of program.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	_ <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Baxter Estates

NYS DHSES Action Worksheet			
Project Name:	Shoreline Stabilization of Baxter Beach		
Project Number:	VBE_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding along Shore Road and coastal erosion from rainfall		
Description of the Problem:	The erosion has diminished the natural habitat of the beach which is home to plant and marine life. It has also begun to undermine the pedestrian sidewalk and will eventually cause Shore Road, a Nassau County roadway on which 8,000 people travel daily, to collapse.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village of Baxter Estates is seeking to address coastal erosion along a portion of Shore Road abutting Manhasset Bay, as well as providing a multi-use walk extending up to the southern end of the Bay Walk Park path. Shore Road is a Nassau County roadway which is utilized by 8,000+ cars daily and serves as one of two emergency evacuation routes for the Port Washington peninsula including the Villages of Port Washington North, Manorhaven, and Sands Point. The erosion concerns include failing gabion units, undermining of the existing sidewalk and roadway, soil loss, reduction of vegetation, and reduction of natural beach area. The multi-use walk will serve as a continuation of the Bay Walk Park walk to serve residents and non-residents of Baxter Estates and to provide connectivity to the downtown Port Washington businesses. We have just completed a Conceptual Phase Study of the beach in which we engaged Cameron Engineering.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	100 year flood	Estimated Benefits (losses avoided):	Loss of property (homes along Shore Road) loss of the roadway (Shore Road), loss of the natural habitat which is home to marine and plant life.
Useful Life:	To be determined		
Estimated Cost:	\$3,000,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Two years
Estimated Time Required for Project Implementation:	Two years	Potential Funding Sources:	State and federal funding - The Village has a request through the local Assembly office to be included in an environmental bond for capital projects slated for a vote this November.
Responsible Organization:	Village of Baxter Estates Capital Project	Local Planning Mechanisms to be Used in Implementation, if any:	The Village of Baxter Estates engaged Cameron Engineering
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Continue to work with the Port Washington Police Department and Fire Department to ensure that they are equipped to manage flooding and have the ability to redirect traffic and assist any pedestrians or vehicles caught in a flooding situation.
	Stabilization of plant life and new plant life.	To be determined	Incorporating plantings appropriate for shoreline renewal and stabilization.

	Ask Nassau County to partner and examine drainage solutions on Shore Road further.	To be determined	Examining any previous watershed analysis results could provide short-term drainage solutions to at least mitigate flooding on the roadway.
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Progress Report (for plan maintenance)

Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Baxter Estates

NYS DHSES Action Worksheet			
Project Name:	Implementation of Continuity of Operations Plan		
Project Number:	VBE_1		
Risk / Vulnerability			
Hazard of Concern:	Any event that results in the Village office staff being unable to physically be present at the Village Office.		
Description of the Problem:	During Covid-19, the Village Office was unable to continue its operations fully.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village of Baxter Estates is seeking to create a Continuity of Operations Plan so that when there is an event that prohibits staff from being physically present such as a snow storm or pandemic, that a system is in place to continue Village operations that will be applicable to all staff. We plan to incorporate remote access, ensuring staff have a mobile device such as a laptop or tablet to access files remotely. We are in the process of implementing cloud-based parcel management software which will be a component of this plan. That expense is already covered by the Village's General Fund with partial reimbursement through the 2020 New York State shared services plan.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	100 year flood	Estimated Benefits (losses avoided):	By implementing a continuity of operations plan, we are maintaining the health and safety of Village personnel, visitors, and residents. The ability to continue operations without disruption also has financial savings. We will avoid wasting village taxpayer dollars by avoiding disrupting or closing services.
Useful Life:	N/A		
Estimated Cost:	\$1,000 (any additional software, cloud based remote access licensing, laptops/printers, mobile phone)		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One year
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	Village of Baxter Estates General Fund
Responsible Organization:	Clerk's Office	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No action	\$0	Taking no action would limit our ability to continue full operations, but some staff currently have the ability to work remotely or check email to perform limited functions.
	Staggering office personnel by days and hours required to be physically present in the office.	\$0	Staggering days would at least give everyone the same workload.
	Move operations to the Port Washington-Manhasset Office of Emergency Management headquarters equipped for all villages to use in the case of an emergency. Each Village would have a station to go to. It is set high enough on	Incorporated by dues paid to the Port Washington - Manhasset Office of Emergency Management.	In the event that remote operations didn't work or it was unsafe to be in the office space, the ability to utilize shared space at PWMan-OEM headquarters could be a viable option.

	a hill so that it would not be affected by flooding.		
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Progress Report (for plan maintenance)

Date of Status Report: |

Report of Progress: |

Update Evaluation of the Problem and/or Solution: |

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Bayville Annex

This document presents the Village of Bayville’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Robert E. De Natale, Mayor 34 School Street Bayville, NY 11709 rdenatale@bayvilleny.gov 516-628-1439	Maria Alfano-Hardy, Clerk Treasurer 34 School Street Bayville, NY 11709 clerk@bayvilleny.gov 516-628-1439

Profile

The Village of Bayville covers approximately 1.45 square miles¹ and has a total population of 6,732 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Bayville are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Bayville Demographic Information

Demographic		Demographic	
Below 5 Years Old	3.3%	Black or African American alone	0.3%
Above 65 Years Old	22.6%	American Indian and Alaska Native alone	0.4%
Individuals with Disabilities	5.4%	Asian alone	0.1%
Persons in Poverty	4.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	18.5%	Two or More Races	2.4%
Without a High School Diploma	3.8%	White alone, not Hispanic or Latino, percent	90.1%
Without Access to Broadband Internet	7.3%	Hispanic or Latino	5.6%

¹ This is inclusive of land area only.

Much of the development in Bayville is occurring on the western-end of the jurisdiction. Other development include single-family home renovations and two subdivisions. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Bayville. The jurisdiction identified coastal hazards, flooding, and hurricane as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Bayville include: **Coastal Hazards, Flooding, and Hurricane.**

Table 2: Village of Bayville Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	No Impact
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Bayville has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Bayville. The Village of Bayville maintains several key administrative and technical capabilities to support mitigation, including building codes, community development plans, emergency response plans, flood management plans, NFIP flood damage prevention ordinances, open space plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Bayville Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village Code Chapters 12 and 13
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	Yes	Residential rehabilitation for low-mod income
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Nassau County HMP
Floodplain Management Plan(s)	Yes	Village Code Chapter 27
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Village Code Chapter 27
Open Space Plan(s)	Yes	Village Code Chapter 43
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code Chapter 80

Regulatory Tool	Yes / No	Citation (if applicable)
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	MS4 Annual Reports 2010-19
Subdivision Ordinance(s)	Yes	Village Code Chapter 66
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Code Chapter 80

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Bayville. The Village of Bayville's primary administrative and technical capabilities include a NFIP floodplain administrator, GIS personnel, and a construction practices personnel. These capabilities provide the Village with specific technical capabilities. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards planning.

Table 4: Village of Bayville Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Building Inspector
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Bayville. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, utilizing user fees for utility services, CDBG programs, and state mitigation grant programs. Village of Bayville should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Bayville Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Issuance of debt instruments
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	Yes	Fees and penalties for water usage
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	NC Office of Community Development
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Bayville. Participation in the CRS program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Bayville Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes
Public Protection Classification Program	No
Community Rating System (CRS)	Yes
Other Classifications	No

National Flood Insurance Program Summary

All of the Village, east of Bayville Avenue, is in a low lying flood zone. This area is effected mainly by rising sea levels and storm-driven tides. The western area of the Village, along Bayville Avenue in the Business district, is a mix of coastal and shallow flooding. This section provides a summary of the floodplain management capabilities for Village of Bayville and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Building Inspector is responsible for floodplain management. Local and online Emergency Management Institute classes will support the future growth of the floodplain management program. The Building Inspector is also a Certified Floodplain Manager and reviews all applications submitted for construction to ensure that all local, state, and federal regulations and building codes related to flood are adhered to. One barrier to running a successful NFIP program in the Village of Bayville is contractors not having enough education about flood zone construction requirements. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by comparing the cost to repair to value of the structure at time of damage. If the cost meets or exceeds 50% of the structure value, the structure is substantially damaged. The Village of Bayville is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 11/27/2012 and its last Community Assistance Visit on 10/02/2014. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village assesses storm-damaged properties to determine if they have been substantially damaged. Substantially damaged and substantially improved properties must be mitigated to reduce future losses due to flooding. The Flood Damage Prevention Ordinance for the Village of Bayville meets minimum requirements. The ordinance was last amended 06/22/2009 and can be referenced in Chapter 27. Other steps that the Village takes to support the floodplain management program and meet NFIP requirements include participating in the Community Rating System. Participation in this program helps to reduce flood insurance premiums for Village residents that have policies through the NFIP.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Bayville. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Generator for backup of electrical and communications for Village Hall complex	Storm Surge flood mitigation project	Adams Ave. Pump Station	Pine Lane/First Ave Seawall	President Street drainage project	Arlington Lane drainage project
Risk Category	Various	Flood	Flood	Flood	Flood	Flood
Project Status	Completed	Not Started	Not Started	Completed	In-Progress	Completed
Project Status Description	GENERAC Quiesource series Natural Gas backup generator has been installed and is currently in operating condition.	This project faced overwhelming opposition from the residents for both the excessive cost to the taxpayer and imposing aesthetics of a 13 to 14' high (NAVD88) wall of almost 12,000 linear feet.	New York Rising no longer funding this project.	Residents of Pine Lane performed remediation with private funding.	As per Adam Hornbuckle of the Nassau County Executive's Office, a consultant has been selected but is awaiting their amendment to be approved by the Legislature's rules committee, with an expected work date in October/November 2020. (As per 7/7/2020)	Residents of Arlington Lane performed remediation, including re-grading, paving, and installation of catch basins, to improve flooding conditions on the low-lying northern portion of the road. The source of funds was private.
Carried Forward to 2020 Plan	N/A (Completed)	No	Yes	N/A (Completed)	Yes	N/A (Completed)
Required Changes	N/A (Completed)	No	A new source of funding should be investigated.	N/A (Completed)	Funding source should be changed to Nassau County, as they are taking the lead in the project.	N/A (Completed)

Proposed Mitigation Actions

Project Number	VBY_1	VBY_2	VBY_3	VBY_4	VBY_5
Project Name	Adams Avenue Pump Station Project	Bayville Fire Co. Flood Mitigation Project	Bury Utility Lines	First Avenue Drainage System	President Streets Drainage Project
Goal being met	1, 2, 3	1,3	1, 2, 3	1,2,3	1,2,3
Hazards to be mitigated	Flooding	Flooding	Straight-line winds, hurricanes and tropical storms, tornados	Flooding	Flooding
Hazard Ranking	High	High	High	High	High
Description of the Problem	There is a catch basin at the Southern end of Adams Avenue, which is connected to the Bayville Ave drainage system. This basin doesn't drain fast enough to alleviate the flooding of Bayville Ave.	The Bayville Fire Co. building is a pre-FIRM critical facility structure located in a 100-year Flood Plain and experiences flooding during high tide, heavy rain events, Nor'easters, hurricanes, blizzards, and high wind events.	Down power lines due to high winds and fallen trees	Flooding occurs at times of high tide, heavy rain events and during Nor'easters, hurricanes, blizzards, and any high wind event. The east end of the Village is in a Repetitive Loss Area and many homes have sustained repeated flooding and damage dating back to the Nor'easter of 1992.	Flooding occurs making Bayville Avenue impassable in the President Streets area at times of high tide, heavy rain events, and during Nor'easters, hurricanes, blizzards, and other high wind events. Bayville Avenue is the main evacuation route for Village residents.
Description of the Solution	Install a pump station at the Adams Ave catch basin to alleviate the inundation of the drainage system during high tide and/or storm events.	To engineer and install FEMA compliant dry flood-proofing barriers designed to withstand the hydrostatic and hydrodynamic forces of flood waters to the 500-year flood level. This may include certified flood walls and/or utility elevation.	Install underground utility to replace above ground utility poles	Install drainage structures and pumping stations to remove flood waters from streets effectively and efficiently thereby limiting the severity of the damage to existing properties.	Install additional drainage structures, elevate Bayville Avenue, and install pump stations.
Critical Facility	No	Yes	No	No	No
EHP Issues	Unknown	Unknown	Unknown	Unknown	Unknown
Estimated Timeline	One and a half years	One and a half years	Five years	Two Years	Start study and design October 2020
Lead Agency	Village of Bayville	Village of Bayville	LIPA/PSEGLI	Village of Bayville	Nassau County, in coordination with Village of Bayville
Estimated Costs	To be determined	To be determined	To be determined	\$2500000	To be determined

Project Number	VBY_1	VBY_2	VBY_3	VBY_4	VBY_5
Estimated Benefits	Protection of structures, affording residents a safe evacuation route	Protection of firehouse and all rescue equipment.	Reduction in loss of power to residents and Village facilities	Protection of structures thereby reducing repetitive losses.	Protection of structures, affording residents with an evacuation route.
Potential Funding Sources	Grant Funding	Grant Funding	LIPA/PSEGLI	Grant Funding	Nassau County

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Bayville

NYS DHSES Action Worksheet			
Project Name:	President Streets Drainage Project		
Project Number:	VBY_5		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding occurs making Bayville Avenue impassable in the President Streets area at times of high tide, heavy rain events, Nor'easters, hurricanes, blizzards, and other high wind events. Bayville Avenue is the main evacuation route for Village residents.		
Action or Project Intended for Implementation			
Description of the Solution:	Install additional drainage structures, elevate Bayville Avenue, and install pump stations.		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	100-year (1%) flood	Estimated Benefits (losses avoided):	Protection of structures, affording residents a safe evacuation route.
Useful Life:	30 years		
Estimated Cost:	TBD		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One Year
Estimated Time Required for Project Implementation:	Start study and design in October 2020	Potential Funding Sources:	County funding
Responsible Organization:	Nassau County Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Install drainage structures only	Unknown	Reduction of flooding but not complete remediation
	Install drainage structures and pump stations but not elevate Bayville Avenue	Unknown	Further reduction of flooding but still short of complete remediation
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Bayville

NYS DHSES Action Worksheet			
Project Name:	First Avenue Drainage System		
Project Number:	VBY_4		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding occurs at times of high tide, heavy rain events and during Nor'easters, hurricanes, blizzards, and any high wind event. The east end of the Village is in a Repetitive Loss Area and many homes have sustained repeated flooding and damage dating back to the Nor'easter of 1992.		
Action or Project Intended for Implementation			
Description of the Solution:	Install drainage structures and pumping stations to remove flood waters from streets effectively and efficiently thereby limiting the severity of the damage to existing properties.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100-year (1%) flood	Estimated Benefits (losses avoided):	Protection of structures thereby reducing repetitive losses
Useful Life:	30 Years		
Estimated Cost:	\$2,500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Two Years
Estimated Time Required for Project Implementation:	Two Years	Potential Funding Sources:	Grant funding
Responsible Organization:	Village of Bayville Office of the Clerk-Treasurer	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Install drainage structures only	Unknown	Reduction of flooding but not complete remediation
	Install pump stations only	Unknown	More flood water on streets but could be pumped out more quickly
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Bayville

NYS DHSES Action Worksheet			
Project Name:	Bayville Fire Co. Flood Mitigation Project		
Project Number:	VBY_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	The Bayville Fire Co. building is a pre-FIRM critical facility structure located in a 100-year Flood Plain that experiences flooding during high tides, heavy rain events, Nor'easters, hurricanes, blizzards, and high wind events.		
Action or Project Intended for Implementation			
Description of the Solution:	Engineer and install FEMA compliant dry flood-proofing barriers designed to withstand the hydrostatic and hydrodynamic forces of flood waters to the 500-year flood level. This may include certified flood walls and/or utility elevation.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	500-year (0.2%) flood	Estimated Benefits (losses avoided):	Protection of firehouse and all rescue equipment.
Useful Life:	50 years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One and a half years
Estimated Time Required for Project Implementation:	One and half years	Potential Funding Sources:	Grant funding
Responsible Organization:	Village of Bayville Office of the Clerk-Treasurer	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Satellite staging area for the Fire Company.	Unknown	Allows the Fire Company to continue operations during flood events.
	Relocate the entire firehouse to a higher elevation.	Unknown	Will keep the firehouse from being impacted by flood events.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Bayville

NYS DHSES Action Worksheet			
Project Name:	Bury Utility Lines		
Project Number:	VBY_3		
Risk / Vulnerability			
Hazard of Concern:	Straight-line winds, hurricanes and tropical storms, tornados		
Description of the Problem:	Due to frequent high wind events, the above ground electrical grid is vulnerable to damage from falling trees and other storm related debris.		
Action or Project Intended for Implementation			
Description of the Solution:	Install underground utility to replace above ground utility poles		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	Not applicable	Estimated Benefits (losses avoided):	Reduction in loss of power to residents and Village facilities
Useful Life:	30+ years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5 Years
Estimated Time Required for Project Implementation:	5 plus years	Potential Funding Sources:	LIPA/PSEGLI
Responsible Organization:	LIPA/PSEGLI	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Provide hyper-localized power generation	Unknown	Insures uninterrupted power service.
	Create a local stockpile of illumination devices (flashlights, candles, etc.)	\$1,000,000	Provides temporary source of lighting until power is restored.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Brookville Annex

This document presents the Village of Brookville’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Robert Spina, Trustee & Director Office of Emergency Management for Village of Brookville 18 Horse Hill Road Brookville, NY 11545 vbrookville@aol.com 516 671-4664	Daniel H. Serota, Mayor Village of Brookville 18 Horse Hill Road Brookville, NY 11545 mayor@villageofbrookville.com 516 671-4664

Profile

The Village of Brookville covers approximately 4.01 square miles¹ and has a total population of 3,576 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Brookville are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Brookville Demographic Information

Demographic	Demographic
Below 5 Years Old	2.4%
Above 65 Years Old	11.6%
Individuals with Disabilities	Information not provided
Persons in Poverty	3.1%
Renters	6.4%
Without a High School Diploma	1.4%
Black or African American alone	10.7%
American Indian and Alaska Native alone	0.2%
Asian alone	10.1%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	0.6%
White alone, not Hispanic or Latino, percent	71.7%

¹ This is inclusive of land area only.

Demographic		Demographic	
Without Access to Broadband Internet	0.0%	Hispanic or Latino	6.3%

The Village of Brookville consists of many housing and educational buildings. Upgrades are routinely made to the educational and community buildings. In the past five years, Brookville has seen the development of 26 new dwellings and 42 addition/alterations. The jurisdiction actively maintains its zoning map. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Brookville. The jurisdiction identified lightning, severe winter weather, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Brookville include:
Lightning, Severe Winter Weather, and Wind.

Table 2: Village of Brookville Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Housing, Infrastructure
Hail	Infrastructure
Lightning	Housing, Infrastructure
Severe Winter Weather	Community, Housing, Infrastructure
Tornados	No Impact
Wind	Community, Housing, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Brookville has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Brookville. The Village of Brookville maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plans, building codes, capital improvement plans, comprehensive plans/master plans, emergency response plans, open space plans, post disaster recovery ordinances, post disaster recovery plans, site plan review requirements, special purpose ordinances, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Brookville Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	Yes	2010 Nassau County Master Plan
Building Code	Yes	2015 ICC Codes
Capital Improvement Plan	Yes	Yearly Road Improvement Programs
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	Yes	1990 master plan of Village of Brookville
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	2010 Nassau County Master Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	Open space preservation 1990 master plan of Village of Brookville
Post Disaster Recovery Ordinance(s)	Yes	2010 Nassau County Master Plan
Post Disaster Recovery Plan(s)	Yes	2010 Nassau County Master Plan
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Site Plan Review Requirement(s)	Yes	local law 5 -2016
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	Yes	Special use per application
Stormwater Management Plan(s)	Yes	Stormwater management plan year 16
Subdivision Ordinance(s)	Yes	new ordinance 2020
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	25-Feb-91

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Brookville. The Village of Bayville's primary administrative and technical capabilities include an emergency manager, building and infrastructure engineers, land development engineers, GIS personnel, construction practices personnel, and surveyors. These capabilities provide the Village with a wide range of technical capabilities specifically related to engineering. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards planning.

Table 4: Village of Brookville Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Robert Spina
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Tim Dougherty / Paul Stevens
Engineer(s) with an understanding of natural and/or human caused hazards	No	None
Engineer(s) with knowledge of land development and land management practices	Yes	Paul Stevens Liro Group
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Paul Stevens Liro Group
Personnel trained in construction practices related to buildings/infrastructure	Yes	Tim Dougherty / Paul Stevens
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	

Staff / Personnel Resource	Yes / No	Details
Surveyors	Yes	private

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Brookville. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, private activity bonds, and special tax bonds and levying taxes for specific purposes, withholding public expenditures in hazard prone areas, capital improvements project funding, and state mitigation grant programs. Village of Brookville should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Brookville Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	Yes	
Ability to incur debt through special tax bonds	Yes	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	Yes	
Capital improvements project funding	Yes	Yearly Road Improvement Programs
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	Private
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Brookville. Participation in the BCEGS and Code Red program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Brookville Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes

Classification	Yes/No (or Status)
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	Code Red

National Flood Insurance Program Summary

The Village is in an area of minimal flood hazard, according to FEMA flood insurance rate maps. This section provides a summary of the floodplain management capabilities for Village of Brookville and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Brookville is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Brookville. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VBR_1	VBR_2	VBR_3
Project Name	Sign revitalization and GIS mapping	Tree Maintenance Program	Emergency Generator Installation at Village Department of Public Works Garage Building
Goal being met	1	5	1, 2
Hazards to be mitigated	High wind, hurricanes and severe winter storms	High winds	Multiple Hazards (Wind, Hurricanes, Severe Storms, etc.)
Description of the Problem	During severe storms, signs are inadequate and cannot withstand high winds.	During severe storms, tree damage is a major concern as downed trees result in blockages of traffic and downed utilities and obstruct the movement of emergency vehicles.	The public works facility for the Village is located in a remote area in the Nature Park. Access to and from the DPW garage building and salt/sand pit is along a 1/4 mile access. The facility is imperative to properly maintain the Village operations and safety. The DPW garage building houses all the trucks, equipment and tools required to service our residents.
Priority Ranking	High	High	High
Description of the Solution	Permanently install better signage that can withstand high winds.	Establish a tree removal and maintenance program to continually oversee hazardous and diseased trees removal, dead limb cutting, and weight-relieving pruning through the Village, with a focus on areas near Village easements.	The project for a fixed emergency generator to supply the public works facility is very necessary to ensure continued service during a storm or emergency event. Due to the location of the DPW garage building which is in a heavy wooded area the power lines are constantly compromised during storms of any kind. When there is a severe storm, we have seen downed lines take up to two weeks to be repaired due to the fact that the Village is considered low density which makes us low on the priority list.
Critical Facility	No	No	Yes

EHP Issues	N/A	N/A	No
Estimated Timeline	One Year	One Year	One Year
Lead Agency	Village of Brookville	Village of Brookville	Village of Brookville
Estimated Costs	\$50,000	\$100,000	TBD
Estimated Benefits	15 Years	10 Years	Continued service at each critical facility during a storm or emergency event and the installation of underground power lines.
Potential Funding Sources	SAM Grant	SAM Grant / Village Surplus	FEMA HMGP

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Brookville

NYS DHSES Action Worksheet			
Project Name:	Implement ongoing sign revitalization and GIS mapping project		
Project Number:	VRB_1		
Risk / Vulnerability			
Hazard of Concern:	High wind, hurricanes, and severe winter storms.		
Description of the Problem:	During severe storms, signs are inadequate and cannot withstand high winds. Existing signs are rotted, faded and not legible. Traffic signs, street signs, catch basins, fire hydrants, and street lighting have never been located on a map.		
Action or Project Intended for Implementation			
Description of the Solution:	Permanently install better signage that can withstand high winds. Install new signs that are legible and visible during evening hours. Add signs that will increase safety. Annually update GIS Mapping System to add new features.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	40 MPH plus	Estimated Benefits (losses avoided):	Accidents and confusion among residents and visitors.
Useful Life:	15 Years		
Estimated Cost:	\$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	August 1, 2020
Estimated Time Required for Project Implementation:	One Year	Potential Funding Sources:	SAM Grant/Village Surplus
Responsible Organization:	Village of Brookville	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Install wooden signs	\$50,000.00	Deterioration of signs is frequent
	Update official Village map manually	\$50,000.00	Time consuming and expensive
Progress Report (for plan maintenance)			
Date of Status Report:	Application pending for SAM Grant		
Report of Progress:	Obtained estimates for GIS Mapping. Street name signs currently being installed. Traffic sign installation will be sent out for bid.		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Brookville

NYS DHSES Action Worksheet			
Project Name:	Tree Maintenance Program		
Project Number:	VBR_2		
Risk / Vulnerability			
Hazard of Concern:	High winds		
Description of the Problem:	During severe storms, tree damage is a major concern as downed trees result in blockages of traffic and downed utilities and obstruct the movement of emergency vehicles.		
Action or Project Intended for Implementation			
Description of the Solution:	Establish a tree removal and maintenance program to continually oversee hazardous and diseased trees removal, dead limb cutting, and weight-relieving pruning through the Village, with a focus on areas near Village easements.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	40 MPH plus	Estimated Benefits (losses avoided):	\$500,000
Useful Life:	10 Years		
Estimated Cost:	\$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	January 1, 2021
Estimated Time Required for Project Implementation:	Two Years	Potential Funding Sources:	SAM Grant/Village Surplus
Responsible Organization:	Village of Brookville	Local Planning Mechanisms to be Used in Implementation, if any:	Village of Brookville
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Bury electric lines	\$10,000,000.00	PSE&G has indicated that due to low density in the Village, the cost is prohibited.
	Cut down all trees	\$100,000.00	Protect and maintain Village easements.
Progress Report (for plan maintenance)			
Date of Status Report:	Application pending for SAM Grant		
Report of Progress:	Preliminary Planning		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Brookville

NYS DHSES Action Worksheet			
Project Name:	Emergency Generator Installation at Village Department of Public Works Garage Building		
Project Number:	VBR_3		
Risk / Vulnerability			
Hazard of Concern:	Multiple Hazards (Wind, Hurricanes, Severe Storms, etc.) leading to power outages.		
Description of the Problem:	The public works facility for the Village is located in a remote area in the Nature Park. Access to and from the DPW garage building and salt/sand pit is along a 1/4 mile access. The facility is imperative to properly maintain the Village operations and safety. The DPW garage building houses all the trucks, equipment and tools required to service our residents.		
Action or Project Intended for Implementation			
Description of the Solution:	The project for a fixed emergency generator to supply the public works facility is very necessary to ensure continued service during a storm or emergency event. Due to the location of the DPW garage building which is in a heavy wooded area the power lines are constantly compromised during storms of any kind. When there is a severe storm we have seen downed lines take up to two weeks to be repaired due to the fact that the Village is considered low density which makes us low on the priority list.		
Is this project related to a Critical Facility?		Yes	<input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)		No	<input type="checkbox"/>
Level of Protection:	Full protection	Estimated Benefits (losses avoided):	Continued service at each critical facility during a storm or emergency event and the installation of underground power lines.
Useful Life:	30 years		
Estimated Cost:	TBD		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	One Year	Potential Funding Sources:	FEMA HMGP
Responsible Organization:	Village of Brookville	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Purchase portable generator for deployment at different facilities as needed.	Significantly greater cost for portable generator with same output as fixed-location generator.	Additional costs and the particular need for a generator at the DPW Garage make this alternative less desirable.
	Rent a portable generator as needed.	<\$5,000	Portable generator availability / the ability to bring in a portable generator cannot be guaranteed.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Cedarhurst Annex

This document presents the Village of Cedarhurst’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Benjamin Weinstock, Mayor at Village of Cedarhurst 200 Cedarhurst Avenue Cedarhurst, NY 11516 sal@cedarhurst.gov 516-295-5770	Salvatore Evola, Village Administrator 200 Cedarhurst Avenue Cedarhurst, NY 11516 sal@cedarhurst.gov 516-295-5770

Profile

The Village of Cedarhurst covers approximately 0.68 square miles¹ and has a total population of 6,633 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Cedarhurst are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Cedarhurst Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.5%	Black or African American alone	1.5%
Above 65 Years Old	18.1%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	2.6%	Asian alone	1.6%
Persons in Poverty	3.8%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	38.0%	Two or More Races	0.0%
Without a High School Diploma	4.2%	White alone, not Hispanic or Latino, percent	77.6%
Without Access to Broadband Internet	12.7%	Hispanic or Latino	19.0%

¹ This is inclusive of land area only.

The Village of Cedarhurst has experienced increase development over the past few years, including newly built and renovated housing, schools, and houses of worship. The development in the 100-year flood area is attributed to rebuilding post-Super Storm Sandy. The jurisdiction actively maintains its zoning map and planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Cedarhurst. The jurisdiction identified coastal hazards, flooding, hurricane, lightning, and severe winter weather as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact.

The hazards that most impact the Village of Cedarhurst include:

Coastal Hazards, Flooding, Hurricane, Lightning, and Severe Winter Weather.

No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

Table 2: Village of Cedarhurst Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Housing, Infrastructure
Drought	No Impact
Extreme Temperatures	Infrastructure
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community, Housing, Infrastructure
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Cedarhurst has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Cedarhurst. The Village of Cedarhurst maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, NFIP flood damage prevention ordinances, stormwater management plans, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Cedarhurst Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	PART II: General Legislation Chapter 138, Flood Damage Prevention
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Cedarhurst. The Village of Cedarhurst's primary administrative and technical capabilities include an emergency manager and a NFIP floodplain administrator. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Cedarhurst Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Commissioner Frank Parise Emergency
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Cedarhurst. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Cedarhurst should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Cedarhurst Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Cedarhurst. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Cedarhurst Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

Flood-prone areas in the Village include any areas in the 100-year floodplain, as depicted on FEMA flood insurance rate maps (FIRMs). This section provides a summary of the floodplain management capabilities for Village of Cedarhurst and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Building Superintendent is responsible for floodplain management. Training available through the Building Inspectors Association of Nassau County will support the Village's floodplain management program. The Village administers the NFIP through building permit and site plan review. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by reviewing the properties effected, determining the cost of construction, and comparing against the Nassau County building value. The property is substantially damaged if the cost to repair exceeds 50% of the building value. The Village reported that 20 properties were substantially damaged as a result of recent flood events. The Village of Cedarhurst is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 12/04/2012 and its last Community Assistance Visit on 05/22/2014. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To mitigate flood risk, the Village elevated the Department of Public Works property, adjacent to Motts Basin, approximately three feet. The Flood Damage Prevention Ordinance for the Village of Cedarhurst meets minimum requirements. The ordinance was last amended 07/03/2009 and can be referenced in 3 of 2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Cedarhurst. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Seawall Project - Construction of a bulkhead/seawall to prevent tidal and storm surge	Storm water project - Repair of existing storm drains and installation of new water removal system	Emergency generator installation at Village Hall and DPW Building	A permanent generator will be installed at the following locations: <ul style="list-style-type: none"> • Lawrence High School 2 Reilly Rd Cedarhurst, NY 11516 • Lawrence Middle School 195 Broadway Lawrence, NY 11559 • Number 2 School 1 Donahue Avenue Inwood, NY 11096 • Number 4 School 87 Wanser Avenue Inwood, NY 11096 • Number 5 School 5 School St Inwood, NY 11096
Risk Category	Flooding from Storm Surges	Flooding from Storm Water	Power failure	Frequent power outages
Project Status	Not started	Not started	Not started	Unknown
Project Status Description	Nassau County Multi-Jurisdictional Hazard Mitigation Plan Worksheet has been updated. Currently we are looking for funding for this project.	Nassau County Multi-Jurisdictional Hazard Mitigation Plan Worksheet has been updated. Currently we are looking for funding for this project.	Nassau County Multi-Jurisdictional Hazard Mitigation Plan Worksheet has been updated. Currently we are looking for funding for this project.	The status of this project is unknown at this time. Multiple attempts were made through email and phone to contact the Lawrence School District during the planning process. No contact was made, therefore this project will be removed from the 2020 mitigation action plan.
Carried Forward to 2020 Plan	Yes	Yes	Yes	No
Required Changes	No Changes	No Changes	No Changes	

Proposed Mitigation Actions

Project Number	VCH_1	VCH_2	VCH_3
Project Name	Emergency Generator	Seawall Project	Storm Water Project
Goal being met	1, 2	1, 2, 3, 5	1, 2, 3, 5
Hazards to be mitigated	Severe Winter Weather, Tornados, Lightning, Wind, Hurricanes	Flooding, Coastal Hazards	Flooding, Coastal Hazards
Priority Ranking	High	High	High
Description of the Problem	<p>No backup power at Village Hall which is also used as the Emergency Operations Center (EOC)</p> <p>During storm and winter events the Village Hall loses power often. This causes a loss of communication to our residents and staff.</p>	<p>Flooding in the North West section of the Village</p> <p>During extreme high tides or surges, the bay water extends into public areas causing damage to public and private property and buildings.</p> <p>The areas of concern are, Jonny Jack Park on Peninsula Blvd. and Motts Creek bordering the Department of Public Works (DPW) plant</p>	<p>Flooding in the North West section of the Village</p> <p>Motts Basin, which is part of Jamaica Bay, accommodates drainage outfalls. During high tide and water surges, the bay water backs up through the storm drains into the streets. This causes the Village to close the streets. This area of the Village experiences flooding into the street at a six foot tide.</p>
Description of the Solution	<p>Install an emergency generator at Village Hall.</p> <p>Install an emergency generator at Village Hall. The Village currently has a 400 amp. three phase service. The generator required to handle Village Hall is a 60 Kilowatt three phase diesel generator.</p>	<p>Install composite bulkheads in areas where the water flows over the top of existing wooden bulkhead.</p>	<p>The solution to this problem should follow a sequence listed below.</p> <p>Phase One</p> <ol style="list-style-type: none"> 1. Cleanout all storm basins. 2. Clear all drain piping 3. Camera all mains (snapshots of the village and county mains as well as the outfalls into Motts Creek are available). <p>Phase Two</p> <ol style="list-style-type: none"> 4. Repair any broken mains, drains and basins. 5. Replace outfall valves 6. Replace damaged duct valve at the DPW plant <p>Phase Three</p> <ol style="list-style-type: none"> 7. Install pump station at the DPW plant to

Project Number	VCH_1	VCH_2	VCH_3
			handle water during heavy rainfall at high tides
Critical Facility	Yes	No	Yes
EHP Issues	No	Yes	No
Estimated Timeline	2 Months to schedule installation.	5 Years	5 Years
Lead Agency	Village of Cedarhurst	Village of Cedarhurst	Village of Cedarhurst
Estimated Costs	\$70,000	To be determined	Under \$100,000
Estimated Benefits	This will give the Village full use of facilities as well as making it handicap accessible in a power outage.	Current seawall at Jonny Jack Park is 8' vs the expected installation of a 10' composite seawall. The cost of the seawall is \$1,000 per lineal foot. The seawall around the DPW plant will be evaluated as far as height. This 10' wall will protect the Village against an event that encompasses a high tide combined with a surge and heavy rain. The loss and or damage during Superstorm Sandy was approximately 50 homes with extensive damage to each.	This will benefit residents in the flood zone. At this point the Village closes streets sometimes preventing fire and other emergency vehicles from responding to incidents. Also causing flooding in the residents' homes.
Potential Funding Sources	Municipal funding, State grants, FEMA mitigation grants	FEMA Grant	FEMA Grant

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cedarhurst

NYS DHSES Action Worksheet			
Project Name:	Emergency generator		
Project Number:	VCH_1		
Risk / Vulnerability			
Hazard of Concern:	Loss of power to Village Hall which is also uses as our Emergency Operation Center (EOC)		
Description of the Problem:	During storm and winter events the Village Hall loses power often. This causes a loss of communication to our residents and staff.		
Action or Project Intended for Implementation			
Description of the Solution:	Install an emergency generator at Village Hall. The Village currently has a 400 amp. three phase service. The generator required to handle Village Hall is a 60 Kilowatt three phase diesel generator.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Full protection including HVAC as well as elevator.	Estimated Benefits (losses avoided):	This will give the Village full use of facilities as well as making it handicap accessible in a power outage.
Useful Life:	25 years to 30 years		
Estimated Cost:	Cost of materials and labor \$70,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Implementation is immediate.
Estimated Time Required for Project Implementation:	Two months to schedule installation.	Potential Funding Sources:	Municipal funding, State grants, FEMA mitigation grants
Responsible Organization:	Village of Cedarhurst	Local Planning Mechanisms to be Used in Implementation, if any:	Electrical permit will be handled in house
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Rent a portable generator.	\$300.00	Portable generators may not always be available to rent in a time of disaster.
	Close Village Hall and operate from a remote location.	\$20,000+ annually	The village would need to lease space for an Emergency Operations Center and may also have to operate with little or no staff on site.
	No action	\$0	
Progress Report (for plan maintenance)			
Date of Status Report:	July 7, 2020		
Report of Progress:	No progress at this time		

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cedarhurst

NYS DHSES Action Worksheet

Project Name:	Seawall project		
Project Number:	VCH_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding in the North West section of the Village		
Description of the Problem:	During extreme high tides or surges, the bay water extends into public areas causing damage to public and private property and buildings.		
Action or Project Intended for Implementation			
Description of the Solution:	Install composite bulkheads in areas where the water flows over the top of existing wooden bulkhead. During super storm Sandy, the sea water came over our existing bulkhead causing damage to several homes in the area. The areas of concern are: Jonny Jack Park on Peninsula Blvd. and Motts Creek bordering our DPW plant. Although we applied for FEMA help after Super Storm Sandy, it was not approved. They would only pay to repair the existing wall and not to replace it with a higher wall.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Seven foot high tides and storm surges	Estimated Benefits (losses avoided):	Current seawall at Jonny Jack Park is 8'. We are expecting to install a 10' composite seawall. The cost of the seawall is \$1,000.00 per lineal foot. The seawall around the DPW plant will be evaluate as far as height. This 10' wall will protect the village against an event that encompasses a high tide combined with a surge and heavy rain. The loss and or damage during the Sandy storm was approximately 50 homes with extensive damage to each.
Useful Life:	50 to 75 years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	High priority if installed in conjunction with Lawrence School District. If the School District does not install a seawall the project will be diminished.
Estimated Time Required for Project Implementation:	Five years	Potential Funding Sources:	FEMA grant
Responsible Organization:	Village of Cedarhurst	Local Planning Mechanisms to be Used in Implementation, if any:	Villager of Cedarhurst
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Beach front area is not feasible	None	There are no alternative uses for this area as there is no room for beach front use.
	Boat docking	N/A	The village is not interested in renting dock space
	No Action	\$0	

Progress Report (for plan maintenance)

Date of Status Report:	7/13/2020
Report of Progress:	No progress currently
Update Evaluation of the Problem and/or Solution:	There is no update to report.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cedarhurst

NYS DHSES Action Worksheet			
Project Name:	Storm water project		
Project Number:	VCH_3		
Risk / Vulnerability			
Hazard of Concern:	Flooding in the North West section of the Village		
Description of the Problem:	Motts Basin, which is part of Jamaica Bay, accommodates our drainage outfalls. During high tide and water surges, the bay water backs up through our storm drains into our streets. This causes the Village to close the streets. This area of the Village experiences flooding into the street at a six-foot tide.		
Action or Project Intended for Implementation			
Description of the Solution:	<p>The solution to this problem should follow a sequence listed below.</p> <p>Phase One</p> <ol style="list-style-type: none"> 1. Cleanout all storm basins. 2. Clear all drain piping 3. Camera all mains <p>Phase Two</p> <ol style="list-style-type: none"> 4. Repair any broken mains, drains and basins. 5. Replace outfall valves 6. Replace damaged duct valve at the Department of Public Works (DPW) plant <p>Phase Three</p> <ol style="list-style-type: none"> 7. Install pump station at the DPW plant to handle water during heavy rainfall at high tides. 		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	High level of protection	Estimated Benefits (losses avoided):	This will benefit residents in the flood zone. At this point the Village closes streets sometimes preventing fire and other emergency vehicles from responding to incidents. Also causing flooding in the residents' homes.
Useful Life:	50 years		
Estimated Cost:	Less than \$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Start Phase 1 immediately upon approval of funding. Then, evaluate blocked/damaged mains. Next, start Phase 2.
Estimated Time Required for Project Implementation:	This project can be completed in less than five years after the funding approval.	Potential Funding Sources:	The village would need a grant for funding, possibly a FEMA grant.
Responsible Organization:	Please find attached a snapshot view of the village and county mains as well as the outfalls int Motts Creek.	Local Planning Mechanisms to be Used in Implementation, if any:	This project would entail cooperation and dual resources from Nassau County as the village drainage flows into the county storm basins.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No action		
	Replacing the Storm Drains	Over \$10,000	Not feasible
	Conduct Phase One Only	\$5,000	Partial Fix - Doesn't solve the problem.

Progress Report (for plan maintenance)

Date of Status Report:	7/13/2020
Report of Progress:	No progress at this time
Update Evaluation of the Problem and/or Solution:	No update at this time.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Centre Island Annex

This document presents the Village of Centre Island’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Lawrence Schmidlapp, Mayor Village of Centre Island 303 Centre Island Road Oyster Bay, NY 11771 larry.schmidlapp@gmail.com 516-375-3036	Michael Chalos, Deputy Mayor Village of Centre Island 303 Centre Island Road Oyster Bay, NY 11771 mgchalos@gmail.com 917-744-2649

Profile

The Village of Centre Island covers approximately 1.12 square miles¹ and has a total population of 534 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Centre Island are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Centre Island Demographic Information

Demographic		Demographic	
Below 5 Years Old	1.0%	Black or African American alone	0.4%
Above 65 Years Old	25.5%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	6.3%
Persons in Poverty	5.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	6.0%	Two or More Races	0.8%
Without a High School Diploma	2.1%	White alone, not Hispanic or Latino, percent	88.5%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

¹ This is inclusive of land area only.

The Village of Centre Island consists of waterfront property that is likely to be developed in the future. The community has seen an escalation of re-development of older homes. Despite the updates to residential property, the community is reluctant to change and expand growth across the 605 acres. The jurisdiction keeps the zoning maps and planning team up-to-date. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Centre Island. The jurisdiction identified coastal hazards, flooding, hurricane, severe winter weather and wind the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact.

The hazards that most impact the Village of Centre Island include:
**Coastal Hazards,
 Flooding, Hurricane,
 Severe Winter Weather,
 and Wind.**

No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

Table 2: Village of Centre Island Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Health and Social Services, Infrastructure
Drought	No Impact
Extreme Temperatures	Health and Social Services
Flooding	Community, Housing, Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure
Hail	Community, Housing
Lightning	Community, Housing, Infrastructure
Severe Winter Weather	Housing, Infrastructure
Tornados	Community, Economy, Housing, Infrastructure
Wind	Community, Economy, Housing, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Centre Island has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Centre Island. The Village of Centre Island maintains several key administrative and technical capabilities to support mitigation, including building codes, stormwater management plans, subdivisional ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Centre Island Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	General Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	MS4
Subdivision Ordinance(s)	Yes	Local Planning Board
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	General Code Zoning ordinances

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Centre Island. The Village of Centre Island has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analyst, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Centre Island Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Mayor Lawrence Schmidlapp
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Village Engineer James Antonelli
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	Yes	Building Inspector Joe Richardson
Grant Writers	Yes	currently looking
Personnel skilled or trained in Geographic Information Systems	Yes	Village Clerk- Carol Schmidlapp
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector- Joe Richardson
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	Yes	Jim Antonelli
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Centre Island. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt via general obligation bonds, levying taxes for specific purposes, and capital improvements project funding. Village of Centre Island should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Centre Island Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Centre Island. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Centre Island Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

There are three low elevation areas in the Village that are flood-prone. All other areas are 12 feet above mean high tide. This section provides a summary of the floodplain management capabilities for Village of Centre Island and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Building Inspector is responsible for floodplain management. One of the barriers to running a successful NFIP program in the Village is convincing landowners to participate in the NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made through in-person site inspections. The Village reported that one property was substantially damaged as a result of recent flood events. The Village of Centre Island is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 12/06/2012 and its last Community Assistance Visit on 04/14/2016. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

One spot causes the main road to flood and thereby halting all traffic in and out. The Village has secured a State grant to raise this area several feet up to mitigate the potential for it to be flooded in the future. The Flood Damage Prevention Ordinance was last amended 07/08/2009 and can be referenced in § 62, Adopted 7-8-2009 by LL. No. 1-2009..

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Centre Island. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Centre Island Road Flooding Mitigation - Construction of a 5ft high extension to an existing 1ft wall, and two one-way 12" diameter sluice pipes.	Generator installed at the Police Station in order to reduce impacts from flooding events.
Risk Category	Flooding	Flooding
Project Status	In progress	Completed
Project Status Description	Engineering analysis is done but additional project work is temporarily halted. Construction has not started due to logistics and the scope of the plan. After extensive engineering drawings, the owner of adjacent property refuses to lose use of his driveway for two months in order for construction to move forward.	
Carried Forward to 2020 Plan	Yes	NO
Required Changes	A better way to accomplish the end result is being studied	

Proposed Mitigation Actions

Project Number	VCI_1	VCI_2	VCI_3
Project Name	Road Elevation	Seawall Valve	Tree Maintenance Program
Goal being met	1, 3	1, 3	3, 5
Hazards to be mitigated	Flooding	Coastal Flooding	Straight-line wind, hurricane
Priority Ranking	High	High	High
Description of the Problem	Saltwater flooding prevents emergency vehicles from accessing the Village due to the effects of salt water on expensive fire and ambulance trucks.	Existing seawall does not provide sufficient protection from coastal flooding events.	Trees are over 100 years old and present a road hazard during high wind and rain situations several times a year.
Description of the Solution	Prevent the storm surge from breaching a flood wall and flooding the main road at its origin by elevating the road two feet for the first 400 feet.	Install a one-way valve for the seawall to support water management and limit erosion.	Develop a tree maintenance program that includes a process for hiring an arborist to evaluate trees and suggest mitigation measures to limit future damage caused by high wind that brings down limbs and trees.
Critical Facility	Yes	Yes	No
EHP Issues	Yes	No	No
Estimated Timeline	Two years	One year	One year
Lead Agency	Centre Island Department of Transportation	Village of Centre Island	Centre Island Department of Transportation
Estimated Costs	\$120,000	To be determined	\$25,000
Estimated Benefits	home, life safety	Protection of Facilities (Police Station); Asset Protection	Property and auto damage
Potential Funding Sources	NYS Grant	Municipal budget, NYS Grant	Municipal budget, NYS Grant

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Centre Island, Oyster Bay, NY

NYS DHSES Action Worksheet			
Project Name:	Road Elevation		
Project Number:	VCI_1		
Risk / Vulnerability			
Hazard of Concern:	Storm surge		
Description of the Problem:	Saltwater flooding prevents emergency vehicles from accessing the Village due to the effects of salt water on expensive fire and ambulance trucks.		
Action or Project Intended for Implementation			
Description of the Solution:	Prevent the storm surge from breaching a flood wall and flooding the main road at its origin by elevating the road two feet for the first 400 feet.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Storm surge	Estimated Benefits (losses avoided):	Emergency vehicle access at all times
Useful Life:	75 years		
Estimated Cost:	\$120,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One year
Estimated Time Required for Project Implementation:	Two Years	Potential Funding Sources:	Possible grant from NY State for \$100,000
Responsible Organization:	Centre Island Department of Transportation	Local Planning Mechanisms to be Used in Implementation, if any:	Not available
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Raise the road 2 feet attaching all current drains	\$120,000	A resident refuses to let the construction company tie up their driveway access for a month.
	Suggested to raise the concrete wall four feet to keep water from the roadbed- use tide gates for draining.	\$110,000	Currently in the hands of Village Engineer to explore feasibility
Progress Report (for plan maintenance)			
Date of Status Report:	7/15/2020		
Report of Progress:	Awaiting feasibility study- already spent \$15,000 on road raising surveys so back to square one.		
Update Evaluation of the Problem and/or Solution:	Raising the road allows for a longer lasting solution but raising the height of the wall seems to be the only option.		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Centre Island, Oyster Bay, NY

NYS DHSES Action Worksheet			
Project Name:	Tree Maintenance Program		
Project Number:	VCI_3		
Risk / Vulnerability			
Hazard of Concern:	Straight-line winds, hurricanes		
Description of the Problem:	Trees are over 100 years old and present a road hazard during high wind and rain situations several times a year. Many large oaks and elm trees are diseased and that causes branches to fall on the road during storms.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop a tree maintenance program that employs an arborist to evaluate tree conditions and advise which need to be cut to avoid dangerous travel on the roads.		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	Protects against storm events that occur frequently (multiple times per year.)	Estimated Benefits (losses avoided):	Property and auto damage
Useful Life:	10 years		
Estimated Cost:	\$25,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	One Year	Potential Funding Sources:	Not sure, but ongoing maintenance can be budgeted yearly.
Responsible Organization:	Village Department of Transportation	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Deal with trees after they fall
	Remove sick or dangerous specimens	\$25,000	If funding impossible, do work over a three-year period.
	Wait until they fall hopefully not causing any damage to vehicles	\$5,000	Being considered now as a fall back.
Progress Report (for plan maintenance)			
Date of Status Report:	7/15/2020		
Report of Progress:	Only have initial review of tree health.		
Update Evaluation of the Problem and/or Solution:	A continuing issue due to the wooded nature of this Island. There just isn't enough room in the budgeting process to resolve the issue so let nature take its course.		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High		
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	– <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Cove Neck Annex

This document presents the Village of Cove Neck’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Thomas Zoller, Mayor Village of Cove Neck 1395 Planting Fields Road Oyster Bay, NY 11771 trzoller100@gmail.com 516-987-8203	Ted Gutierrez, Deputy Mayor Village of Cove Neck 1395 Planting Fields Road Oyster Bay, NY 11771 tedrez61553@gmail.com 516-445-9292

Profile

The Village of Cove Neck covers approximately 1.29 square miles¹ and has a total population of 262 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Cove Neck are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Cove Neck Demographic Information

Demographic		Demographic	
Below 5 Years Old	2.7%	Black or African American alone	0.0%
Above 65 Years Old	26.8%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	3.1%
Persons in Poverty	4.2%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	15.5%	Two or More Races	0.0%
Without a High School Diploma	0.5%	White alone, not Hispanic or Latino, percent	92.7%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	4.2%

¹ This is inclusive of land area only.

Growth in Cove Neck is stable. The most common development is residential renovations and reconstruction to older homes. Cove Neck is entirely residential with no industrial or business developments. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Cove Neck. The jurisdiction identified coastal hazards and hurricanes as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Cove Neck include:
Coastal Hazards, and Hurricane.

Table 2: Village of Cove Neck Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Housing, Infrastructure
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Community, Housing, Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Housing, Infrastructure
Hail	No Impact
Lightning	Community, Infrastructure
Severe Winter Weather	Community
Tornados	Community, Housing, Infrastructure
Wind	Community, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Cove Neck has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification

and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Cove Neck. The Village of Cove Neck maintains zoning ordinances, which are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Cove Neck Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	No	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Chapter 75 - Code Book for the Inc. Village of Cove Neck

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Cove Neck. The Village of Cove Neck has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analyst, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Cove Neck Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	John Hubbard, Ted Gutierrez
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Roger Cocchi
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Roger Cocchi
Engineer(s) with knowledge of land development and land management practices	Yes	Roger Cocchi
Grant Writers	Yes	Cathie Wardell
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Karl Bicknese
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	Yes	Roger Cocchi

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Cove Neck. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, utilizing user fees for utility services, capital improvement project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. Village of Cove Neck should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Cove Neck Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	Yes	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	Yes	Roger Cocchi
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Cove Neck. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Cove Neck Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

The Village's flood-prone areas are mainly located along its coastline, as indicated on FEMA flood insurance rate maps. This section provides a summary of the floodplain management capabilities for Village of Cove Neck and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Building Inspector is responsible for floodplain management. New York State building code courses will continue to support the growth of the floodplain management program. Cove Neck administered the NFIP through the building permit process, site planning and reviews, and physical inspections. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, the building inspector performs substantial damage determinations by physical inspection or by certification by licensed architect or engineer. The Village reported that two properties were substantially damaged as a result of recent flood events. The Village of Cove Neck is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 08/28/2002 and its last Community Assistance Visit on 06/13/2011. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To mitigate future losses to properties located in these areas, all new construction is required to comply with FEMA regulations. The Flood Damage Prevention Ordinance for the Village of Cove Neck meets minimum requirements. The ordinance was last amended 2007 and can be referenced in Chapter 138, Stormwater Management and Erosion and Sediment Control [History: Adopted by the Board of Trustees of the Village of Cove Neck 5-9-2007 by L.L. No. 1-2007. Amendments noted where applicable..

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Cove Neck. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VCN_1	VCN_2	VCN_3	VCN_4
Project Name	Emergency SMS Texting	Road Flooding Emergency Response Contingency Plan	Emergency Generator Installation at Police Station	Harden or Upgrade Utilities to be Disaster-Resistant
Goal being met	4	3	2,3	1
Hazards to be mitigated	All-natural hazards	Flooding	All hazards that cause power outages	High Wind, Hurricanes, Ice Storms
Priority Ranking	High	High	High	High
Description of the Problem	Currently there is no alert system in place to keep residents actively up to date in the event of an emergency.	In the event of a road flooding at high tide the majority of our residents are isolated from outside fire/police services.	The Village police station can not function as the critical facility it is when it experiences prolonged power outages due to high wind events, such as tropical storms and nor'easters.	Power outages due to aging and unreliable utilities are one of the biggest problems in the Village of Cove Neck. Power outages frequently occur during storms and high wind conditions. The poles, transformers and powerlines are all at least 50 years old and need to be upgraded and/or hardened.
Description of the Solution	Compile a list of resident's cellular phone numbers (and email addresses) to populate an enterprise SMS platform.	Police and firefighting equipment will be temporarily stationed at Sagamore Hill where they can reach residents confined due to the impassable road.	A fixed, emergency generator will be installed at the police station to ensure continued service during a storm or emergency event and the installation of underground power lines.	Upgrade and/or harden utilities in the area. The Village will work with PSEG to investigate utilities throughout Cove Neck to discover the parts that need hardening and/or upgrading.
Critical Facility	N/A	N/A	Yes	Yes

Project Number	VCN_1	VCN_2	VCN_3	VCN_4
EHP Issues	N/A	N/A	No	No
Estimated Timeline	Within the year 2020	Within the year 2020	1 Year	Ongoing
Lead Agency	Village Board of Trustees.	Village Board of Trustees.	Village of Cove Neck	PSEG
Estimated Costs	\$250 per year	To be determined	To be determined	To be determined
Estimated Benefits	Information will be used to mitigate property damage as well as injury/death.	Property loss, injury mitigated.	Continued service at the police station during a storm or emergency event and the installation of underground power lines.	Protection of life safety
Potential Funding Sources	Village budget	N/A	FEMA HMGP	FEMA

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cove Neck

NYS DHSES Action Worksheet			
Project Name:	Emergency SMS Alerting		
Project Number:	VCN-1		
Risk / Vulnerability			
Hazard of Concern:	All natural hazards		
Description of the Problem:	Currently there is no alert system in place to keep residents actively up to date in the event of an emergency. An SMS (texting) alert system can be used to reach village residents anytime, anywhere. Alerting residents in the event of a hazardous weather event such as flooding or downed power lines. Disaster preparation, severe weather, power outage information, as well as upcoming meetings/votes can be disseminated through an SMS (texting) alert system.		
Action or Project Intended for Implementation			
Description of the Solution:	Compile a list of resident's cellular phone numbers (and email addresses) to populate an enterprise SMS platform. A plan will be made including how to implement the system.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	All hazardous events	Estimated Benefits (losses avoided):	Information will be used to mitigate property damage as well as injury/death.
Useful Life:	Ongoing		
Estimated Cost:	\$250/year		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within the year 2020
Estimated Time Required for Project Implementation:	Two Months	Potential Funding Sources:	Village budget
Responsible Organization:	Village Board of Trustees	Local Planning Mechanisms to be Used in Implementation, if any:	Village Board of Trustees
Three Alternatives Considered (including No Action)			
Alternatives:	N/A	<i>Estimated Cost</i>	<i>Evaluation</i>
	N/A	\$0	
	Establish and update a village social media account(s).	\$250	May result in delayed notification if not checked regularly by the resident.
	Email	\$250	Notification likely delayed due to failure to check email.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

Incorporated Village of Cove Neck

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cove Neck

NYS DHSES Action Worksheet			
Project Name:	Road Flood Emergency Response Contingency Plan		
Project Number:	VCN_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	The village of Cove Neck is a peninsula with one road for vehicular traffic. In the event of a road flooding at high tide most of the residents are isolated from outside fire/police services.		
Action or Project Intended for Implementation			
Description of the Solution:	In the event of a forecasted flooding event (Nor'easter, tropical storm, hurricane), a police car and firefighting equipment will be temporarily stationed at Sagamore Hill where they can reach residents in the event the road becomes impassable. A document with protocols will be developed to explain the implementation and the chain of communication for this project.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	All severe storm events	Estimated Benefits (losses avoided):	Property loss, injury mitigated
Useful Life:	Indefinitely		
Estimated Cost:	\$1,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within year 2020
Estimated Time Required for Project Implementation:	2 months	Potential Funding Sources:	Village budget
Responsible Organization:	Village Board of Trustees.	Local Planning Mechanisms to be Used in Implementation, if any:	Mayor, police commissioner, police, and fire departments.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Elevate road	\$500,000	Too expensive compared to the plan above.
	Build second road	\$1,200,000.00	Not feasible due to privately owned land.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

Incorporated Village Of Cove Neck

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cove Neck

NYS DHSES Action Worksheet			
Project Name:	Emergency Generator Installation at Police Station		
Project Number:	VCN_3		
Risk / Vulnerability			
Hazard of Concern:	All hazards that cause power outages		
Description of the Problem:	The Village police station can not function as the critical facility it is when it experiences prolonged power outages due to high wind events, such as tropical storms and nor'easters.		
Action or Project Intended for Implementation			
Description of the Solution:	A fixed, emergency generator will be installed at the police station to ensure continued service during a storm or emergency event and the installation of underground power lines.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Power Outages	Estimated Benefits (losses avoided):	Continued service at the police station during a storm or emergency event and the installation of underground power lines.
Useful Life:	25-30 Years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	FEMA HMGP
Responsible Organization:	Village of Cove Neck	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Power outages would continue to disrupt emergency response capabilities
	Solar panel systems and battery storage can be utilized	\$50,000-\$150,000 depending on size and number of panels	This is a short term solution, however weather conditions may not make this feasible
Full size generators or portable units may be rented	\$20,000-\$40,000 depending on length of outage	Set up time is needed that would not be possible during times of sudden power loss, and availability / functional ability to obtain portable or rentable units can't be guaranteed.	
Progress Report (for plan maintenance)			
Date of Status Report:			

Report of Progress:

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Cove Neck

NYS DHSES Action Worksheet			
Project Name:	Harden or Upgrade Utilities to be Disaster-Resistant		
Project Number:	VCN_4		
Risk / Vulnerability			
Hazard of Concern:	High Wind, Hurricanes, Ice Storms		
Description of the Problem:	Power outages due to aging and unreliable utilities are one of the biggest problems in the Village of Cove Neck. Power outages frequently occur during storms and high wind conditions. The poles, transformers and powerlines are all at least 50 years old and need to be upgraded and/or hardened.		
Action or Project Intended for Implementation			
Description of the Solution:	Upgrade and/or harden utilities in the area. The Village will work with PSEG to investigate utilities throughout Cove Neck to discover the parts that need hardening and/or upgrading.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Multi-hazard Protection	Estimated Benefits (losses avoided):	Protection of life safety.
Useful Life:	100 Years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	FEMA
Responsible Organization:	PSEG	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	None
	Maintain with more durable light bases and poles	<\$50,000	This is a short-term solution
	Purchase portable generators to deploy to areas with power outages	\$50,000-\$100,000 per generator	This action wouldn't prevent direct damages from downed poles or lines
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of East Rockaway Annex

This document presents the Village of East Rockaway’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Juan A. Garcia, P.E.,CFM., Village Engineer 376 Atlantic Avenue PO Box 189 East Rockaway, NY 11542 jgarcia@villageofeastrockaway.org 516-887-6310	Thomas Smith, Superintendent Of Buildings 376 Atlantic Avenue Po Box 189 East Rockaway, NY 11542 jgarcia@villageofeastrockaway.org 516-887-6310

Profile

The Village of East Rockaway covers approximately 1.02 square miles¹ and has a total population of 9,814 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of East Rockaway are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of East Rockaway Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.4%	Black or African American alone	3.0%
Above 65 Years Old	16.0%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	5.5%	Asian alone	3.0%
Persons in Poverty	4.5%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	22.6%	Two or More Races	1.6%
Without a High School Diploma	460.0%	White alone, not Hispanic or Latino, percent	81.4%
Without Access to Broadband Internet	8.6%	Hispanic or Latino	11.9%

¹ This is inclusive of land area only.

Residential development has increased by five percent over the past years. The area has seen an increase in multi-family homes, condos, and apartments. In many instances extending properties are being repurposed to become residential property. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of East Rockaway. The jurisdiction identified coastal hazards, flooding, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of East Rockaway include:
Coastal Hazards, Flooding, and Wind.

Table 2: Village of East Rockaway Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Housing, Infrastructure
Drought	Infrastructure
Extreme Temperatures	No Impact
Flooding	Community, Housing, Infrastructure
Ground Failure	Community, Infrastructure
Hurricane and Tropical Storms	Community, Housing, Infrastructure
Hail	Economy, Infrastructure
Lightning	Housing, Infrastructure
Severe Winter Weather	Community, Infrastructure
Tornados	No Impact
Wind	Community, Housing, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of East Rockaway has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of East Rockaway. The Village of East Rockaway maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, flood plain management plans, post disaster recovery ordinances, post disaster recovery plans, resilience plans, site plan review requirements, and stormwater management plans. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of East Rockaway Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	Yes	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	Yes	
Post Disaster Recovery Plan(s)	Yes	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	Yes	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of East Rockaway. Increasing capacity and expertise in mitigation related administrative and technical capabilities of the Village will support mitigation planning and implementation.

Table 4: Village of East Rockaway Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	
Engineer(s) with knowledge of land development and land management practices	Yes	
Grant Writers	Yes	
Personnel skilled or trained in Geographic Information Systems	Yes	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of East Rockaway. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by state mitigation grant programs. Village of East Rockaway should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of East Rockaway Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of East Rockaway. Participation in the CRS and Climate Smart Communities program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of East Rockaway Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	Yes
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

Approximately 30% of the municipal area is in flood-prone areas. This section provides a summary of the floodplain management capabilities for Village of East Rockaway and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Engineer, and Certified Floodplain Manager, is responsible for floodplain management. Additional training will support the future growth of the floodplain management program. The Village administers the NFIP through education and outreach, building permit and site plan review, and inspections. One barrier to running a successful NFIP program in the Village of East Rockaway is the lack of open area to meet NFIP minimum standards. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by obtaining an estimated cost of damaged, performed by a licensed professional. The Village reported that 5 properties were substantially damaged as a result of recent flood events. The Village of East Rockaway is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 02/15/2013 and its last Community Assistance Visit on 07/20/2018. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Some properties in the Village have been elevated with the assistance of the New York State mitigation program. The Flood Damage Prevention Ordinance was last amended 12/10/2018 and can be referenced in L.L. No. 2-2018.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of East Rockaway. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Permanent generators installed at four vulnerable East Rockaway school facilities.	Lawson Avenue Drainage Project	DPW and Recreation Hardening	First Avenue
Risk Category	Frequent power outages due to extreme weather	Rainstorm Event	Flood Event	Flood Event
Project Status	In progress	In progress	In progress	Not started
Project Status Description	Completed 50% of the installation	Completed 100% design	Completed 100% design	Conceptual design completed
Carried Forward to 2020 Plan	Yes	Yes	Yes	Yes
Required Changes	None	None	None	None

Proposed Mitigation Actions

Project Number	VER_1	VER_2	VER_3	VER_4	VER_5
Project Name	Department of Public Works and Recreation Hardening	Fire Department Flooding Action Plan	First Avenue Check valves	Generator Installation at Four East Rockaway Schools	Lawson Ave Drainage Project
Goal being met	3	2, 3	3	2, 3	3
Hazards to be mitigated	Local flooding during rain and tidal events	Flooding	Local Flooding during rain and tidal events	Frequent power outages due to extreme weather	Local flooding during rain and tidal events
Priority Ranking	High	High	High	High	High
Description of the Problem	Superstorm Sandy flooded the Department of Public Works (DPW) office area and Recreation building.	Three Fire Department facilities in the Village are located in the 100-Year floodplain and may sustain damage in the event of a flood (East Rockaway Fire Department Protector Hook Ladder and Hose Company 1, East Rockaway Fire Department Vigilant Engine Company 1, and East Rockaway Fire Department Incorporated). The Village owns the fire apparatuses and equipment housed in the Fire Department-owned facilities.	Roadway floods during super moon tide and rain events due the lack of a backflow prevention valve in the outfall pipe.	There are frequent power outages at four facilities.	Drainage project to increase drainage capacity at this location.
Description of the Solution	Construct a flood wall at the DPW office area and Recreation building to mitigate future flooding of these buildings.	Coordinate an action plan with the Fire Department to protect the critical equipment and fire apparatuses from flooding. This plan may include an option to move the fire apparatuses to alternative locations outside the flood zone once a flood warning has been issued.	Construct a chamber (manhole) to house check valve to prevent black flow.	Install permanent generators. 50% of this project is complete.	Increase diameter of all the drainage system to convey larger amount of runoff.
Critical Facility	Yes	Yes	No	Yes	No
EHP Issues	Yes	No	Yes	No	Yes
Estimated Timeline	2016-2022	2021-2026	2021-2026	2021-2026	2016-2022
Lead Agency	Village of East Rockaway	Village of East Rockaway	Village of East Rockaway	East Rockaway School District	Village of East Rockaway
Estimated Costs	\$350,000	\$10,000	\$50,000	\$160,000	\$3,500,000
Estimated Benefits	\$450,000	Avoid the loss of multiple fire apparatuses due to flooding	\$50,000	No loss of power	\$1,000,000 each occurrence
Potential Funding Sources	GOSR	Municipal budget	Municipal budget	FEMA HMGP, Municipal budget	GOSR

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of East Rockaway

NYS DHSES Action Worksheet			
Project Name:	Lawson Ave Drainage Project		
Project Number:	VER_5		
Risk / Vulnerability			
Hazard of Concern:	Local flooding during rain and tidal events		
Description of the Problem:	Drainage project to increase drainage capacity at this location.		
Action or Project Intended for Implementation			
Description of the Solution:	Increase diameter of all the drainage system to convey larger amount of runoff.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	25-year storm	Estimated Benefits (losses avoided):	\$1,000,000 each occurrence
Useful Life:	50 years		
Estimated Cost:	\$3,500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2016-2022
Estimated Time Required for Project Implementation:	2016-2022	Potential Funding Sources:	GOSR
Responsible Organization:	Village of East Rockaway	Local Planning Mechanisms to be Used in Implementation, if any:	Village of East Rockaway Engineering
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Raise the roadway	\$20,000,000	Cost Prohibitive
	Increase the capacity to protect against a 50-year storm	\$10,000,000	Cost Prohibitive
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of East Rockaway

NYS DHSES Action Worksheet			
Project Name:	First Avenue Check valves		
Project Number:	VER_3		
Risk / Vulnerability			
Hazard of Concern:	Local Flooding during rain and tidal events		
Description of the Problem:	Roadway floods during super moon tide and rain events due the lack of a backflow prevention valve in the outfall pipe.		
Action or Project Intended for Implementation			
Description of the Solution:	Construct a chamber (manhole) to house check valve to prevent black flow.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100 year storm	Estimated Benefits (losses avoided):	\$50,000
Useful Life:	50 years		
Estimated Cost:	\$50,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021-2026
Estimated Time Required for Project Implementation:	Five years	Potential Funding Sources:	Local Funding
Responsible Organization:	Village of East Rockaway	Local Planning Mechanisms to be Used in Implementation, if any:	Village of East Rockaway Engineering
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Construct a new drainage system	\$6,000,000	Cost Prohibitive
	Elevate the roadway	\$2,000,000	Cost Prohibitive
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of East Rockaway

NYS DHSES Action Worksheet			
Project Name:	Department of Public Works and Recreation Hardening		
Project Number:	VER_1		
Risk / Vulnerability			
Hazard of Concern:	Local flooding during rain and tidal events		
Description of the Problem:	Superstorm Sandy flooded the Department of Public Works (DPW) office area and Recreation building.		
Action or Project Intended for Implementation			
Description of the Solution:	Construct a flood wall at the DPW office area and Recreation building to mitigate future flooding of these buildings.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	500 year storm	Estimated Benefits (losses avoided):	\$450,000
Useful Life:	50 years		
Estimated Cost:	\$350,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2016-2022
Estimated Time Required for Project Implementation:	2016-2022	Potential Funding Sources:	GOSR
Responsible Organization:	Village of East Rockaway	Local Planning Mechanisms to be Used in Implementation, if any:	Village of East Rockaway Engineering
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Elevate building	\$2,000,000	Cost Prohibitive
	Construct a second floor, abandoned first floor	\$700,000	Cost Prohibitive
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of East Williston Annex

This document presents the Village of East Williston’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Mayor Bonnie L.S. Parente East Williston Village Board 2 Prospect Street East Williston, NY 11596 ewillistonclerk@yahoo.com 516-746-0782	Marie Hausner, Village Clerk Village of East Williston Government 2 Prospect Street East Williston, NY 11596 ewillistonclerk@yahoo.com 516-746-0782

Profile

The Village of East Williston covers approximately 0.57 square miles¹ and has a total population of 2,581 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of East Williston are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of East Williston Demographic Information

Demographic		Demographic	
Below 5 Years Old	6.1%	Black or African American alone	2.0%
Above 65 Years Old	17.0%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	17.5%
Persons in Poverty	4.0%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	6.0%	Two or More Races	1.0%
Without a High School Diploma	1.8%	White alone, not Hispanic or Latino, percent	76.0%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	3.5%

¹ This is inclusive of land area only.

In the last five years, the Village of East Williston has growth in the number of homes and housing developments built within the area. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of East Williston. The jurisdiction identified hurricane, severe winter weather, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of East Williston include:
Hurricane, Severe Winter Weather, and Wind.

Table 2: Village of East Williston Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community
Tornados	No Impact
Wind	Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of East Williston has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources,

and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of East Williston. The Village of East Williston maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, real estate disclosure requirements, site plan review requirements, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of East Williston Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Municipal Code of East Williston
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	East Williston Public Water Supply Emergency Planning and Response Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	Yes	FOIL requests
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Municipal Code of East Williston
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Subdivision Ordinance(s)	Yes	Municipal Code of East Williston
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Municipal Code of East Williston

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of East Williston. The Village of East Williston's primary administrative and technical capability for mitigation includes construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in engineering, land use, and natural hazards (specifically related to flooding).

Table 4: Village of East Williston Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)		
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices		
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems		
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector
Planner(s) with an understanding of natural hazards		
Planner(s) with knowledge of land development and land management practices		
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of East Williston. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal

capabilities to support mitigation. Village of East Williston should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of East Williston Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of East Williston. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of East Williston Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

The Village of East Williston experiences minor street flooding. This section provides a summary of the floodplain management capabilities for Village of East Williston and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village does not currently have a designated floodplain manager. The Village administers the NFIP through building permit and site plan review. Having enough trained staff is one barrier to running a successful NFIP program in the Village of East Williston. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by private insurance companies. No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of East Williston is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To mitigate flooding, the Village installed additional storm drains to reduce street flooding. The Flood Damage Prevention Ordinance was last amended 06/16/2008 and can be referenced in 2008-4.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of East Williston. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VEW_1	VEW_2
Project Name	Floodplain Administrator	Village Tree Maintenance Program
Goal being met	2, 4	3
Hazards to be mitigated	Flooding	Hurricanes / Tropical Storms / High Winds
Priority Ranking	High	High
Description of the Problem	The Village does not have a Floodplain administrator	The Village of East Williston experienced many fallen trees due to high winds during Super Storm Sandy.
Description of the Solution	A current employee of the Village of East Williston will go through necessary training with the NYSDEC to become a certified floodplain administrator.	Establish a tree removal and maintenance program to manage removal of diseased trees, dead/damaged limb removal, and weight-relieving pruning to reduce impacts from storm and high-wind events
Critical Facility	No	No
EHP Issues	No	No
Estimated Timeline	Training would take place in 2021 or later.	Annual Events
Lead Agency	Village of East Williston	Village of East Williston
Estimated Costs	\$10,000	\$42,000 per year
Estimated Benefits	Maintain compliance with NFIP; be more prepared for flooding events	Access to facilities; reduced damage from fallen trees; decreased expenses

Project Number	VEW_1	VEW_2
Potential Funding Sources	The Village will have to budget for the costs in the 2021-2022 fiscal year.	The costs are budgeted by the Village of East Williston at approximately \$3,500 per month.

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of East Williston

NYS DHSES Action Worksheet			
Project Name:	Floodplain Administrator		
Project Number:	VEW_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	As required by the NFIP, a floodplain administrator must be in place for each jurisdiction. Currently, East Williston does not have a floodplain administrator.		
Action or Project Intended for Implementation			
Description of the Solution:	A current employee of the Village of East Williston will go through necessary training with the NYSDEC to become a certified floodplain administrator.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	500-year flood	Estimated Benefits (losses avoided):	Maintain compliance with NFIP; be more prepared for flooding events.
Useful Life:	Ongoing		
Estimated Cost:	\$10,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Training would take place in 2021 or later.
Estimated Time Required for Project Implementation:	Six months	Potential Funding Sources:	The Village will have to budget for the costs in the 2021-2022 fiscal year.
Responsible Organization:	Village of East Williston	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Hire an on call consultant	High Expense	Cost Prohibitive
	Leave the NFIP	\$0	Would put residents at risk for high costs from the impacts of flooding.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of East Williston |

NYS DHSES Action Worksheet			
Project Name:	Village Tree Maintenance Program		
Project Number:	VEW_2		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes / Tropical Storms / High Winds		
Description of the Problem:	The Village of East Williston experienced many fallen trees due to high winds during Super Storm Sandy.		
Action or Project Intended for Implementation			
Description of the Solution:	Establish a tree removal and maintenance program to manage removal of diseased trees, dead/damaged limb removal, and weight-reliving pruning to reduce impacts from storm and high-wind events		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Annual Events	Estimated Benefits (losses avoided):	Access to facilities; reduced damage from fallen trees; decreased expenses
Useful Life:	Ongoing		
Estimated Cost:	\$42,000 per year		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Ongoing
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	The costs are budgeted by the Village of East Williston at approximately \$3,500 per month.
Responsible Organization:	Village of East Williston	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Remove all trees from jurisdiction	High Expense	Not desirable for the community.
	Prune trees using Village Staff	Similar to proposed action	Capacity and capability are limited
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Floral Park Annex

This document presents the Village of Floral Park’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Kevin Ginnane, Superintendent of Public Works Incorporated Village Of Floral Park One Floral Boulevard Floral Park, NY 11001 kginnane@fpvillage.org 516-326-6319	Renee Marcus, Superintendent Of Buildings Incorporated Village Of Floral Park One Floral Boulevard Floral Park, NY 11001 rmarcus@fpvillage.org 516-326-6319

Profile

The Village of Floral Park covers approximately 1.42 square miles¹ and has a total population of 15,844 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Floral Park are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Floral Park Demographic Information

Demographic	Demographic
Below 5 Years Old	5.4%
Above 65 Years Old	18.0%
Individuals with Disabilities	3.9%
Persons in Poverty	2.4%
Renters	21.0%
Without a High School Diploma	6.0%
Without Access to Broadband Internet	11.9%
Black or African American alone	0.9%
American Indian and Alaska Native alone	0.1%
Asian alone	7.0%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	1.9%
White alone, not Hispanic or Latino, percent	80.8%
Hispanic or Latino	10.0%

¹ This is inclusive of land area only.

The Village of Floral Park has limited open development space; therefore properties (and the limited open space) are experiencing large residential development. This includes the removal of small homes and large lots of land to develop subdivisions. All land is permitted for development in this Village, there are no protected areas except for land that belongs to the Village or Town. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Floral Park. The jurisdiction identified flooding, severe winter weather, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Floral Park include:
Flooding, Severe Winter Weather, and Wind.

Table 2: Village of Floral Park Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	Housing, Infrastructure, Natural and Cultural Resources
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	Housing
Lightning	No Impact
Severe Winter Weather	Community, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	No Impact

Hazard	Impact Categories
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Floral Park has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Floral Park. The Village of Floral Park maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plans, building codes, capital improvement plans, emergency response plans, post disaster recovery ordinances, post disaster recovery plans, site plan review requirements, small area development plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Floral Park Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	Yes	2015 Hazard Mitigation Plan
Building Code	Yes	NYS Building Codes
Capital Improvement Plan	Yes	Village Capital Improvement Plan
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	2015 Hazard Mitigation Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	Yes	2015 Hazard Mitigation Plan
Post Disaster Recovery Plan(s)	Yes	2015 Hazard Mitigation Plan

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Ordinance, Zoning and Architectural Review Board Approvals
Small Area Development Plan(s)	Yes	Village Ordinance, Zoning and Architectural Review Board Approvals
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	Yes	Village Ordinance, Zoning and Architectural Review Board Approvals
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Ordinance, Zoning and Architectural Review Board Approvals

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Floral Park. The Village of Floral Park has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Floral Park Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Kevin Ginnane, Superintendent of Public Works
Engineer(s) trained in construction practices related to buildings/infrastructure	No	Renee Marcus, Superintendent of Buildings
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Renee Marcus, Superintendent of Buildings
Engineer(s) with knowledge of land development and land management practices	Yes	Renee Marcus, Superintendent of Buildings
Grant Writers	Yes	Gerard Bambrick, Village Administrator
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Renee Marcus, Superintendent of Buildings

Staff / Personnel Resource	Yes / No	Details
Planner(s) with an understanding of natural hazards	Yes	Kevin Ginnane, Superintendent of Public Works
Planner(s) with knowledge of land development and land management practices	Yes	Renee Marcus, Superintendent of Buildings
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Floral Park. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through obligation bonds, capital improvements project funding, impact fees for home buyers and/or developers, and state mitigation grant programs. Village of Floral Park should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Floral Park Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	Village Capital Improvement Plan
Community Development Block Grants (CDBG)	No	

Resources	Yes / No	Additional Details
Impact fees for home buyers and/or developers	Yes	Developers are required to pay for a full site and environment investigation before Board Approval Developers are required to pay for a full site and environment investigation before Board Approval
State mitigation grant programs	Yes	FEMA

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Floral Park. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Floral Park Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

The residences at the west end of the Village are considered the most flood-prone. This section provides a summary of the floodplain management capabilities for Village of Floral Park and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Superintendent of Public Works is responsible for floodplain management. Training on stormwater management and the National Flood Insurance Program will support future growth of the floodplain management program. The Village administers the NFIP by reviewing new site plans and building permits, and environmental impact statement review. The Village noted that training and education were current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, initial damage determinations are made through in-person visual assessments. No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Floral Park is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village is working on a stormwater collection and recharge system to help mitigate the flooding. The Flood Damage Prevention Ordinance for the Village of Floral Park meets minimum requirements. The ordinance was last amended 01/04/2006 and can be referenced in L.L. No. 1-2006. Other steps that the Village takes to support the floodplain management program and meet NFIP requirements include regularly cleaning inlets and stormwater drains, limiting paving on front lawns to allow for capture of stormwater, performing regular tree trimming, reviewing new subdivisions and commercial properties, and reviewing plans for existing residential and commercial property.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Floral Park. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Clover and Mayfair Avenues Drainage Improvement Project	Floral Park Department of Public Works Emergency Generator	Emergency Generator for Recreation Building/Warming Center- Shelter	Clover and Mayfair Avenues Drainage Improvement Project	Tree Trimming Program
Risk Category	Flooding	Inability to provide critical services to residents during and after and emergency due to power failure	Inability to provide critical services to residents due to a power outage	Flooding	Power Outage and blockage of critical roadways due to high wind conditions and downed trees.
Project Status	In Progress	In Progress	In Progress	In Progress	In Progress
Project Status Description	Design drawings are near completion.	Preliminary electrical inspection performed.	Preliminary electrical inspection performed.	Project is combined with first line item; this line can be eliminated	The Village employs a small tree trimming crew who performs routine maintenance for trees currently but the crew is not large enough to handle the trimming around electrical lines in order to prevent potential downed trees and electrical lines in a wind storm.
Carried Forward to 2020 Plan	Y	Y	Y	N	Y
Required Changes	Scope of work has expanded to include additional streets. Rename to "West End Drainage Improvements"	No Changes	Additional electrical improvements required, main electrical service is deteriorating and requires replacement	Project is combined with first line item; this line can be eliminated	This is a new implementation plan.

Proposed Mitigation Actions

Project Number	VFP_1	VFP_2	VFP_3	VFP_4
Project Name	Public Works Generator	Rec Center Generator	Tree Trimming Program	West End Drainage
Goal being met	1	1	1	1
Hazards to be mitigated	Hurricane, Straight-line wind	Hurricane, Straight-line wind	Hurricane, Straight-line wind	Flooding
Priority Ranking	High	High	High	High
Description of the Problem	Loss of Power	Loss of Power	Power Outage and blockage of critical roadways due to high wind conditions and downed trees.	Flooding during rainstorms
Description of the Solution	Generator	Generator	Develop a program that expands the tree trimming program crew to trim around electrical lines to prevent potential downed trees and electrical lines in a windstorm. As part of this program, regularly monitor the health and vitality of trees in the village.	Replace and enlarge drainage system
Critical Facility	Yes	Yes	Yes	No
EHP Issues	No	No	No	Yes
Estimated Timeline	Six months	Six months	One year	One year
Lead Agency	Village of Floral Park Building Department and Department of Public Works	Village of Floral Park Building Department and Department of Public Works	Village of Floral Park Building Department and Department of Public Works	Village of Floral Park Building Department and Department of Public Works
Estimated Costs	\$375,000	\$450,000	\$175,000	\$3,000,000
Estimated Benefits	Emergency Services	Emergency Services	Safety and Emergency Services	Safety
Potential Funding Sources	HMGP/Village	HMGP/Village	HMGP/Village	HMGP/Village/Bond

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Floral Park

NYS DHSES Action Worksheet			
Project Name:	Department of Public Works Generator		
Project Number:	VFP_1		
Risk / Vulnerability			
Hazard of Concern:	Loss of Power due to strong winds, hurricanes and downed trees.		
Description of the Problem:	The Department of Public Works building houses all the Village maintenance vehicles including all service type and sanitation trucks and is the main office for all emergency personnel for DPW and the Building Department. The fuel pumps are also run off the electric service from this building. In a power outage the maintenance crew would need access to the building and vehicles in order to respond to any type of emergency. Without operational fuel pumps these vehicles, as well as all Village Fire Department and Police vehicles, would not have the ability to re-fuel. This fueling facility is also shared by the School District and other neighboring Villages.		
Action or Project Intended for Implementation			
Description of the Solution:	Add a natural gas generator to provide emergency power to the building during a power outage.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	High protection from power outages	Estimated Benefits (losses avoided):	Will allow emergency personnel access to the office and emergency vehicles a fueling station.
Useful Life:	20+ Years		
Estimated Cost:	\$375,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Three years
Estimated Time Required for Project Implementation:	Six months	Potential Funding Sources:	Hazard Mitigation Grant, Village Funding
Responsible Organization:	Village of Floral Park Building Department and Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	Engineered electrical drawings
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Add solar panels with a battery storage system.	\$500,000	Battery storage systems designed to hold capacity large enough to handle the load would consume more space than is available in the building.
	Provide portable generators dedicated to the building and add permanent generator quick connects.	\$150,000	Portable generators do not provide uninterrupted reliable power as required to maintain the operation of the building.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

Instructions

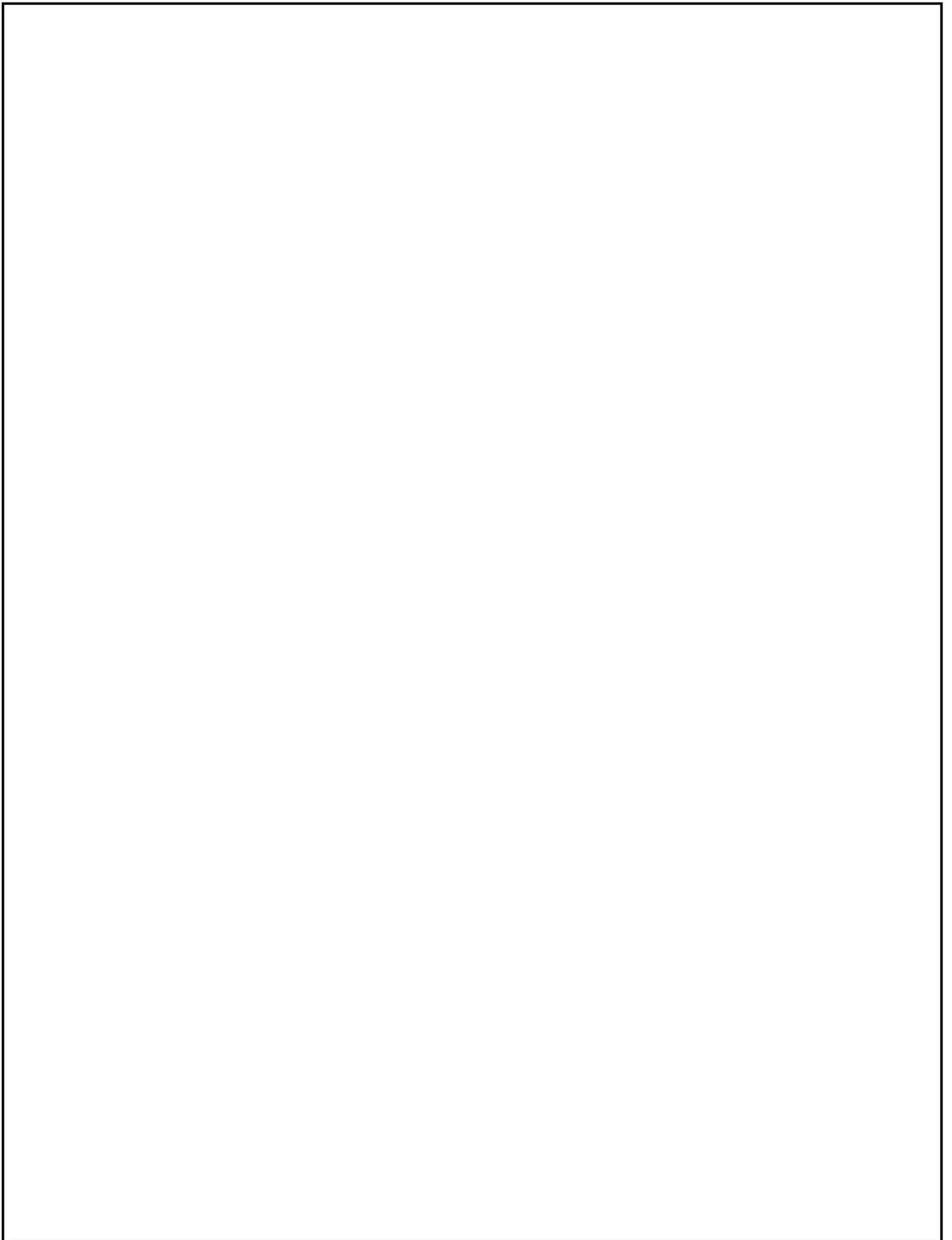
(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Floral Park

NYS DHSES Action Worksheet			
Project Name:	Recreation Center Generator		
Project Number:	VFP_2		
Risk / Vulnerability			
Hazard of Concern:	Loss of Power due to strong winds, hurricanes and downed trees.		
Description of the Problem:	The Recreation Center is used as a shelter and warming center for Village residents as needed during emergency occurrences. If the building loses power heat and another necessary shelter functions will not be available for use.		
Action or Project Intended for Implementation			
Description of the Solution:	Add a natural gas generator to provide emergency power to the building during a power outage.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	High protection from power outages	Estimated Benefits (losses avoided):	Will allow emergency personnel access to the building and provide shelter for residents.
Useful Life:	20+ Years		
Estimated Cost:	\$450,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Three years
Estimated Time Required for Project Implementation:	Six months	Potential Funding Sources:	Hazard Mitigation Grant, Village Funding
Responsible Organization:	Village of Floral Park Building Department and Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	Engineered electrical drawings
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Add solar panels with a battery storage system.	\$500,000	Battery storage systems designed to hold capacity large enough to handle the load would consume more space than is available in the building.
	Provide portable generators dedicated to the building and add permanent generator quick connects.	\$150,000	Portable generators do not provide uninterrupted reliable power as required to maintain the operation of the building.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Floral Park

NYS DHSES Action Worksheet

Project Name: West End Drainage Improvements
 Project Number: VFP_4

Risk / Vulnerability

Hazard of Concern: Flooding due to heavy rainstorms and hurricanes
 Description of the Problem: During a heavy rainstorm, the existing drainage infrastructure gets overwhelmed and backs up onto the street and up some driveways and front lawns. Water is very deep in areas; vehicles cannot pass, and residents cannot enter their driveways. Water flows above curbs and sidewalks which present areas that are unmined, leaving voids and structural issues. Undersized catch basins are in danger of failure. Excess stagnant water freezes in winter leaving hazardous road and sidewalk conditions.

Action or Project Intended for Implementation

Description of the Solution: Replace and enlarge existing storm drainage piping and inlets, direct stormwater to a new recharge basin.

Is this project related to a Critical Facility? Yes No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	High protection from average rainfall occurrences	Estimated Benefits (losses avoided):	Will keep roads and sidewalks clear of excess storm water and allow passenger and emergency vehicle access to all roads. Avoidance of dangerous ice in winter.
Useful Life:	50+ Years		
Estimated Cost:	\$3,000,000		

Plan for Implementation

Prioritization:	High	Desired Timeframe for Implementation:	Three years
Estimated Time Required for Project Implementation:	12 months	Potential Funding Sources:	Hazard Mitigation Grant, Village Funding and Bond
Responsible Organization:	Village of Floral Park Building Department and Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	Engineered drainage drawings

Three Alternatives Considered (including No Action)

Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Install independent drywells for stormwater collection at each intersection instead of one large recharge basin	\$2,600,000.00	Independent drywells run the risk of overflow if rain is constant over a long duration of time, the soils around the drywell get saturated and not able to drain properly leading to back up onto the streets and do not provide the level of protection needed. An extensive number of drywells at a possibly very deep depth would be needed to adequately collect the stormwater necessary, the space in the streets is limited due to existing utilities such as sewer, water, gas and electric.
	Provide a smaller sized recharge basin for inception of the project and then stage expansion for a future date.	\$2,500,000.00 phase 1 \$750,000 phase 2	The costs of future expansion would increase the cost due to re-mobilization and loss of efficiency.

Progress Report (for plan maintenance)

Date of Status Report:

Report of Progress:

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Flower Hill Annex

This document presents the Village of Flower Hill’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Ronnie Shatzkamer, Village Administrator 1 Bonnie Heights Road Manhasset, NY 11030 vclerk@villageflowerhill.org 516-627-5000	Randall Rosenbaum, Trustee 1 Bonnie Heights Road Manhasset, NY 11030 vclerk@villageflowerhill.org 516-627-5000

Profile

The Village of Flower Hill covers approximately 1.62 square miles¹ and has a total population of 4,785 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Flower Hill are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Flower Hill Demographic Information

Demographic		Demographic	
Below 5 Years Old	6.5%	Black or African American alone	0.7%
Above 65 Years Old	16.8%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	12.7%
Persons in Poverty	1.9%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	8.6%	Two or More Races	2.0%
Without a High School Diploma	6.3%	White alone, not Hispanic or Latino, percent	78.7%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	5,8%

¹ This is inclusive of land area only.

New residential and additions and alterations constitute the large majority of all development, with 50 new homes built. In addition to new homes being built, there have been substantial building alterations around the Village. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Flower Hill. The jurisdiction identified hurricane, severe winter weather, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Flower Hill include:
Hurricane, Severe Winter Weather, and Wind.

Table 2: Village of Flower Hill Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	Natural and Cultural Resources
Extreme Temperatures	Health and Social Services, Natural and Cultural Resources
Flooding	Economy, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Natural and Cultural Resources
Hail	Economy
Lightning	No Impact
Severe Winter Weather	Community, Economy
Tornados	Natural Cultural Resources
Wind	Economy, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Flower Hill has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources,

and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Flower Hill. The Village of Floral Hill maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Flower Hill Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village Code & NYS Building Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Village Emergency Management Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Dec Spedes Permit
Subdivision Ordinance(s)	Yes	Village Code
Transportation Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Zoning Ordinance(s)	Yes	Village Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Flower Hill. The Village of Flower Hill has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analyst, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Flower Hill Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Public Works Superintendent
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Building Superintendent, Architect
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Village Engineer, consultant
Engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer, consultant
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Public Works Superintendent
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Superintendent, Architect
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Flower Hill. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by capital improvements project funding and impact fees for home buyers and/or developers. Village of Flower Hill should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Flower Hill Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	Mandated through Village CodeMandated through Village Code
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Flower Hill. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Flower Hill Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

The Village is in an area of minimal flood hazard, according to FEMA flood insurance rate maps. This section provides a summary of the floodplain management capabilities for Village of Flower Hill and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Building Inspector is responsible for floodplain management. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Flower Hill is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance for the Village of Flower Hill meets minimum requirements. The ordinance was last amended 5/4/2009 and can be referenced in Chapter 124, Village Code, by L.L. No. 5-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Flower Hill. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VFH_1	VFH_2	VFH_3	VFH_4
Project Name	Catch basin & Drain cleaning	Generator Reliability	Power reliability	Ongoing Village Tree Maintenance Program
Goal being met	3	2	1	3
Hazards to be mitigated	Flooding	High Wind, Hurricanes, Ice Storms	High Wind, Hurricanes, Ice Storms	High Wind, Hurricanes, Ice Storms
Priority Ranking	High	High	High	High
Description of the Problem	Street flooding caused by debris in drains and basins.	Village Hall has issues with the generator.	Many power outages during storms and high wind conditions.	During storms, high winds, and ice events, many trees in the heavily wooded Village lose limbs or fall. During Superstorm Sandy, the Village lost over 400 trees which created property damage to homes and autos and damaged and blocked essential roadways. During recent high wind events such as nor'easters, the Village has sustained tree loss that impeded roadways and caused property damage. In the event of an evacuation, essential roads could become blocked.
Description of the Solution	Prevent flooding by cleaning basins prior to forecasted storms	Regular maintenance of generator	Harden utilities in the area.	Establish a tree removal and maintenance program to continually oversee diseased tree removal, dead limb cutting, and weight-relieving pruning.
Critical Facility	Yes	Yes	Yes	Yes
EHP Issues	No	No	No	No
Estimated Timeline	Ongoing	Ongoing	Ongoing	Ongoing
Lead Agency	Flower Hill	Flower Hill	PSEG	Flower Hill
Estimated Costs	2,000 - 3,000	2,000 - 3,000	To be determined	5,000 - 8,000
Estimated Benefits	Fewer occurrences of flooding.	Ability to continue work in offices during events.	Fewer power outages.	Fewer hazardous trees along roadways.
Potential Funding Sources	Village budget	Village budget	FEMA	Village budget

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Flower Hill

NYS DHSES Action Worksheet			
Project Name:	Village Tree Maintenance Program		
Project Number:	VFH_4		
Risk / Vulnerability			
Hazard of Concern:	High winds, hurricanes, ice storms		
Description of the Problem:	During storms, high winds, and ice events, many trees in the heavily wooded Village lose limbs or fall. During Superstorm Sandy, the Village lost over 400 trees which created property damage to homes and autos and damaged and blocked essential roadways. During recent high wind events such as nor'easters, the Village has sustained tree loss that impeded roadways and caused property damage. In the event of an evacuation, essential roads could become blocked.		
Action or Project Intended for Implementation			
Description of the Solution:	Establish a tree removal and maintenance program to continually oversee diseased tree removal, dead limb cutting, and weight-relieving pruning.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	This will protect against storm events that occur multiple times each year.	Estimated Benefits (losses avoided):	Keep evacuation routes open, prevent injury and property damage, prevent damage to essential roads.
Useful Life:	Project is ongoing		
Estimated Cost:	Between \$5,000 - \$8,000 annually		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Ongoing - several times a year as needed
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	Funded by Village budget
Responsible Organization:	Public Works Dept	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Would create a great deal of storm damage
	Require adjacent homeowners to prune and remove dangerous trees & branches	\$500	Only cost would be enforcement as local law requires adjoining property owners to care for trees in the ROW contiguous to their property
Cut current program by 50%	\$2,500 - \$4,000	Would not be able to evaluate and address the full complement of trees in ROW. Storm damage would still increase.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Flower Hill

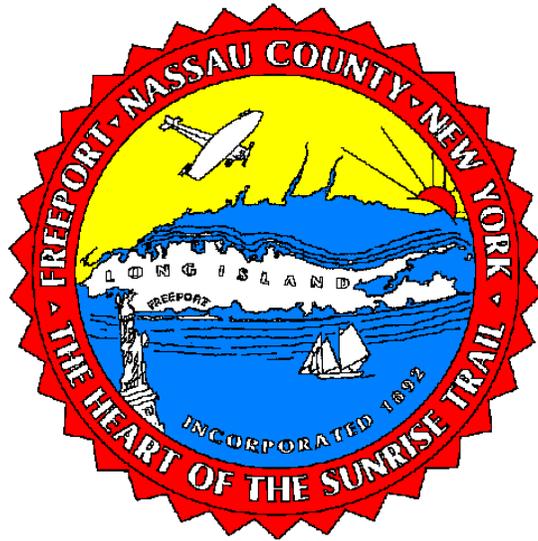
NYS DHSES Action Worksheet			
Project Name:	Catch Basin & Drain Cleaning		
Project Number:	VFH_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Storm sewers and catch basins overflow during heavy rain causing flooding. As the Village is heavily treed, leaves and debris collect in storm drains and catch basins causing flooding during heavy rain.		
Action or Project Intended for Implementation			
Description of the Solution:	Prior to every forecast storm Public Works Dept. staff clears every catch basin and storm drain including the filters.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	500 year flood	Estimated Benefits (losses avoided):	Roads remain passable in the event of an evacuation, prevent sustained damage to roadways, avoid property damage caused by flooding
Useful Life:	ongoing		
Estimated Cost:	\$3,000 - \$5,000 annually		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Ongoing - several times a year
Estimated Time Required for Project Implementation:	1-2 days each cleaning	Potential Funding Sources:	Village budget
Responsible Organization:	Public Works Dept.	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Increased flooding, road erosion, property damage
	Partial cleaning	\$1,500 - \$2,500	Somewhat lessened flooding, erosion, damage to property
	Removing storm drain filters	\$60,000 cost of filters no longer in use	Removing all storm drain filters would allow the freer flow of water into the system however it would increase the amount of toxins in the waterways. The increase in flow does not warrant the removal of this important environmental tool
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		



Incorporated Village of Freeport, Nassau County, New York

2020 ALL HAZARD MITIGATION PLAN

Mayor Robert T. Kennedy

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VILLAGE OF FREEPORT ALL HAZARD MITIGATION PLAN

1 Introduction

1.1 EXECUTIVE SUMMARY

The purpose of hazard mitigation is the reduction or elimination of long-term risk to population, structures, and systems/infrastructure from hazards. The Village of Freeport developed this 2020 Local Hazard Mitigation Plan Update (Update) of its 2014 Hazard Mitigation Plan to reduce future losses to the community resulting from natural hazards. The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the Federal Register on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007 (hereafter, these requirements and regulations will be referred to collectively as DMA 2000). The Plan Update was also written to ensure that the Village is eligible for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

The planning process followed a methodology prescribed by FEMA, which began with the formation of a Hazard Mitigation Planning Committee (Planning Committee or Committee). The Committee was and is comprised of key stakeholders from the Village of Freeport and other agencies in the community. The Planning Committee reviewed, revised, and updated all data contained in the previous plan and used this updated information to develop all hazard profiles and risk assessments. The Planning Committee conducted a risk assessment that identified and profiled hazards that pose a risk to the Village, assessed the Village's vulnerability to these hazards, and examined the capabilities in place to mitigate them. The Village is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Hurricanes and flooding are among the hazards that have a significant impact on the Village.

Based upon the risk assessment, the Planning Committee identified goals for reducing risk from hazards. Goals Developed by the Planning Committee are listed below:

- Goal 1: Minimize future damage from hazards.
- Goal 2: Use existing programs and internal governmental systems to enhance mitigation opportunities for the Village of Freeport.
- Goal 3: Enhance mitigation opportunities through the use of Geospatial Information Systems (GIS) and computers.

Village of Freeport
All Hazard Mitigation Plan

To attain the identified goals, the plan recommends the mitigation actions detailed in the final section of this 2020 Plan Update. The Planning Committee developed an implementation plan for each action that identifies priority level, background information, implementation methodology, responsible agency, timeline, cost estimate, potential funding sources, and more. These additional details are also provided in the mitigation section of the plan.

1.2 PURPOSE

The Village of Freeport prepared this 2020 Hazard Mitigation Plan Update to guide hazard mitigation planning. Mitigation planning will insure better protection of population, structures and systems/infrastructure from the effects of natural hazard events. The 2020 Update serves as the plan update of the Hazard Mitigation Plan that was developed and approved by FEMA in 2014.

This plan demonstrates the Village of Freeport's commitment to reducing risks from hazards and serves as a tool to help decision-makers direct mitigation activities and resources. This plan was also developed to make Freeport eligible for certain federal grant programs; specifically, the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance (HMA) grants such as the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program.

1.3 BACKGROUND AND SCOPE

Natural disasters take peoples' lives and injure thousands on an annual basis. Taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These funds only partially reflect the true cost of disasters. The amounts do not take into account expenses to insurance companies and nongovernmental organizations that are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated.

Hazard mitigation is defined by FEMA as "any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event." A three-year, congressionally mandated independent study to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. The study found that on average, each dollar spent on mitigation saves society an average of four dollars in avoided future losses. In addition, mitigation helps to save lives and prevent injuries (National Institute of Building Science Multi-Hazard Mitigation Council 2005).

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies are determined, prioritized, and implemented. This plan documents the hazard mitigation planning process undertaken by the Village of Freeport's Planning Committee. It identifies relevant hazards and vulnerabilities in the planning area and sets forth a mitigation strategy to decrease vulnerability and increase resiliency and sustainability in Freeport.

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The Freeport 2020 Update was prepared pursuant to the requirements of the DMA 2000. DMA 2000 emphasized the need for mitigation plan development for the establishment of more coordinated mitigation planning and implementation efforts. It established the requirements that local hazard mitigation plans must meet in order for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288). FEMA's Local Mitigation Plan Review Guide of October 1, 2011 was also referenced.

Information in this Update will be used to help guide and coordinate mitigation activities and decisions for Freeport land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to Freeport and its residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. The planning area has been affected by hazards in the past and is therefore committed to reducing future impacts from hazard events and becoming eligible for mitigation-related federal funding.

1.4 HISTORY OF HAZARD MITIGATION PLANNING IN FREEPORT

In 1996 the Village of Freeport started the process of Hazard Mitigation Plan development. Freeport's proactive approach to disaster prevention and mitigation had its beginning at this time. The Village was able to obtain the assistance of an Urban and Regional Planner from the New York State Emergency Management Office (SEMO). Freeport representatives met with him and the Nassau County Emergency Manager. This started the process of taking a hard look at the natural hazards facing Freeport. At this meeting, it was recommended that a Hazard Mitigation Planning Committee be established. The Village Board of Trustees passed a resolution creating the Planning Committee. The purpose of the Committee was to update the community's 1993 Floodplain Management Repetitive Loss Plan to include hazard mitigation. The Committee was also to seek pre-disaster funding and to set up incentive programs to mitigate hazards. The Committee recognized that though flooding was concentrated in south Freeport, a major flood would devastate the whole community.

Public input was solicited for the 1996 effort through the Village Outreach Program which included a survey and request for photos that illustrated how flooding had impacted citizens. In addition to the survey, interviews were conducted by phone and in person. On January 13, 1997, the Village Board of Trustees approved a Directive to schedule a public hearing for the adoption of this plan. A Mitigation Plan was adopted on February 3, 1997.

In September 2002, the Village of Freeport requested financial and technical assistance in the update of the Village's Floodplain Management and Hazard Mitigation Plan, adopted and approved by FEMA in 1997. The scope of the update was to include and identify all hazards that pose a threat to the community. In October of 2002, the Village received approval from the New York State Emergency Management Office for financial and technical assistance.

In January of 2003, the Mayor of the Incorporated Village of Freeport appointed new members to the Hazard Mitigation Planning Committee. The task of the Committee was to update the Village's 1997 Hazard Mitigation Plan. The Committee was comprised of government officials; elected officials; representatives from public safety departments, utilities, the school district, and

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the local business community; and community leaders. In addition to the committee members, several other state, county, and private-sector employees were included in meetings to provide technical resources. The Plan was adopted by the Freeport Board of Trustees on April 18, 2005, and was approved by FEMA and SEMO on April 27, 2005.

In August of 2010, the Mayor of the Incorporated Village of Freeport appointed new members to the Hazard Mitigation Planning Committee. The task of the Committee was to update the Village's 2005 Hazard Mitigation Plan. The Committee was comprised of government officials; elected officials; representatives from public safety departments, utilities, the school district, and the local business community; and community leaders. In addition to the committee members, several other state, county, and private-sector employees were included in meetings to provide technical resources. The Plan was adopted by the Freeport Board of Trustees, FEMA and SEMO in 2014.

The Committee met every other week from September 2 to November 18, 2010. The planning process began with an informational meeting on September 2, 2010. The purpose of this meeting was to organize the Planning Committee and provide overview information about the planning process to be followed.

During subsequent meetings the Planning Committee reviewed each section of the plan to identify those items requiring an update. The meetings dates were: September 2, September 16, September 30, October 14, October 20, November 4, November 10, and November 18, 2010. Each hazard in the 2005 Plan was analyzed for relevancy for the Plan Update. The Planning Committee determined that a more streamlined list of hazards would be a better use of already scarce Village resources. To this end, each hazard profile was considered in accordance with the specifications of FEMA's Plan Guidance. Some hazards were eliminated from further consideration, and some were combined, pursuant to FEMA technical assistance offered in 2012.

Also pursuant to FEMA technical assistance offered in 2012, the Planning Committee determined that a reorganization of the hazard profiles to more closely align with specifications in FEMA Guidance would be appropriate. The new profiles would include information under the following headings:

- Description of Hazard
- Geographical Location/Extent
- Previous Occurrences
- Probability
- Vulnerability/Impact

During the 2010 meetings, the Planning Committee found that its hazard ranking had changed since 2005 due to subsequent hazard events and disaster declarations that occurred since then. FEMA technical assistance offered in 2012 resulted in development of a new and less complex ranking methodology. These changes are reflected in the Hazard Risk Analysis section of the plan.

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During the meetings of September 30 to November 18, 2010, the Planning Committee reviewed each of the 2005 Plan's proposed actions. Progress on those actions was analyzed. Reasons for progress or lack of progress were discussed. Some actions were deleted, and some were added. FEMA technical assistance in 2012 resulted in reorganization of the 2005 actions into a format that more closely aligns with FEMA Guidance. The details of these activities are chronicled in the Strategy Chapter of the Plan Update.

Prior to the meeting of December 16, 2010, the Planning Committee and the Board of Trustees received a draft of the Plan. At the meeting of December 16, 2010, the Committee discussed final changes and comments received. Comments were evaluated for content and were either noted and/or included in the final version of the plan.

At a Planning Committee meeting held on April 24, 2013, the Planning Committee reviewed and discussed the plan reorganization that resulted from FEMA technical assistance offered in December 2012 and January 2013. It was the decision of the Planning Committee to revise the plan in order to comply with DMA 2000. Meetings were held from May 2013 to August 2013.

Input from interested stakeholders, such as the Town of Hempstead, Nassau County Soil and Water Conservation District, Nassau County Department of Public Works, New York Sea Grant Extension Program, New York State Department of Environmental Conservation, New York State Division of Military and Naval Affairs, New York State Office of Parks, Recreation and Historic Preservation and New York State Department of State was solicited.

Neighboring jurisdictions, local agencies and businesses, local community planning and school district representatives, and volunteer agencies was actively solicited using a variety of methodologies. For example, in October 2010 and in October 2013 a Bilingual (Spanish and English) Notice and request for written comments was mailed to all 43,016 residents and all businesses located within the Village. Included in the mailing was a pamphlet titled Hurricane and Flooding Safety Tips, information on the early warning system, a storm surge map, and emergency phone numbers. This information was provided so that the recipients understood the hazards that our community faces and the importance of the Hazard Mitigation Plan. A copy of the 2014 draft plan and a request for comments was posted on the Village's website in October 2013. Notice of a Public Hearing soliciting public input was published in local papers and on the Village's website. A public hearing was held on October 28, 2013. Copies of the 2014 draft plan were distributed at the public hearing. A copy of the draft plan was also provided to the New York Rising Community Reconstruction Steering Committee, New York State Department of State, Freeport School District, Board of Trustees and other stakeholders such as S.P.L.A.S.H and United Cerebral Palsy Association of Nassau County. Results from the meeting and responses to the request for comments are outlined below. Citizens are concerned about the:

- Potential for a chemical/hazardous materials spill on major roadways such as Sunrise Highway and Merrick Road
- Potential for a fire or explosion in a building that stores chemical/hazardous materials in Industrial Park
- Potential for a freight train derailment transporting chemical/hazardous materials
- Terrorism

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- Power outages caused by high winds and the downing of trees
- Damage to Power Plant II as a result of hazard events
- Flooding of South Long Beach Avenue south of Suffolk Street
- Evacuation of homebound residents.
- Need for an evacuation center located in the Village of Freeport
- Need for the relocation of the Dept. of Public Works

The Plan was adopted by the Freeport Board of Trustees, FEMA and SEMO in 2014.

1.5 PLANNING PROCESS

Village of Freeport administration and elected officials determined that the Freeport Emergency Management Office would take the lead role in coordinating the development of Freeport's 2020 Plan Update. The role of the Freeport Emergency Management Office in the plan development process included the following activities:

- Assist in establishing the Planning Committee as defined by the DMA 2000
- Ensure the developed plan meets the DMA 2000 requirements as established by federal regulations and follows FEMA's most recent planning guidance
- Facilitate the entire planning process
- Identify the data that Planning Committee participants could provide, conduct needed research, and provide documentation
- Assist in facilitating the public input process
- Produce the draft and final plan documents and
- Coordinate the State Office of Emergency Management and FEMA plan reviews

Members of the 2020 Plan Update Planning Committee included the following individuals:

Jerry Cardoso, Freeport Water Department, Superintendent
Howard Colton, Freeport Counsel's Office, Village Attorney
Ronald J. Ellerbe, Village Board of Trustee and Freeport School Board Member
Robert Fisenne, Freeport Public Works Department, Superintendent
Dante Grover, Grover's High and Dry Marina, Business Owner
Rick Holdener, Freeport Emergency Management Office, Director/EMO Coordinator
Ray Horton, Freeport Police Department, Chief of Police
Robert T. Kennedy, Mayor
Vilma Lancaster – Schools & Churches
Al Livingston, Freeport Electric Department, Superintendent
Joseph Madigan, Freeport Building Dept, Superintendent and Floodplain Administrator
Ray Maguire, Freeport Fire Department, Executive Director
Sergio Murras – Freeport Building Department
Shawn O'Sullivan - Freeport Police Department
Frank Prisciandaro – IT

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Don Rowan, Freeport Emergency Management Team Member & Freeport Fire Dept
Michael Smith - Freeport Police Department
Jonathan Smith – Building Department
Nora Sudars, Freeport Public Works Department, Grants Administrator
Rob Weltner, SPLASH¹, President
William H. White, Jr., White & Re Insurance, Business Owner

The Planning Committee was tasked with the following duties:

- Develop partnerships with community members, agencies and organizations to contribute to data collection activities, and contact state and federal agencies as additional resources for information
- Provide opportunities for the public to participate in the plan development process
- Develop methods for gaining input from the public included informal solicitation by conversations, emails, social media, and telephone, as well as Village-wide mailings, public meetings, and public hearings
- Develop a list of potential hazard events impacting the planning area
- Profile hazards using information developed in the previous steps to determine the risks each hazard presented to the community
- Prepare a hazard analysis report
- Inventory community assets by developing a list of critical facilities
- For each hazard, determine if any critical facilities are located within the hazard areas
- For each hazard, determine the potential losses to the community and critical facilities, with loss estimation to include structural, contents and loss of function components.
- Review existing policies, authorities, and programs for use in mitigation strategy
- Complete the risk assessment and review of information gathered.
- Develop a mitigation strategy for the community
- Identify specific mitigation measures/actions that are feasible and cost-effective, and assign entity responsible for implementation and administration of measures/actions
- Conduct outreach to solicit public participation and comment on the updated plan through a variety of means, including posting the completed draft Plan Update on the Village website, Social Media, making available a copy at Village Hall, and advertising scheduled public meetings
- Develop a schedule for reviewing and updating the plan on a regular basis
- Ensure the plan is formally adopted by the local governing authority

The Committee had meetings every other week from January 22 to March 18th 2020 when the Coronavirus forced a shut down of all face to face meetings. The planning process began with an informational meeting on January 22, 2020. The purpose of this meeting was to organize the

¹ Operation SPLASH (Stop Polluting Littering and Save Harbors) is a volunteer non-profit organization started in 1990 to provide a solution to the growing problem of waterfront pollution through public awareness and individual participation.

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Planning Committee and provide overview information about the planning process to be followed.

During subsequent meetings the Planning Committee reviewed each section of the plan to identify those items requiring an update. The meetings dates were: February 12, March 4 and March 18,. The Updated plan was proceeding in a very timely manner with great results when the Coronavirus pandemic struck. From March 22nd on we needed to switch to conference calls and emails to continue our work due to social distancing requirements.

On May 1, 2020 the committee had a conference call with Susan Parks from Nassau County OEM and Shannon Clarke from NYS DHES (New York State Division of Homeland Security and Emergency Services) about the possibility of extending the deadline for updating our Hazard Mitigation Plan due to COVID 19. Unfortunately, we were informed we could not and needed to get the plan updated ASAP.

Don Rowan and Nora Sudars came up with a plan to do this while we were all still social distancing. Don would go through the rest of the plan not updated to date and submit a list of information needed to the various department heads. They were requested to respond in a timely manner with needed information. Don would personally reach out and speak directly to members of the committee that he needed information from.

While this was going on Frank Prisciandaro from our IT department would set up an online survey. Susan Park sent us examples other municipalities used as a template. The survey would be sent out on numerous Social Media outlets like Freeport's Facebook and website pages. We needed to gain the input from the public in order to finalize our draft plan.

Members of the committee would be getting drafts of the updated plan emailed to them with all changes in red text to review as we proceed.

On May 8th the Villages IT department started working on a template for a resident survey to be posted on social media. Updates to the survey were made on May 15th, 28th and June 2nd because of input from committee members.

On May 11th all department heads were emailed with requested information and the survey form draft was sent out. Survey can be viewed at:

<https://www.surveymonkey.com/r/FreeportHMP>

The full resident survey is included at the end of this plan.

Between May 11th and June 1st numerous emails and phone calls were made between members gathering information that was needed for the plan while they were quarantined at home.

On June 5th the resident survey went live on the Freeport Emergency Management facebook page along with the Fire Departments. On June 8th it went live on the Village of Freeports Facebook and websites.

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Each hazard in the 2014 Plan was analyzed for relevancy in the Plan Update. During these conference calls the Planning Committee reviewed each of the 2014 Plan's proposed actions. Progress on those actions was analyzed. Reasons for progress or lack of progress were discussed.

Pursuant to FEMA technical assistance offered in 2012, the Planning Committee determined that a reorganization of the hazard profiles to more closely align with specifications in FEMA Guidance would be appropriate. The new profiles would include information under the following headings:

- Description of Hazard
- Geographical Location/Extent
- Previous Occurrences
- Probability
- Vulnerability/Impact

During the 2020 meetings, the Planning Committee found that its hazard ranking had changed since 2014 due to subsequent hazard events and disaster declarations that occurred since then. Pandemic which had been removed in years past was added back into our plan. FEMA technical assistance offered in 2012 resulted in development of a new and less complex ranking methodology. These changes are reflected in the Hazard Risk Analysis section of the plan.

On June 11th, the Planning Committee received a final draft of the Plan. At the meeting the Committee discussed final changes and comments received. The resident survey that was posted on social media was discussed, comments were evaluated for content and were either noted and/or included in the final version of the plan.

Input from interested stakeholders, such as the Town of Hempstead, Nassau County Soil and Water Conservation District, Nassau County Department of Public Works, New York Sea Grant Extension Program, New York State Department of Environmental Conservation, New York State Division of Military and Naval Affairs, New York State Office of Parks, Recreation and Historic Preservation and New York State Department of State was solicited.

Neighboring jurisdictions, local agencies and businesses, local community planning and school district representatives, and volunteer agencies was actively solicited using a variety of methodologies.

A request for comments was posted on the Village's website and on the Freeport Emergency Management and the Freeport Fire Dept. Facebook pages on June 5, 2020. A copy of the draft plan was provided to New York State, Nassau County, Freeport School District, Freeport Police Dept., Freeport Fire Dept. Freeport Utilities, Board of Trustees and other stakeholders such as S.P.L.A.S.H and the Freeport Chamber of Commerce. The survey remained open until August 15, 2020. Results from the survey and responses to the request for comments are outlined below. Citizens are concerned about the:

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- From the feedback from our resident survey, the number 1 concern to residents currently is a Pandemic. With Freeport experiencing so many COVID-19 cases, businesses closed and residents in quarantine, this was expected.
- Potential for a chemical/hazardous materials spill on major roadways such as Sunrise Highway and Merrick Road
- Potential for a fire or explosion in a building that stores chemical/hazardous materials in Industrial Park
- Power outages caused by high winds and the downing of trees
- Damage to Power Plant II as a result of hazard events
- Flooding of South Long Beach Avenue south of Suffolk Street
- Evacuation of homebound residents.
- Need for an evacuation center located in the Village of Freeport
- Need for the relocation of the Dept. of Public Works

This Plan reflects the input of the initial 1996 Planning Committee, the 2005 Committee, the 2014 Committee, the 2020 Committee, the general public, and other state and federal agencies.

1.6 COMMUNITY PROFILE, LOCATION AND SETTING

The Incorporated Village of Freeport is a coastal community bordered on the south by the Great South Bay. The Village is located on the south shore of Long Island in western Nassau County, New York. The Village is known as "The Boating and Fishing Capital of the East". Freeport, which was incorporated in 1892, occupies approximately five (5) square miles and has approximately 10.4 miles of canals and waterways. It is approximately 30 miles east of Manhattan.

The land use breakdown for the community is as follows:

Residential – Low density	571 acres
Medium density	0 acres
Intermediate density	2 acres
High density	562 acres
Commercial –	5 acres
Marine Commercial –	40 acres
Industrial –	35 acres
Transportation, Utility, Communications –	13 acres
Institutional –	35 acres
Recreation –	297 acres
Agricultural –	0 acres
Vacant –	14 acres

There are 292 acres of open space located in the floodplain.

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1.6.1 Environmental Significance of the Village

Despite the Village's urban and suburban character, the area is rich in ecological features and natural resources. The Village is part of the Long Island South Shore Estuary. The Estuary is New York State's largest with 17,000 acres of undeveloped islands. These numerous islands are dominated by tidal wetlands and interconnecting channels between barrier islands and the Long Island mainland. It contains the greatest diversity of habitat in New York State. Commercially and recreationally important shellfish species harvested in the waters surrounding the Village including hard clam, soft shell clam, and scallop. Large concentrations of waterfowl can be found in the wetland around the Village during the fall and winter season. The federally-endangered peregrine falcon may be found in the area during its fall migration.

1.6.2 Economic Significance of the Village

The Village of Freeport holds a unique role as the largest center of water-dependent businesses and facilities in the South Shore Estuary Reserve. It is the only large, diverse working waterfront in Nassau County. Freeport's heritage as a regional maritime center spans three centuries. It is a defining element of the community's identity as one of Long Island's historic residential, commercial and recreational centers. Freeport is one of the few places remaining in the greater New York City and New Jersey areas, where small maritime industries can locate. Freeport's Woodcleft Avenue, called the Nautical Mile, is a well-known destination for tourists to enjoy the atmosphere of a working waterfront. It has fish markets, party/fishing boats, commercial fishing operations, boat sales and moorings, restaurants, and other related activities. Woodcleft Avenue has an active seaport museum reflecting a rich maritime history that also provides educational programs. The museum also hosts an annual Summer Festival that draws 200,000 people. Many of the residents of Freeport are oriented to a water-related lifestyle. They own boats or other watercraft which they moor at one of the 30+ marinas, or along the bulkheaded waterways behind residential properties. Others enjoy fishing from party boats or waterfront parks and piers. Recently Freeport has become a major destination for high end car dealerships with Cadillac, Jaguar, Porsche, BMW, Jeep, Mini, Chevrolet and Lexus all having built new showrooms along Sunrise Highway.

1.6.3 General Demographic Characteristics (2010 Census)

The population of the Village is approximately 43,016 (2011 Census) with a diverse cultural background. Twelve percent of the population is over 65 years of age and 12.7 percent of the population's income is below the poverty level (compared to the State of New York as a whole with 14.5 percent). Median household income is (2007-2011) \$71,041. The median age is 38.0 years. Average household size is 3.05 people per household. The total school enrollment at the end of 2011 was 10,581, with 6.7 percent in nursery school/preschool, 3.6 percent in kindergarten, 45.6 percent in elementary school (grades 1-8), 18.5 percent in high school (grades 9-12), and 25.6 percent in college or graduate school. The Village of Freeport is comprised of three School districts; Freeport, Baldwin and Roosevelt.

The community has a high Hispanic/Latino population, comprising 41.7 percent of the total population, as compared to New York State with a figure of 17.1 percent.

1.6.4 Housing Characteristics (2010 Census)

There are 14,589 housing units in Freeport, according to the 2010 census, with 66.8 percent owner-occupied and 36.9 percent rented. 61.2 percent are one (1) unit detached homes, 1.8

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percent are one (1) unit attached homes, 6.5 percent are located in 2 to 4 unit buildings, 2.3 percent are located in 5 to 9 unit buildings, 1.9 percent of the population is located in 10 to 19 unit buildings and 23.0 percent are located in 20 or more unit buildings. Of the housing units in Freeport, 26.1 percent of the housing units were built prior to 1940, 57.8 percent were built from 1940 to 1969, and 16.1 percent built from 1970 to 2000. In 2019, the median cost of a house was \$420,377.00.

The assessed value based on the 2020 tax roll is \$70,136,865. This number includes tax exempt properties.

1.7 CRITICAL FACILITIES, INFRASTRUCTURE AND AREAS OF CONCERN

The Hazard Mitigation Planning Committee conducted a detailed analysis of critical services and facilities for both private and public sectors.

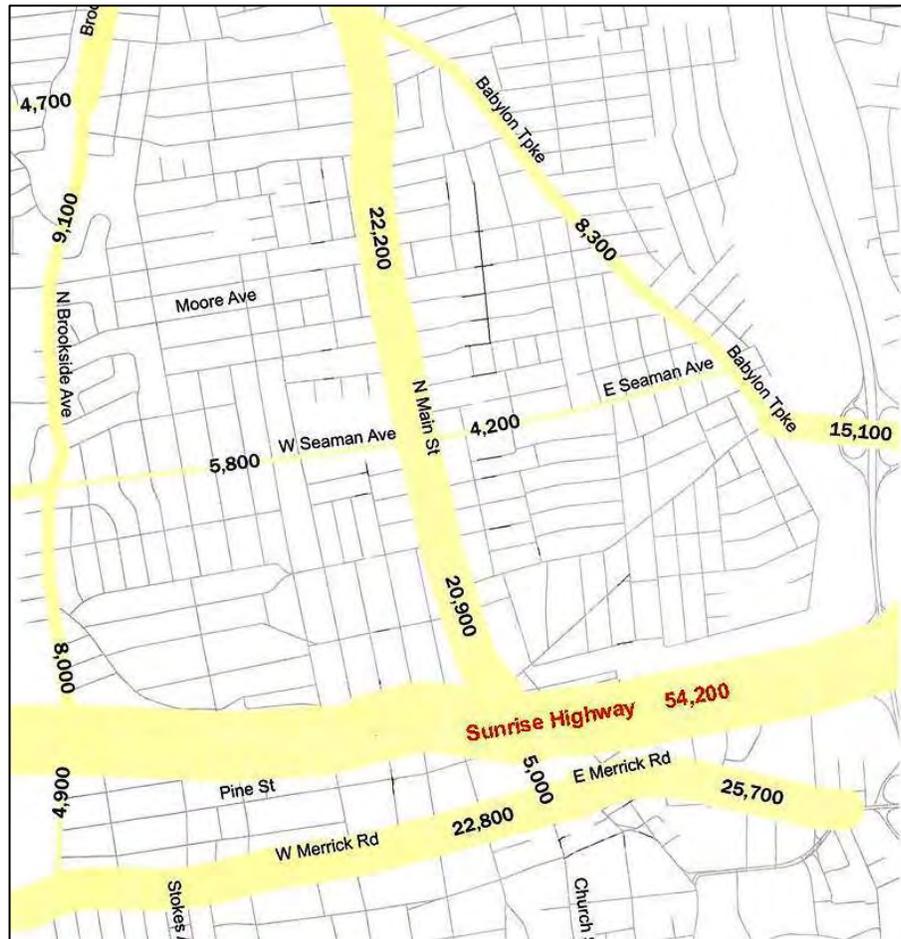
1.7.1 Roads and Transportation

The transportation system is a vital component to the quality of life of Freeport's residents. With increased traffic congestion, residents who work in New York City and its boroughs utilize the mass transit system. 63 percent of Freeport residents drive to work, 13 percent car pool and 15 percent use public transportation. The ability to commute by rail, bus or automobile is essential to the economics of the Village. Freeport has one major highway, Sunrise Highway (NYS Route 27), an arterial under the jurisdiction of New York State Department of Transportation (NYSDOT). It provides east-west access from Queens County to Suffolk County, and is a common route used by many different commercial haulers. In a Nassau County 2008 traffic count, the most recent date for which data was available, this stretch of Sunrise Highway had an Average Annual Daily Traffic (AADT) volume of 54,200 vehicles, based on 24-hour machine counts. A map of selected roads and traffic volumes is found on the following page.

Meadowbrook Parkway (a/k/a Senator Norman J. Levy Memorial Parkway), south of Southern State Parkway, is part of the eastern boundary of the Village of Freeport. This parkway is designated as a scenic byway under the New York State Scenic Byways Program and is listed in the State and National Registers of Historic Places. The parkway is owned by the New York State Office of Parks, Recreation and Historic Preservation (NYS OPRHP) and is maintained by the New York State Department of Transportation (NYSDOT). According to annual average traffic counts compiled by the NYSDOT in 2011, the section south of Southern State Parkway sees an average of about 54,000 vehicles daily. However, there is a large seasonal variation, with much greater traffic volumes during the summer. Meadowbrook Parkway provides a major access route to Jones Beach State Park, as well as several town parks, beaches and small residential communities. For 2018, Jones Beach State Park hosted almost 6,500,000 visitors, up almost 3 million annual visitors from 6 years earlier! On an average sunny July Sunday, park attendance is 200,000 to 250,000 visitors.

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The Village has 88 miles of secondary roadways that are all paved. The major point of congestion is the Meadowbrook Parkway and Merrick Road. There is one waterway crossing in the Village that runs east-west on Atlantic Avenue over Milburn Creek. Two (2) bridge crossings that permit traffic to pass over the Meadowbrook Parkway are located on Merrick Road (east-west crossing) and Babylon Turnpike (east-west crossing). There is also a bridge



AADT, selected streets Village of Freeport

on the Meadowbrook Parkway crossing north-south over the Sunrise Highway that permits traffic to cross below the parkway. AADT volumes for other routes in the Village of Freeport are as follows:

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ROUTE	ROAD NUMBER	FROM	TO	SECTION LENGTH	AADT	YEAR	STATION NUMBER
ALBANY AVE	0040	MERRICK RD EAS	DOX SEE DR	0.50	2887	2004	4154
BROADWAY	C210	NO MAIN ST NO	NO COLUMBUS AV	0.36	9098	2001	8606
BROOKLYN AVE	C230	NO GROVE ST	NO MAIN ST	0.10	34791	2002	8601
BROOKLYN AVE	0230	NORTH GROVE ST	NO OCEAN AVE	0.08	4617	2009	1463
BROOKSIDE AV S.	C240	MERRICK RD	SUNRISE HGWY	0.31	5908	2001	8241
BUFFALO AVE	0270	EAST MERRICK R	EAST SUNRISE H	0.23	7107	2005	4155
BUFFALO AVE	0270	ST MARYS PL	EAST MERRICK R	0.26	2240	2008	4153
BUFFALO AVE EXT	0280	ST MARYS PLACE	ENTR TO PWR HS	0.33	2639	2009	1464
CASINO ST	0320	SOUTH LONG BEA	SOUTH BAYVIEW	0.34	1519	2009	1465
CEDAR ST	0330	GUY LOMBARDO A	BRANCH AVE	0.51	498	2009	2215
CHURCH ST	C400	MERRICK RD	NO MAIN ST	0.20	4362	2009	8240
COLONIAL AVE	0420	NORTH MAIN ST	BABYLON TURNPI	0.50	724	2009	2202
FREEPORT PLAZA	0770	SOUTH MAIN ST	BENSON AVE	0.24	1017	2009	1466
FRONT ST	0790	SO OCEAN AVE	GUY LOMBARDO A	0.07	4118	2009	1467
GRAND AVE	0890	NORTH MAIN ST	NO COLUMBUS AV	0.40	5144	2005	4147
GROVE ST NO	D045	SUNRISE HGWY	BROOKLYN AVE	0.05	5600	2009	8552
GUY LOMBARDO AV	0920	HOWARD AVE	FRONT ST	1.13	6247	2009	1468
HANSE AVE	0970	MILL RD	ENT TO POWER H	0.57	4669	2004	4152
INDEPENDENCE AV	1120	NORTH MAIN ST	BABYLON TURNPI	0.56	726	2009	2203
MEISTER BLVD	1550	WEST END AVE	SO BAYVIEW AVE	0.10	891	2009	1469
MERRICK RD	0270	HEMPSTEAD TL	S MAIN ST	1.23	22206	2001	8136
MERRICK RD	0270	BUFFALO AVE	HEMPSTEAD T/L	0.26	46016	2005	6916
MERRICK RD	0270	S MAIN ST	BUFFALO AVE	0.57	25700	2008	8175
NASSAU AVE	1660	FRONT ST	700 SOUTH OF S	0.69	218	2009	2200
NO MAIN ST	007B	SUNRISE HGWY	BROOKLYN AVE	0.07	19415	2001	8013
NO MAIN ST	007B	FREEPORT PLZ	W SEAMAN AVE	0.57	20900	2008	8033
NO MAIN ST	007B	W SEAMAN AVE	BABYLON TPK	0.94	22200	2008	8875
NORTH BAYVIEW A	1720	PENNSYLVANIA A	NORTH BROOKSID	0.46	1463	2009	1470
NORTH LONG BEAC	1770	BROOKLYN AVE	W SEAMAN AVE	0.54	1665	2004	4143
NORTH LONG BEAC	1770	W SEAMAN AVE	EVANS AVE	0.47	824	2009	1473
NORTH OCEAN AVE	1780	LIRAILROAD	BROOKLYN AVE	0.03	4132	2009	1474
NORTH OCEAN AVE	1780	BROOKLYN AVE	WEST SEAMAN AV	0.55	1811	2009	1475
PARKWAY-908E		INT M8 RT 27 SUNRISE HGWY	INT M7 BABYLON PK	0.53	75921	2008	0951
PARKWAY-908E		INT M9 MERRICK RD	INT M8 RT 27 SUNRISE HGWY	0.27	40505	2006	0952
PENNSYLVANIA AV	1880	NO BAYVIEW AVE	W SEAMAN AVE	0.55	1366	2002	4142
PENNSYLVANIA AV	1880	W SEAMAN AVE	PRINCE AVE	0.45	2565	2009	1476
PENNSYLVANIA AV	1880	PRINCE AVE	NO VILLAGE LIN	0.15	3175	2009	1478
PINE STREET	1910	SOUTH BAYVIEW	SOUTH BROOKSID	0.40	921	2006	4148
PINE STREET	1910	MAIN STREET	SOUTH BAYVIEW	0.67	1532	2009	1477
PRINCE AVE	1970	WEST VILLAGE L	PENNSYLVANIA A	0.22	1538	2009	1479
PRINCE AVE	1970	PENNSYLVANIA A	NORTH MAIN ST	0.54	1762	2003	2123
SO MAIN ST	007B	MERRICK RD	SUNRISE HGWY	0.15	5000	2008	8010
SO LONG BEACH	2210	LONG ISLAND RR	WEST SUNRISE	0.04	4699	2009	1472
SO LONG BEACH	2210	WEST SUNRISE	WEST MERRICK R	0.26	5038	2009	1485
SO LONG BEACH	2210	WEST MERRICK R	ATLANTIC AVENU	0.52	4523	2005	4150
SO LONG BEACH	2310	ATLANTIC AVENU	SUFFOLK ST	0.91	4796	2009	1486
SOUTH BAYVIEW A	2360	WEST SUNRISE H	WEST MERRICK R	0.27	900	2009	1480
SOUTH BAYVIEW A	2360	WEST MERRICK R	ATLANTIC AVE	0.50	6629	2005	4149
SOUTH BAYVIEW A	2360	ATLANTIC AVE	CASINO STREET	0.39	2919	2009	1481
SOUTH BAYVIEW A	2260	LONG ISLAND R	WEST SUNRISE H	0.06	4412	2009	1471
SOUTH BROOKSIDE	2280	LONG ISLAND R	WEST SUNRISE H	0.03	7805	2009	1483
SOUTH BROOKSIDE	2280	WEST SUNRISE H	SIGMOND ST	0.17	5598	2009	1484
SOUTH BROOKSIDE	2280	SIGMOND ST	SOUTHSIDE AVE	0.33	1626	2006	4269
SOUTH OCEAN AVE	2320	ROSE ST	ATLANTIC AVE	0.33	4861	2008	4151
SOUTH OCEAN AVE	2320	ATLANTIC AVE	FRONT ST	0.39	2676	2009	1489
SOUTH OCEAN AVE	2320	PINE STREET	ROSE ST	0.35	5421	2009	1488
SOUTH OCEAN AVE	2320	WEST SUNRISE H	PINE STREET	0.11	4831	2009	1487
SOUTHSIDE AVE	2330	WESTEND AVE	SOUTH BROOKSID	0.14	1127	2009	1490
ST MARYS PLACE	2370	HANSE AVE	BUFFALO AVE	0.16	2638	2009	1491
SUFFOLK ST	2450	SOUTH LONG BEA	WOODCLEFT AVE	0.22	616	2009	1492
WESTEND AVE	2700	MEISTER BLVD	SOUTHSIDE AVE	0.59	1986	2009	1493
WOODCLEFT AVE	2810	SUFFOLK ST	FRONT ST	0.49	3375	2009	1495
WOODCLEFT AVE	2810	LITTLE SWIFT C	SUFFOLK ST	0.42	1981	2009	1494

Village of Freeport
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The Long Island Rail Road (LIRR) operates through the Village on elevated tracks. The LIRR is the nation's largest commuter railroad. The railroad operates east-west commuter service from New York City to the entire length of Nassau-Suffolk County Region. According to the 2012-2014 LIRR Origin and Destination Study, the most recent one conducted, the average daily ridership served by the Freeport railroad station was 8298.

1.7.2 Emergency Personnel and Centers

The Village of Freeport has its own Police Department, located in Village Hall at 40 North Ocean Avenue. The Department consists of 99 police officers and 15 civilian employees/volunteers, for a total force of 143.

Police Officers

Vacant Chief of Police
1 Assistant Chief of Police
1 Deputy Chief of Police
Vacant Detective Lieutenant
1 Detective Sergeant
5 Watch Commander/Lieutenants
9 Patrol Supervisor/Sergeants
6 Detectives
76 Police Officers

Civilian Employees/Volunteers

4 Civilian Dispatchers
6 Parking Meter Attendants
5 Clerks

The Police Headquarters is not located in the Special Flood Hazard Areas (SFHA).

The Village has six (6) firehouses, none of which are in SFHAs. The Fire Department consists of 304 fireman and 21 emergency medical technicians, all volunteers. The location, apparatus, and personnel of each firehouse are as follows:

<u>Fire Stations</u>	<u>Apparatus</u>	<u>Personnel</u>
15 Broadway (Headquarters)	1500 GPM Class A Pumper 2000 GPM Class A Pumper Ambulance Personnel Carrier	109
47 Leonard Avenue	1500 GPM Class A Pumper	35
212 West Sunrise Highway	1750 GPM Class A Pumper w/foam Foam/Hazmat Unit	35
76 Church Street	100' Aerial Ladder Truck 95' Ladder Tower Technical Heavy Rescue	58

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22 Southside Avenue	1500 GPM Class A Pumper Disaster Response Vehicle	50
375 South Bayview Avenue	1500 GPM Class A Pumper Disaster Response Vehicle	38

The Department also has the following apparatus:

- Fire Police Van
- Dive Team Response Vehicle
- Mask Service Vehicle
- Incident Command Vehicles (6)
- Utility Truck with Snow Plow
- Maintenance Van
- Fire Boat

The Village has an Emergency Management Department and an Emergency Management Office. The EMO is located at 76 Church Street. Freeport EMO also had a storage building built in 2017 on North Long Beach Ave and the LIRR for storage of high-water vehicles, boats and other special equipment. The Village employs a full-time Emergency Management Director who coordinates ten emergency management team members. The emergency management team consists of the following:

<u>Team</u>	<u>Represented Agency</u>
Chairperson	Fire Department
Co-Chairperson	Fire Department
Mitigation Coordinator	Building Department
Team Member	Police Department (2)
Team Member	Public Works
Team Member	Electric Department
Team Member	Water Department
Team Member	Public Relations
Team Member	Mayor's Office

1.7.3 Governmental Buildings

Key government buildings are shown on the map on page 14.

Village of Freeport

<u>Building</u>	<u>Address</u>	<u>Type</u>
Village Hall	46 North Ocean Avenue	Main Village Offices
Public Works	46 North Ocean Avenue	Public Works and Water Depts.
Village Garage	355 Albany Avenue	Gas pumps and vehicle maintenance
Freeport Rec. Center	130 East Merrick Road	Rec. facilities (pools, ice skating rink etc.)
Fire Training Center	Hanse Avenue	Fire Dept. training center
Freeport Library	144 West Merrick Road	Public Library

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EMO Storage Building	Long Beach Ave	Garage for special equipment
Armory	49 Babylon Turnpike	Armory
Dock Master's Building	Sea Breeze Park (End of Woodcleft Avenue)	Offices, bathrooms, showers

Freeport, NY Government Locations



Village of Freeport
All Hazard Mitigation Plan

Town of Hempstead

<u>Building</u>	<u>Address</u>	<u>Type</u>
Conservation & Waterways Marina	40 Hanse Avenue End of Guy Lombardo Avenue	Office and equipment Docking facilities, pump-outs

New York State

<u>Building</u>	<u>Address</u>	<u>Type</u>
Department of Transportation Department of Labor	Sunrise Highway 84 North Main Street	DOT maintenance yard Unemployment Office

Federal

<u>Building</u>	<u>Address</u>	<u>Type</u>
Post Office Social Security Office	132 West Merrick Road. 88 North Main Street	Freeport Main Office Local Office

The listed governmental buildings are located in the Special Flood Hazard Area:

Village Facilities

Public Works Village Garage
Freeport Recreation Center
Fire Training Center
Dock Master's Building

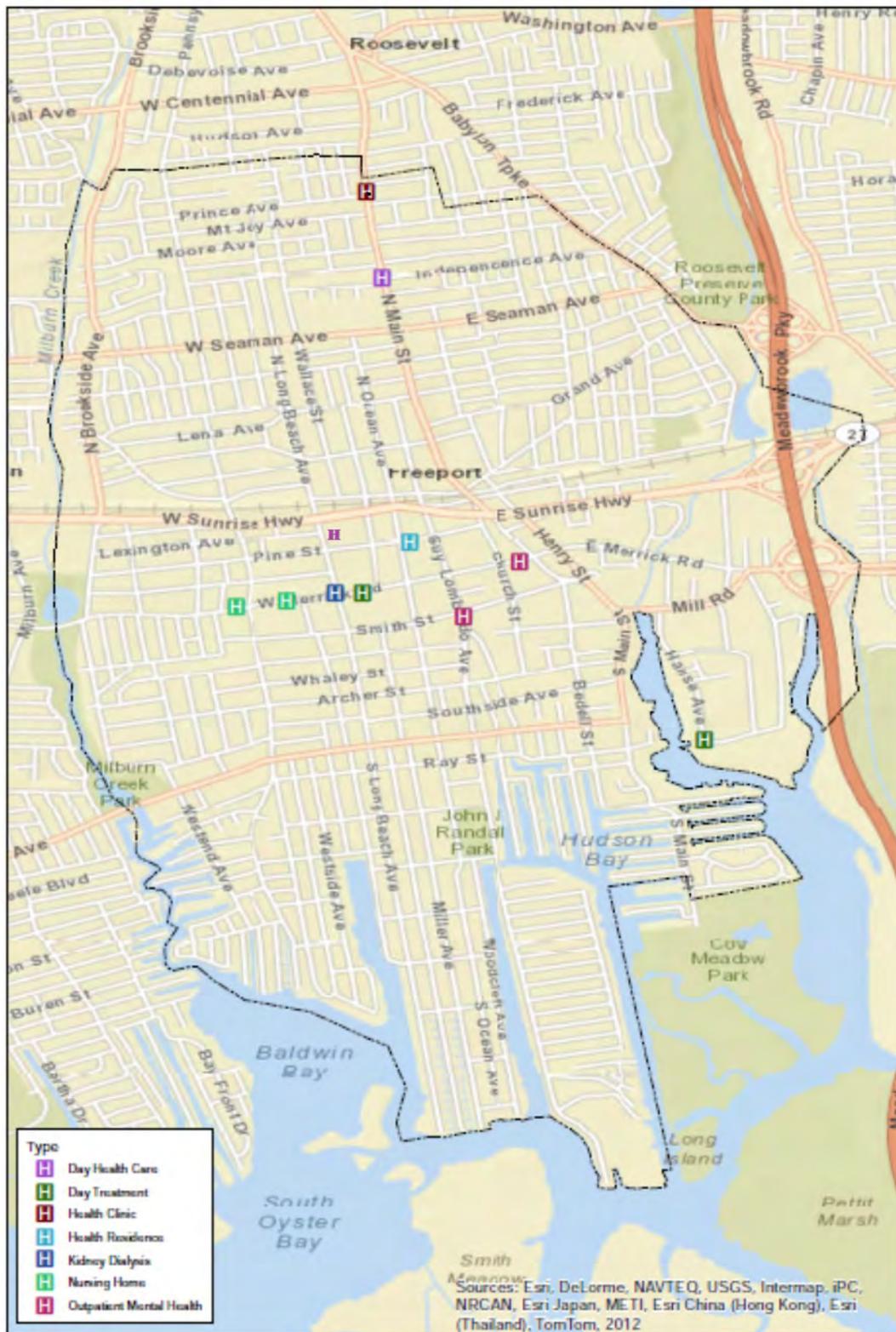
Town of Hempstead Facilities

Conservation & Waterways Marina

1.7.4 Routine Health Care Centers and Hospitals

The Village of Freeport has one county health care center, two long-term care centers (nursing homes), one outpatient kidney dialysis center, two outpatient psychiatric youth services centers, one day treatment center for emotionally disturbed youth, one day treatment center for children and adults with intellectual and developmental disabilities (AHRC), one adult AIDS day health care center, and one residence operated by Mercy Hospital for teenage maternity patients. There are no hospitals. Five of the facilities are located on West Merrick Road less than 3/4 of a mile from each other. The location of each facility is as follows:

Freeport, NY Health Locations



Village of Freeport
All Hazard Mitigation Plan

<u>Facility</u>	<u>Location</u>	<u>Type of Facility</u>
Pro Health Urgent Care	129 W Sunrise Hwy	Urgent care
Meadowbrook Care Center	320 West Merrick Road	Nursing Home
South Shore HealthCare	275 West Merrick Road	Nursing Home
Freeport Kidney Center	3 N Main St	Kidney Dialysis
South Shore Child Guidance Center	7 West Merrick Road	Outpatient Mental
Health Family & Children Association, Inc.	55 Guy Lombardo Ave	Outpatient Mental
Health Woodward Mental Health Center	201 West Merrick Road	Day Treatment
AHRC	230 Hanse Avenue	Day Treatment
AIDS Catholic Charities Health Systems	333 North Main Street	Day Care
Mercy Hall	95 Pine Street	Residence
Mercy New Hope	150 Buffalo Ave	Clinic
Maryhaven Center of Hope	150 Buffalo Ave	Rehab

None of the routine health care centers are located in SFHAs.

1.7.5 Schools and Child Care Facilities

The governing authority for the public schools is the Freeport Union Free School District. The Administration office is located at 235 North Ocean Avenue. The district consists of eight schools with a 2019 enrollment of 7147. There is one early childhood center (pre-kindergarten and kindergarten), four elementary schools (grades K-4), one intermediate (grades 5-6), one middle school (grades 7-8) and one high school (grades 9-12). The location and current enrollment of each public school is as follows:

<u>School</u>	<u>Location</u>	<u>Grades</u>	<u>Enrollment</u>
Columbus Ave. School	150 N. Columbus Ave.	pre-K -- K	523
Archer St. School	255 Archer Street	K – 4	577
Bayview Ave. School	325 W. Merrick Road	K – 4	556
Leo F. Giblyn School	450 S. Ocean Avenue	K – 4	588
New Visions School	80 Raynor Street	K – 4	493
Carolyn G. Atkinson School	58 W. Seamen Avenue	5 – 6	1100
John W. Dodd Jr. High School	25 Pine Street	7 – 8	1067
Freeport High School	50 S. Brookside Avenue	9 – 12	2243

The Freeport School District also maintains an athletic field house at Albany Avenue. The field house is used as a locker room for the Cleveland Avenue Athletic Field and also for equipment storage. The following Non-Public Schools are located in Freeport:

Village of Freeport
All Hazard Mitigation Plan

<u>School</u>	<u>Location</u>	<u>Grades</u>	<u>Enrollment</u>
De La Salle School	87 Pine Street	5 -- 8	64
Woodward Children's Center	201 West Merrick Road	K -- 12	80
Advanced Learning Academy of Long Island	209 Pine St	K – 5	98
Freeport Christian Academy	50 North Main Street	K – 6	117

The following large capacity preschool/daycare (childcare) facilities are also located in Freeport:

School	Location	Capacity
Freeport Head Start	74 North Main Street	53
Little Learners Day Care	90 Mill Rd	80
Carousel of Learning	351 Atlantic Avenue	30
Twin Oaks Day School	458 Babylon Turnpike	197
Giant Step	178 South Ocean Avenue	50

The following small capacity preschool/daycare (childcare) facilities are also located in Freeport:

School	Location	Capacity
Rosa Playhouse	16 Atlantic Ave	16
Cobblestone Day School	339 Seaman Ave	14
Freeport Day Care Inc	330 S Long Beach Ave	16
Little Explorers Day Care Inc	246 S Long Beach Ave	16
Maria Rodriquez	126 Glenada Court	16
Blair Care Childrens Center Inc	12 Tanglewood Lane	16
Peace Child Care Services	6 Delisle Ave	16
Ruby Angels Day Care	224 Rutland Ave	16
Precious Minds Day Care Inc	92 W Milton St	16
Sunbeam Star Quality Daycare Inc	116 N Ocean Ave	16
Nueva Jerusalem Day Care	42 Madison Ave	16
Grandmas House	111 Front St	16
New Beginnings Child Care	129 Moore Ave	16
Choice Day Care Corp	175 Park Ave	16
Little Learners Day Care Center	90 Mill Rd	16
ECO Kids Child Care Inc	234 East Dean St	16
Josette Beltre	288 Southside Ave	16
Eidys Day Care	194A Park Ave	16
School	Location	Capacity
Babies First Step Daycare Corp	197 Lena Ave	16
Create & Learn Daycare Corp	10 Wilshire Ct	16

Village of Freeport
All Hazard Mitigation Plan

Boss Babies Learning Academy	11 Atlantic Ave	16
Tina's Tiny Clubhouse Academy LLC	48 St Marks Ave	16
Carousel of Learning	351 Atlantic Ave	30
Raquel's Day Care II Corp	302 Smith St	16
Rosie's Playhouse Day Care Center	20 N Bayview Ave	16
Learning House Daycare Inc	325 S Ocean Ave	16
Country Club Day Program	91 N Bayview Ave	16
Nana's Fun Daycare Inc	119 S Bayview Ave	16
All Blessings Childcare	286 Pine St	16
Little Wonders Childf Care LLC	159 Whaley St	16
Thalia Haynes-Beku	151 St Marks Ave	16
Yarissa's Day Care Inc	149 N Long Beach Ave	16
Learning Ladder Inc	46 Agnes St	16
The Learning Tree Childrens Ctr Corp	57 Hillside Ave	16
G.G. Daycare Inc	741 S Long Beach Ave	16
Garden of Angels Day Care Inc	49 Rosedale Ave	16
Jo Leen Jenkins	254 E Seaman Ave	16
Connie Baez	85 Bedford Ave	16
I am the Light Day Care Inc	115 Lillian Ave	16
Elsa's Little Angels Daycare	52 Porterfield Pl	16
Jhosy Day Care	5 Johnson Pl	16
New Adventures Family Day Care Inc	32 Hollaway	16
Ready, Set, Grow Child Care Inc	75 N Bergen Pl	16
Where Children Become Friends Inc	213 Juanita Ave	16
Elba's Group Family Day Care	189 Woodside Ave	16
Loren's Day Care	7 Lafayette Pl	16
Gio's Little Angels Daycare	185 Wallace St	16
Amazing Stars Dat Care	43 Russell Pl	16
Colorin Colorado Daycare	265 S Long Beach Ave	16
Johanny Lopez	71 Harrison Ave	16
Sharon Toole-Marshall	195 E Merrick Rd	6
Sophie's Daycare	85 Sportsman Ave	16
Diomi's Little Stars Day care	10 Star Pl	16
Harmonie Day Care	62 Harrison Ave	16
Reasons to Love Day Care	55 W Milton St	16
Rising Star Too	220 Randall Ave	16
Raquel's Day Care 3 Corp	244 S Bayview Ave	16

Leo F. Giblyn Public School is located in a SFHA. None of the non-public schools are located in SFHAs.

1.7.6 Utilities

1.7.6.1 Water

Located at the northeast watershed, 150 Lakeview Avenue, are four wells (1-A, 3, 4-A and 8). Well 4-A also has a control building. In addition, there are also an operations building, Quonset hut, chemical storage building, one-half million-gallon storage tank and a workshop located below the tank.

Located at the northwest watershed, 220 Sunrise Highway, there are two wells (5 and 6), a chemical storage building, a one-million gallon storage tank, and a workshop below the storage tank. Located at Bayview Avenue and Sunrise Highway is Well 7 and on Bayview Avenue, west of Pennsylvania Avenue, is Well 9.

Construction of three additional wells on Prince Avenue, Wells 10, 11 and 12, was completed in the summer of 2006.

None of the wells are located in SFHAs.

1.7.6.2 Sewer

Sewer Lift Stations are located at:

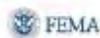
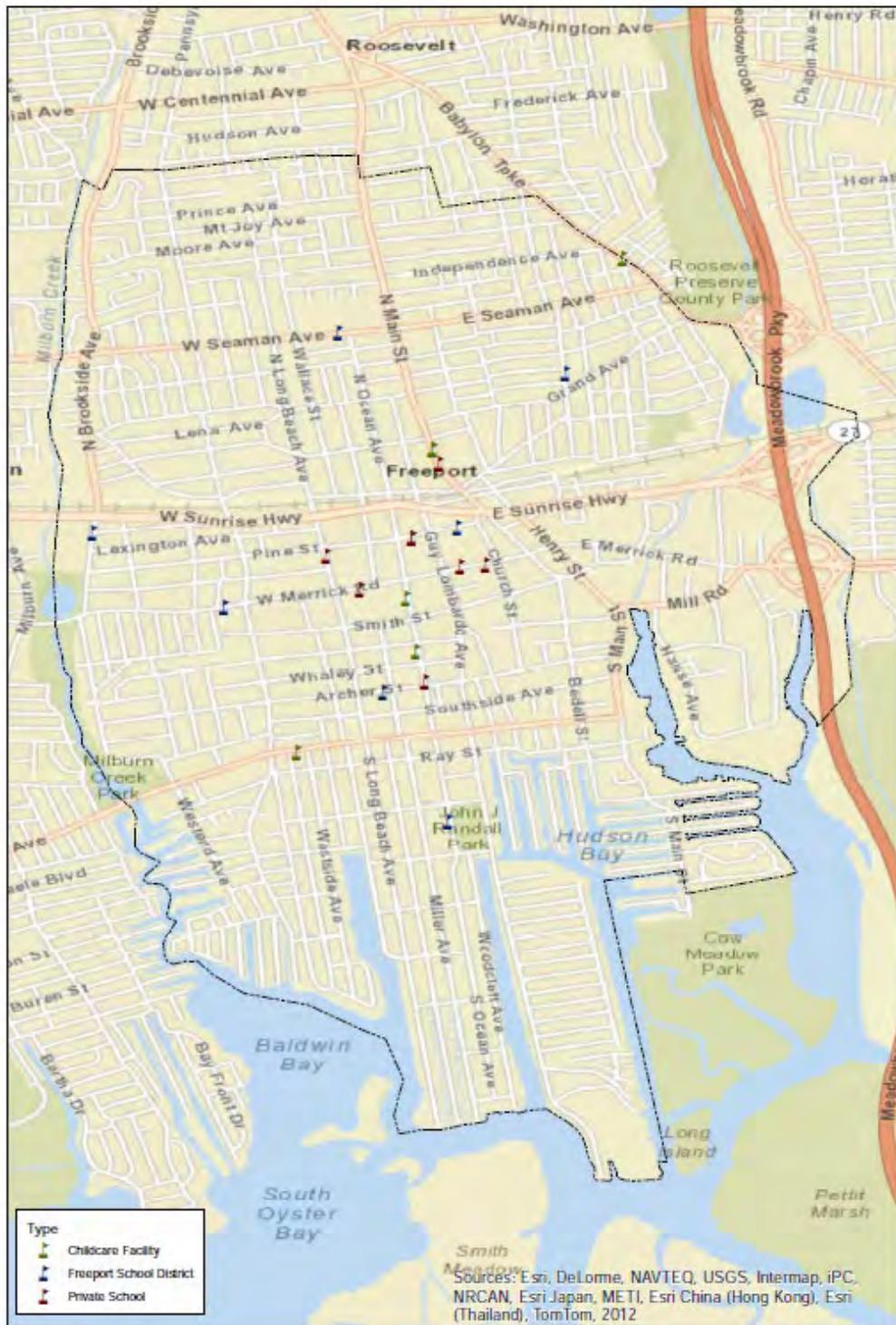
Howard Avenue
Northeast corner of Suffolk Street and Miller Avenue
South Bayview Avenue at Meister Boulevard
Buffalo Avenue

All sewer lift stations are within SFHAs.

1.7.6.3 Electric

Power Plant I is located at 220 West Sunrise Highway
Power Plant II is located at 289 Buffalo Avenue (*in SFHA*)

Freeport, NY Education Locations

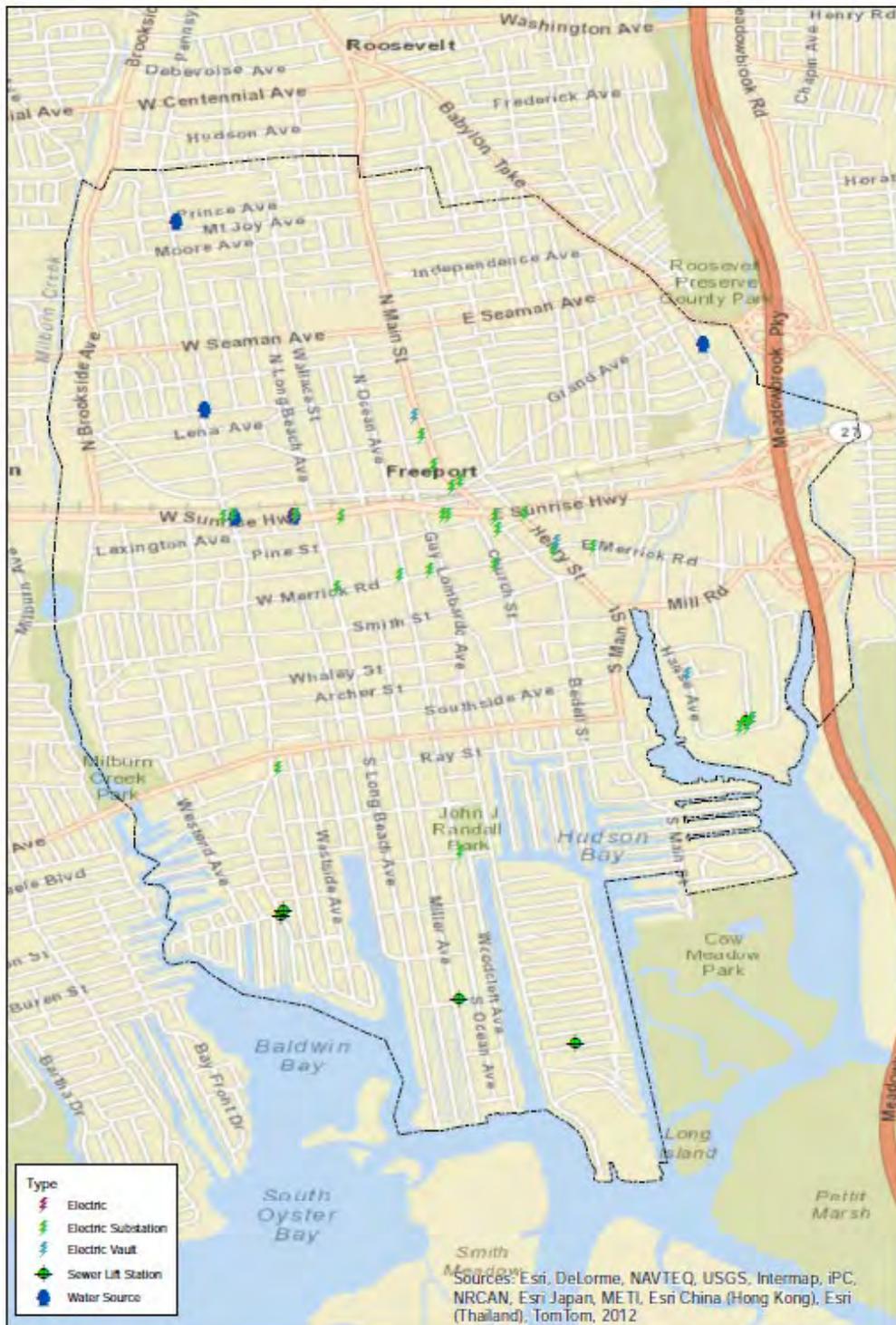


Mapbox OS

1206/2012



Freeport, NY Utility Locations



Mapbox OS

12/6/2012



Village of Freeport
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Locations of the substations and vaults are as follows

Substation Location

4f	Sunrise Highway west of Pennsylvania Avenue
A	Intersection of Bayview and Atlantic Ave
B	Intersection of South Main Street. and Mill Road
C	Intersection of Jay Street and Seaman Avenue
D	Intersection of Ocean Ave and Front Street

Vault Location

A	NE. corner of Merrick Road and South Long Beach Avenue
B	NW corner of Merrick Road and Ocean Avenue
C	North side of Merrick Road between Ocean and Guy Lombardo avenues
D	SW corner of Merrick Road and Church Street
E	SW corner of Merrick Road and South Main Street
F	SW corner of Merrick Road and Gold Street
G	NW corner of South Main Street and Newton Boulevard
H	SE corner of Sunrise Highway and South Main Street
I	NE corner of North Main Street and Commercial Street
J	NE corner of Sunrise Highway and Pennsylvania Avenue
K	South side of Sunrise Hwy. between Long Beach Avenue and Bergen Street
L	South side of Sunrise Hwy. between Guy Lombardo Avenue and Church St.
M	NW corner of Brooklyn Avenue and North Main Street
N	West side of North Main Street between Brooklyn and Randall avenues
O	Near NW corner of North Main Street and Randall Avenue
P	SE corner of Henry Street and Sunrise Highway
Q	Near Intersection of Hanse Avenue and Buffalo Avenue Extension (<i>in SFHA</i>)
R	West of Intersection of Hanse Avenue and Buffalo Avenue (<i>in SFHA</i>)
S	South side of Sunrise Hwy. between Guy Lombardo Ave. and Church Street
T	NE corner of Merrick Road and Henry Street
U	Near intersection of Hanse Avenue and Rider Place (<i>in SFHA</i>)
V	West side of North Main Street between Grand and Lena avenues
W	So. End Place across canal from Power Plant 2
X	South Main St between President and Ray St
Y	SE of Ray St between Bedell St and South Main St

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1.7.7 Museums

Freeport also is home to one (1) museum. The museum is in flood hazard zone (AE)

Museum	Location	Type	Operates
Freeport Historical Museum	350 South Main Street	Local History	Late April – Dec.

1.7.8 Places of Worship

The following places of worship are located in Freeport:

A House of Prayer	405 Baylon Tpke
Bethel A.M.E. Church	420 North Main Street
Centro Christiano Renacer	475 North Brookside Avenue
Christ Lutheran Church	61 North Grove Street
Church of God	580 Babylon Turnpike
Church of Jesus Christ of Latter-Day Saints	70 West Merrick Road
Church of the Nazarene	301 Atlantic Avenue
Church of the Transfiguration	73 South Long Beach Avenue
Congregation Bnai Israel	91 North Bayview Avenue
Dean Street Chapel	23 West Dean Street
Ebenezer Seventh-day Adventist Church	97 Broadway
First Baptist Church of Freeport	195 Pine Street
Freeport First Presbyterian Church	178 South Ocean Avenue
Freeport Full Gospel Assembly	67 North Main Street
Freeport United Methodist Church	46 Pine St
Freewill Baptist Church	443 North Main Street
Gospel Church	26 Lena Avenue
Greater Second Baptist Church	129 East Merrick Road
Hare Krishna Temple	197 South Ocean Avenue
Iglesia Cristiana Fundamental	91 North Bayview Avenue
Iglesia De Dios Septimodia Hispana De NY	35 North Main Street
Jehovah's Witnesses Congregation	65 Colonial Avenue
Nassau First Latin American Church	50 N Main St
Our Holy Redeemer Church	37 South Ocean Avenue
Perfecting Faith Church	311 North Main Street
Refuge Church of Christ	106 Broadway
Spanish Evangelic Church	404 North Main Street
Tabernacle of Faith	298 West Merrick Road
The Salvation Army	66 Church Street
Unitarian South Nassau Church	228 South Ocean Avenue
Iglesia Evangelica De Freeport	76-82 West Merrick Road
Zion Cathedral Church of God in Christ	312 Grand Avenue

Church of the Nazarene, 301 Atlantic Avenue, is located in a SFHA.

1.7.9 Senior Citizen Housing

The Freeport Housing Authority operates two (2) senior citizen housing facilities in Freeport. Both facilities are owned by the U.S. Department of Housing and Urban Development. They are located at 100 North Main Street (100 units) and 240–260 South Main Street (150 units).

Catholic Charities, Diocese of Rockville Centre, operates a senior citizen housing facility known as Peternana Terrace at 45 Wallace Street (97 units).

None of the senior citizen housing facilities are located in SFHAs.

1.7.10 Public Housing

The Freeport Housing Authority also operates a newly built federally-assisted public housing complex, Moxey Rigby, located at 195 East Merrick Road which has 101 units.

The U.S. Department of Housing and Urban Renewal operates a 100-unit housing development at 227 Liberty Park Drive.

Neither of the public housing facilities is located in a SFHA.

1.7.11 Industrial Park

Freeport's Industrial Park is bound by Mill Road to the north, Albany Avenue to the east, Hanse Avenue to the west, and Freeport Creek to the south.

The entire Industrial Park is located in a SFHA.

2 HAZARD RISK ANALYSIS

FEMA regulations included in 44 CFR §201.6(c)(2) require that hazard mitigation plans include a risk assessment “that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards.” Risk assessments must include enough information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The Freeport Hazard Mitigation Planning Committee revised the 2020 Plan Update risk assessment from the 2014 risk assessment with these regulations in mind.

The Freeport 2020 risk assessment process identifies and profiles relevant hazards and assesses the exposure of lives, property, and infrastructure within Freeport, New York to these hazards. The goal of the risk assessment is to estimate the potential loss in the planning area, including loss of life, personal injury, property damage, and economic loss, from a hazard event. Specific information with which to base loss estimates is not available for all hazards impacting Freeport. In addition, information on structural valuations by building category - residential, commercial, and manufacturing - is lacking. For this reason damage estimates by structure types were not calculated. However, the Planning Committee used the best and most current information available. The Planning Committee intends to use additional information to develop more detailed and precise risk assessments for the next Plan Update.

Village of Freeport
All Hazard Mitigation Plan

The 2020 risk assessment process allowed the Planning Committee and participants to better understand their potential risk to natural hazards. In addition, it provided a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events.

2.1 HAZARD IDENTIFICATION

The first step of the 2020 risk assessment was to identify the hazards impacting the planning area. The Planning Committee reviewed the list of hazards identified in the 2014 Freeport Hazard Mitigation Plan. The 2014 hazards were as follows.

- Flooding
- Hurricane
- Nor'easter/Winter Storm/Ice Storm
- Terrorism
- Hazardous Materials at fixed sites and in transport
- Cyber-Terrorism
- Urban and Structural Fire
- Earthquake
- Tornado

The 2014 Planning Committee decided on a more streamlined risk assessment for the 2014 Update. This was done with the goal of a more efficient use of Freeport's limited resources. Because FEMA regulations require inclusion of only natural hazards, the Planning Committee decided to focus on the natural hazards impacting the planning area. In another streamlining activity, several of the 2005 hazards with similar characteristics were combined for the 2014 Plan (ice storms and winter storms, for example) while others were eliminated entirely. The eliminated hazards and the rationale behind their elimination are listed below:

- Epidemic/Infestation: The Planning Committee reviewed records of previous hazard events and information in the New York State Hazard Mitigation Plan. They determined that an epidemic or infestation severe enough to be hazardous to the community would have a low probability of occurrence. Other plans and programs, such as emergency operation plans, generally address such hazards. In addition, mitigation measures are few, and would be funded through programs other than hazard mitigation grants. Unfortunately the Coronavirus pandemic that created a world wide pandemic in 2020 had a huge impact on Freeport and this Hazard was added back into our plan.
- Explosion: An explosion is an event that could happen during the occurrence of another hazard, such as an act of terrorism or a hurricane, that is already profiled in the plan. In addition, predicting an explosion is not possible. Developing projects to lessen injuries are more appropriately addressed in emergency response plans. Finally, as a man-made hazard, FEMA regulations do not require including this hazard.

Village of Freeport
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- **Water Supply and Air Contamination:** The Planning Committee determined that some of the elements of water supply and air contamination are covered in the terrorism hazard profile. In addition, the Committee reviewed the risks of these hazards and determined that they were low enough that they did not warrant inclusion in the 2014 Plan. Finally, as man-made hazards, FEMA regulations do not require including them in the plan.
- **Oil Spill:** Freeport is not a shipping port and therefore, oil and chemicals are not transported through this area. The Planning Committee could find no records of a spill having ever occurred in the planning area. Finally, as a man-made hazard, FEMA regulations do not require including this hazard.
- **Fuel Shortage, Utility Failure, and Structural Collapse:** These hazards were included in the 2005 Plan, but they are not profiled in the 2014 Update. The Planning Committee determined that the risk is low and possible mitigation actions would not be cost-effective. In addition, all the hazards could be considered incidents that occur as a result of other hazard events, such as hurricanes. Finally, all are man-made hazards, which are more appropriately addressed in other emergency management plans.
- **Civil Unrest:** As a man-made hazard, inclusion of civil unrest is not a requirement. In addition, this hazard is difficult to predict and mitigate.
- **Tsunami:** This hazard was included in the 2005 Plan. However, the chances of an earthquake causing a tsunami in the Atlantic Ocean are remote due to the lack of seismic activity. Therefore, the threat of a tsunami affecting the Village is very small. The Village is also protected from the Atlantic Ocean by a barrier island. Finally, there is no record of a tsunami ever occurring in Freeport. The hazard was eliminated from further consideration.
- **Extreme Temperature:** The Planning Committee eliminated this hazard from the 2014 Update because of the lack of information on damages caused by this hazard. The lack of damages is due to the fact that agriculture is not part of Freeport's economy. In addition, mitigation actions to address extreme temperatures are limited to educational outreach. The Planning Committee also determined that extremely cold temperatures are covered in the Winter Storm category.
- **Severe Storm:** The Planning Committee determined that the negative impact of severe storms is adequately covered under discussions for flooding, hurricanes, tornadoes, and nor'easters/severe winter storms. For this reason, it is not covered separately in the 2014 Update.

Cyber-terrorism was extensively profiled in the 2005 Plan within the hazard Terrorism. Because the characteristics of cyber-terrorism differ greatly from the general category of terrorism, the Planning Committee profiled the two hazards separately in the 2014 Update.

Village of Freeport
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In addition, certain individual 2005 Plan hazards were combined for analysis in the 2014 Update as follows:

- Ice Storm was combined with Winter Storm/Nor'easter
- Hazardous Materials in Transit was combined with Hazardous Materials at Fixed Sites.

The Freeport Hazard Mitigation Planning Committee also reviewed the 2011 New York State (NYS) Hazard Mitigation Plan's list of hazards for applicability to the planning area. The Committee determined that several of the hazards in the State Plan are not applicable to Freeport, and were not profiled in the 2014 Freeport Plan. Those hazards are listed below, along with the rationale for their elimination:

- Wildfire: The planning area is completely developed and has no wild land. Wildfires do not occur in the planning area.
- Drought: Agriculture is not part of Freeport's economy. It is unlikely that drought would impact the community's water supplies. Other impacts from drought would not be major in character.
- Landslide: The terrain in the planning area is quite flat with no hills. Landslides do not occur in Freeport.
- Land Subsidence: According to the maps included in the NYS Plan, the underlying rock of Freeport is not prone to land subsidence. This was confirmed by the lack of history of occurrence in the planning area.
- Power Failure: This man-made hazard is more appropriately addressed in emergency operations and/or response plans.

The Planning Committee determined that other modifications to the 2005 Freeport Plan were warranted. For example, the 2005 Freeport Plan used an automated interactive spreadsheet called HAZNY to rank the hazards by the amount of risk they pose. Numeric ranking of hazards is not a requirement for a FEMA-approvable plan. In addition, HAZNY is seldom used in more recent hazard mitigation plan development. For these reasons, the 2014 Planning Committee decided not to use HAZNY. The Committee instead based the estimated risk posed by each hazard on the information in the hazard profiles included on the following pages. It was determined that this is a more accurate risk prioritization methodology.

After review of the data on all hazards in the 2014 plan, the Planning Committee categorized each as low, moderate, or high risk. Low-risk hazards are those that can be addressed with projects to mitigate their impacts eventually, but not necessarily in the next five years. Moderate-risk hazards are those that could be addressed with mitigation projects implemented in the next three to five years. High-risk hazards are those that could be addressed by projects implemented within the next two years. The categories are listed at the end of the Risk Assessment section of this plan update.

Village of Freeport
All Hazard Mitigation Plan

The 2020 Planning Committee decided to follow the plan that the 2014 committee followed.

2.2 DISASTER DECLARATION HISTORY

The Planning Committee used additional information to identify hazards for inclusion in the 2014 Freeport Update by examining events that triggered past disaster declarations. Federal and/or state declarations may be granted when the severity and magnitude of an event surpasses the ability of the local government to respond and recover. When the local government's capacity has been surpassed, a state disaster declaration may be issued, allowing for the provision of state assistance. If the disaster is so severe that the capacities of both the local and state governments are exceeded, a federal emergency or disaster declaration may be issued allowing for the provision of federal assistance.

In addition to standard federal disaster declarations, FEMA also issues emergency declarations. They are more limited in scope and do not include the long-term federal recovery programs of major disaster declarations. Declaration decisions are based on the scale and type of damages, as well as the institutions or industrial sectors affected.

All planning area declarations were reviewed to understand the type and scope of damages caused by these disaster events. The following table lists all declarations that affected Nassau County from 2005 to the present:

Number	Date	Event and Incident Period	Type of Declaration
4480	01/20/2020	COVID 19 Pandemic March 4 – still open	Major Disaster Declaration
4085	10/30/2012	Hurricane Sandy October 27-November 8, 2012	Major Disaster Declaration
3351	10/28/2012	Hurricane Sandy October 27-November 8, 2012	Emergency Declaration
4020	08/31/2011	Hurricane Irene August 26-September 5, 2011	Major Disaster Declaration
3328	08/26/2011	Hurricane Irene August 26-September 5, 2011	Emergency Declaration
1957	02/18/2011	Severe Winter Storm and Snowstorm December 26-27, 2010	Major Disaster Declaration
1899	04/16/2010	Severe Storms and Flooding March 13-March 31, 2010	Major Disaster Declaration
1869	12/31/2009	Severe Storms and Flooding Associated with Tropical Depression Ida and a Nor'easter November 12-14, 2009	Major Disaster Declaration

2.3 HAZARDS IMPACTING THE PLANNING AREA

The Planning Committee used a number of documents and resources to choose hazards to profile for 2020 Update. Included in the review were the following documents:

- 2014 Freeport Hazard Mitigation Plan

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- 2011 New York State Hazard Mitigation Plan
- Disaster declarations involving the planning area
- The most recent Suffolk and Nassau County hazard mitigation plans and drafts
- Information on past extreme weather and climate events from the National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center (NCDC)

After these reviews, the following list of hazards was chosen for the 2020 Freeport Plan:

- Hurricane/High Wind
- Flooding
- Winter Storm/Nor'easter/Ice Storm
- Terrorism
- Hazardous Materials at Fixed Sites and in Transit
- Cyber-terrorism
- Urban/Structural Fire
- Earthquake
- Tornado
- Epidemic

Note that it is not always easy to separate hazard events into separate categories. A hurricane in the planning area usually is accompanied by flooding and high winds. An earthquake can be accompanied by structural fires. Nor'easters include high winds. The lines separating one event from another are blurred.

2.3.1 Process

Each hazard identified above is profiled separately in the risk assessment. The level of information presented in the hazard profiles varies based on its availability. Each future update of the 2020 Hazard Mitigation Plan will incorporate new information to better evaluate and prioritize the hazards that affect the planning area. Detailed profiles describing a typical or average hazard event were used for the analysis of each hazard element, including description, location/extent, previous occurrences, and probability. The information gathered to develop these four elements was then analyzed to develop the plan's updated risk assessment.

2.3.2 Hazard Description

This section consists of a general description of the hazard and the types of impacts it may have on a community. It also describes typical warning times and duration of hazard events. Most natural hazards have some advance warning while man-made hazards tend to occur with little or no warning. Duration was determined by two factors, the length of time the hazard remains active as well as the length of time that emergency operations would continue.

2.3.3 Geographic Location/Extent

This section describes the geographic location of the hazard in the planning area. Where available, maps are used to show specific locations of the planning area that are vulnerable. This section also provides information about the extent of the hazard (i.e. the size or degree of impacts). Some hazards such as flooding are more likely to occur in a Special Flood Hazard Areas (SFHAs). However, other hazards, such as earthquakes, tornados, and ice storms, can

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occur and impact any portion of the Village or the entire Village. Hazards such as the release of hazardous materials in transit can also occur in any area of the Village. However, the greatest probably of occurrence would be on major roads, in Freeport’s industrial park, or at an Environmental Protection Agency (EPA) regulated site.

2.3.4 Previous Occurrences

This section includes information on historic incidents and their impacts on the planning area.

2.3.5 Probability of Future Occurrence

The frequency of past events is used to gauge the likelihood of future occurrences. Where possible, the probability or chance of occurrence was calculated based on the best available historical data. Probability was determined by dividing the number of observed events by the number of years and multiplying by 100. This gives the percent chance of the event happening in any given year. An example would be three tornadoes occurring over a 30-year period, which results in a 10 percent chance of a tornado occurring in any given year. The methodology used to calculate probability will be re-examined during the next plan update for possible revision. The goal would be to establish a more precise probability estimate.

2.3.6 Vulnerability/Impact

Each hazard profile is followed by a vulnerability assessment. The vulnerability assessment further defines and quantifies populations, buildings, critical facilities, and other community assets at risk to natural hazards. The vulnerability assessments were conducted based on the best available data, and begin with a general overview of Freeport’s vulnerability to the hazard. The magnitude/severity of the hazard is determined based on past events and perceptions, and includes evaluations of the population, structures and systems/infrastructure impacted. Some estimates of potential losses to existing development are provided. Where data is available, this section provides estimated financial losses as well as the methodology used.

2.3.7 Summary Matrix

A hazard matrix containing the following summary information is provided for each hazard.

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
A general summarized description of the hazard	General areas within the planning area that are vulnerable to the identified hazard. Magnitude of each hazard, depicted by commonly-used scales	Reported previous events of the hazard and time frame	High: 100% probability in the next year Medium: 10% to 99% probability in the next year, or the probability of at least one occurrence in the next 10 years Low: 1% to 9% probability of occurrence in the next year, or at least one occurrence in the next 100 years	Types of structures impacted, and the amount of damages caused

3 Hazard Profiles and Vulnerability

The following profiles summarize each of the hazards that may impact the Village of Freeport. Similar hazards are combined for the purposes of discussion.

3.1 HURRICANE/HIGH WIND

Hazard Description	Location/ Extent	Previous Events	Probability	Vulnerability/Impact
Hurricanes are tropical storms with winds of 74 mph or more. High winds are those of 40 mph or greater for at least one hour.	The risk of hurricane and high wind events is planning-area wide.	42 high wind events in 39 years; 11 hurricanes, including Sandy, since 1938.	High Winds: High Hurricanes: Medium	According to models more than 30 percent of the planning area would be damaged by a worst-case hurricane event,. High wind damages are liable to be lower. Utilities, trees, structures, personal property, and human life would be at risk. According to BureauNet ² Hurricane Irene (2011) produced 6 -12+” of rain, winds of 74+ mph, waves 25 feet+.

3.1.1 Hazard Description

A hurricane is a low-pressure system that generally forms in the tropics. Accompanying the system are thunderstorms/high winds and, in the Northern Hemisphere, a counterclockwise circulation of winds near the earth’s surface. Hurricanes form off the coast of Africa or in the southern Atlantic Ocean, Caribbean Sea, or Gulf of Mexico. Hurricanes require warm tropical oceans, moisture, and light winds above them to form. A hurricane can produce violent winds, tornadoes (primarily on the leading and trailing edges of the hurricane), powerful waves and storm surge, and torrential rains and floods.

Hurricane season for the planning area lasts from June 1st to November 30th. The greatest risk is between August and October. This is because water temperatures in the Northern Atlantic are most likely to reach a temperature warm enough to develop and sustain a hurricane. According to the National Hurricane Center, the Atlantic hurricane season is currently in a period of heightened activity that started around 1995 and could last at least another decade.

² BureauNet is a database maintained by the National Flood Insurance Program’s (NFIP) Bureau and Statistical Agent and access is available through FEMA. It provides summaries of flood insurance and claims information, such as dates and values of claims, amounts of claims paid, etc. This information can be used to identify general areas of repetitive flooding, locate clusters of flood-prone structures, and determine which structures have incurred the most frequent or severe losses.

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High winds are often associated with other storms, such as hurricanes or nor'easters, but may occur independently. High winds can cause downed trees and power lines, flying debris, and building collapses, all of which may lead to power outages, transportation disruptions, damage to buildings and vehicles, and injury or death. Flying debris is the primary cause of damage during a windstorm. While a building may be generally structurally sound, broken glass from windows can cause injuries inside and outside the building and can damage building content.

Heavy rain, coastal flooding, and powerful winds are commonly associated with hurricanes/high winds. Storm surge is often the greatest hurricane-related hazard. Storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level by fifteen feet or more. In addition, wind driven waves combine with the storm tide. This rise in water level can cause severe inundation in coastal areas, particularly when the storm tide coincides with normal high tides.

Hurricanes and high winds pose a great threat to the Village. The impact upon the Village during a coastal storm is dependent on the phase of the moon at the time of the storm, wind direction and tidal stage. Hazard agents are as follows.

- High Winds - Impose significant loads on structures, both direct and wind pressure and drag, and tend to propel loose objects at high velocities.
- Flooding - A hurricane can cause many different types of flooding. Along the coast, flooding may occur from storm surge, wind-driven water in estuaries and rivers, or torrential rain. The flooding can be still water flooding or velocity flooding caused by wave action associated by wind driven along the coast. The rainfall associated with a hurricane is on the order of 6 to 12 inches, with higher levels common. The rain may precede landfall by hours and may persist for many hours after landfall, causing severe flooding.
- Heavy Waves - The storm may generate waves up to 25 feet high. These waves can batter the coastline, causing devastating damage to the shoreline itself and to structures near the shore. The velocity of the water moving back and forth undermines the foundations of buildings and piers by removing the soil from around them. Debris driven inland by waves can cause severe structural damage. Persons exposed to moving waters and debris are likely to be severely injured.
- Secondary Hazards - Hurricanes can also cause secondary hazards. Tornadoes and power outages are common. Contamination of water supplies, flooding of sewage treatment facilities, building collapse/destruction, and hazardous material release also occur.

3.1.2 Geographic Location/Extent

The risk of a hurricane or high wind event is planning area-wide. No geographic portion of the planning area is more or less prone to hurricane or high wind damage than any other. The exception is, of course, damages caused by flooding during a hurricane. The portions of the planning area most at risk to flooding damages are described in the flooding hazard profile.

The extent or severity of hurricanes is often measured using the Saffir-Simpson Scale. Planners rely on this scale to estimate the destructive forces associated with hurricanes. The following table describes hurricane damages in each of the Saffir-Simpson categories.

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Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 knots 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large tree branches will snap and shallowly-rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 knots 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly-rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 knots 178-208 km/h	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 knots 209-251 km/h	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 knots or higher 252 km/h or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

NOTICE: The Saffir-Simpson Hurricane Wind Scale (SSHWS) has undergone a minor modification for 2012 in order to resolve awkwardness associated with conversions among the various units used for wind speed in advisory products. This change does not alter the category assignments of any storms in the historical record, nor will it change the category assignments for future storms.

The Beaufort Wind Scale is a system used to estimate and report wind speeds when no measuring apparatus is available. The National Weather Service provided the following Beaufort Wind Scale definitions for the various levels.

<u>Level</u>	<u>Mph</u>	<u>Designation</u>	<u>Description</u>
Force 0	1-3	light air	smoke drift indicates wind direction
Force 1	4-7	light breeze	weather vane moves, leaves rustle
Force 2	8-12	moderate breeze	leaves and twigs in constant motion
Force 3	13-18	breeze	dust and loose paper raised, small branches move
Force 4	19-24	fresh breeze	small trees sway
Force 5	25-31	strong breeze	large branches move, wind whistles
Force 6	32-38	moderate gale	whole trees move, walking affected

3.1.3 Previous Occurrences

The NCDC does not include a listing of hurricane events by county or by zone. However, the following list of hurricanes is from the Nassau County Web site, and all have impacted the planning area.

The Long Island Express Hurricane (1938): The Long Island Express hit Long Island on September 21, 1938 as a Category 3 hurricane with wind gusts of 125 miles per hour. It devastated the coast of Long Island with storm surges of 18 feet. The Long Island Express was responsible for 700 deaths, \$308 million in damages, and 63,000 people homeless between Long Island and New England. Planning area-specific figures could not be found. However, the Long Island Express was so powerful that it created the Shinnecock Inlet and widened the Moriches Inlet in Suffolk County.

The Great Atlantic Hurricane (1944): A Category 3 Hurricane (winds 111-130 miles per hour), which, according to the NOAA, caused power outages, some lasting ten days, and downed trees throughout Long Island. Damages totaled \$1 million (1944 USD) on the eastern half of the island alone. The beach eroded up to 20 feet in some places, causing houses to be taken by the sea.

Hurricane Hazel (1954): A Category 3 Hurricane with wind gusts of 113 miles per hour in Battery Park (highest winds ever recorded in NYC).

Hurricane Carol and Hurricane Edna (1954): Both were Category 3 Hurricanes. Hurricane Edna dropped 9.02 inches of rain on Long Island.

Hurricane Donna (1960): It started as a Category 4 hurricane and hit Nassau County as a Category 2 with sustained winds of 100 miles per hour. Donna caused a record tide, and rainfall topped five inches.

Hurricane Belle (1976): A Category 1 hurricane that produced 6 inches of rain and tides 7.2 feet above normal.

Hurricane Gloria (1985): It began as a Category 3 hurricane off Cape Hatteras, North Carolina, but was a Category 2 hurricane when it reached Nassau County. It had wind gusts of 100 miles per hour and produced 3.4 inches of rain in the planning area. Gloria devastated the U.S. and inflicted serious damage to Nassau County.

Hurricane Floyd on September 16, 1999: Floyd brought a deluge of more than five inches of rain to much of the New York metropolitan area. In northwestern New Jersey and southeastern New York totals in some places topped ten inches, resulting in severe flooding.

Hurricane Irene (2011): It made landfall as a Category 1 but immediately weakened to a Tropical Storm just after landing. Hurricane Irene's anticipated strength caused Nassau County and neighboring counties to order evacuations. The Long Island Power Authority

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(LIPA) faced 400,000 power outages. The planning area experienced flooding, downed trees, power outages and damaged homes. According to Nassau County, the total cost for preparation, clean up and damage repair was approximately \$12 million. The county submitted FEMA claims for \$11.9 million, of which \$10.5 million has been approved as of the date of this plan. Individual NFIP claims totaled \$28,860,472. for the Village of Freeport.

Hurricane Sandy (2012): On October 29, 2012, Sandy turned toward the northwest on its path to New Jersey. Other weather systems began to interact with the storm, causing it to gain energy. High tide and 300 miles of open water caused the storm to intensify and the surge to build. At 8:00 p.m. Sandy's center came ashore near Atlantic City, New Jersey. The storm was at this point classified as a post-tropical nor'easter. However, the storm's unusual path from the southeast made its storm surge much worse for New Jersey and New York. The National Weather Service in New York reported that the storm surge of nearly 14 feet in New York Harbor was a new record, topping the previous high of 10 feet caused by Hurricane Donna in 1960. High tide from the full moon added an extra foot to the surge. The surge topped the seawall at The Battery in Lower Manhattan and flooded parts of the city's subway system. On November 3, 2012, the NOAA reported that 109 people died in the United States, with at least 40 deaths in New York City, half of those on Staten Island. Damages were expected to exceed \$50 billion. In Freeport the storm surge reach 10.12 feet. Freeport suffered massive surge damage, power outages and utility and transportation disruptions.

Three commercial properties on the Village's Nautical Mile experienced significant damage and were closed for reconstruction. Two of the business reopened in the summer of 2013

Flooding from Hurricane Sandy exceeded the flood zone by 250 feet. Approximately 3,000 homes were affected by the storm surge in one way or another. \$79,727,339. of individual claims for damage have been submitted. 135 homes were "red tagged" thereby declared unsafe for habitation. The remaining homes suffered minor to moderate damage. The majority of such residences were repaired or reconstructed. Currently about one hundred structures remain vacant or unsafe for habitation.

There were 12 working fires as a result of Hurricane Sandy, several of these fires were unfortunately in very high flood waters and could not be reached and were left to burn.

As Sandy pasted the 13kv and 4kv Electrical Distribution systems suffered extensive damage as follows:

13kv Tie Line #1 tripped and locked out, along with 13kv circuits 2P-114, 4F-304, and 4F-308.

Flooding surrounding Substations A and D forced the system operator to trip breakers and safely power down substations to avoid any further damage.

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Circuit 2P-115 and 4F-316 breakers "tripped open" (shut down) by System Operator to prevent damage to the electrical distribution system.

On October 30, 2012, approximately 73% of Freeport Electric's customers were without power.

On October 31, 2012, approximately 29% of Freeport Electric's customers were without power.

On November 1, 2012, approximately 25% of Freeport Electric's customers were without power.

On November 3, 2012, approximately 2% of Freeport Electric's customers were without power.

Leo. F. Giblyn Elementary School located at 450 South Ocean Avenue, is in a SFHA. The school suffered flood damage during Hurricane Sandy. The elementary school which houses grades 1-4, temporarily had to relocate their 564 students to neighboring schools within the district due to incurred water damage caused by Hurricane Sandy. After six weeks, the students returned to their home school on Monday December 10, 2012.

The Village of Freeport Public Housing Authority (PHA) manages and maintains 351 low-income and senior apartments in five locations throughout the Village. Three of its sites sustained significant damage including major flooding damage to all mechanical, electrical and specialty systems. Over \$207,000 was expended by the housing authority just to address the immediate repair needs of the Moxey Rigby Complex, South Main and 100 North Main Street facilities. The PHA provided pre-engineering estimates of \$342,000 to address needed repairs.

The Village's Department of Public Works and Recreational Center also experienced flooding due to the hurricane. The Public Works building could not be used for approximately two (2) months due to flood damage. The Village's Recreational Center and Department of Public Works are now currently fully operational.

The Village's water supply and distribution system received no damage.

All three (3) of Freeport's sewer lift stations. were damaged by the storm. Electrical panels, pumps and compressors were all submerged. Restoration work began immediately after flood waters were cleared with the relocation and replacing of the electric panels to an elevation above Sandy's water levels. However, the system remained fully operational. Damages to the three (3) pump stations were \$143,018.

The Village incurred approximately \$4.5 million in Hurricane Sandy related expenditures, of which \$3,323,680 are attributable to the Village's General Fund and \$1,176,320 attributable to the Village's Electric Fund. Approximately \$2.0 million was expended due to debris removal, \$575,000 for non-capital equipment and materials, \$820,000 for Village

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labor overtime costs and \$1,105,000 in contractual costs. It is estimated that the quantity of debris removed was 13,347 tons.

Sandy caused a temporary shortage of gasoline and left many stations on Long Island without power for their pumps. The storm also prompted the shutdown of two of six east coast refineries in its path. At gas stations throughout New York and New Jersey, customers had to wait for hours for fuel. Most gas stations in Freeport never lost electrical power and therefore had the ability to pump gas, however, many wholesale gasoline suppliers didn't have electricity to pump fuel into the tanker trucks for distribution. The wholesalers who did have power had a difficult time keeping up with post-Sandy demand, since service stations had to be refueled so much faster.

The National Weather Service issues a Wind Advisory for sustained winds 30 to 39 miles per hour or gusts from 40 to 57 miles per hour. A High Wind Warning is issued for sustained winds over 40 miles per hour or gusts exceeding 60 miles per hour. A High Wind Watch means that high wind conditions are possible in the next 12 to 36 hours. The NCDC website has recorded the following 48 high wind events that have affected southern Nassau and Queens counties over the past 47 years.

<u>Location</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Magnitude</u>
Nassau	06/09/1973	1730	Thunderstorm Wind	52 kts.
Nassau	06/21/1974	1330	Thunderstorm Wind	50 kts.
Nassau	08/30/1974	1310	Thunderstorm Wind	55 kts.
Nassau	09/02/1974	0106	Thunderstorm Wind	50 kts.
Nassau	07/03/1984	1540	Thunderstorm Wind	60 kts.
Nassau	06/24/1985	1307	Thunderstomr Wind	50 kts.
Nassau	08/30/1985	1500	Thunderstorm Wind	50 kts.
Nassau	03/02/1994	2300	High Wind	53 kts.
Nassau	01/19/1996	1555	Thunderstorm Wind	52 kts.
Nassau	03/19/1996	1300	High Wind	69 kts.
Nassau	03/06/1997	0720	High Wind	64 kts.
Baldwin/Freeport	05/01/1997	1845	Thunderstorm Wind	50 kts.
Nassau	05/06/1997	1315	Thunderstorm Wind	50 kts.
Nassau	05/19/1997	2152	Thunderstorm Wind	50 kts.
Nassau	12/29/1997	1945	High Wind	59 kts.
Countywide	09/07/1998	1350	Thunderstorm Wind	65 kts.
Massapequa	09/07/1998	1425	Thunderstorm Wind	52 kts.
Long Beach	01/18/1999	1816	Thunderstorm Wind	54 kts.
Nassau	12/12/2000	0845	High Wind	56 kts.
Valley Stream	01/18/2006	0900	High Wind	43 kts.
Long Beach	02/17/2006	1151	High Wind	45 kts.
Long Beach	10/20/2006	1516	High Wind	42 kts.
JFK Airport	12/01/2006	1736	High Wind	44 kts.
Oceanside	12/08/2006	0948	High Wind	42 kts.
JFK Airport	01/20/2007	1451	High Wind	41 kts.
JFK Airport	01/08/2008	1047	High Wind	44 kts.
JFK Airport	01/30/2008	1029	High Wind	46 kts.
Oceanside	02/10/2008	1856	High Wind	42 kts.
Massapequa Park	02/18/2008	0134	High Wind	35 kts.
Floral Park	03/20/2008	1204	High Wind	34 kts.

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Oceanside	05/12/2008	1259	High Wind	38 kts.
JFK Airport	12/07/2008	1951	High Wind	36 kts.
Massapequa	12/25/2008	0341	High Wind	33 kts.
Uniondale	12/30/2008	1713	High Wind	36 kts.
Jamaica Queens	01/08/2009	1054	High Wind	39 kts.
Merrick	02/12/2009	1330	High Wind	44 kts.
JFK Airport	04/04/2009	0743	High Wind	40 kts.
JFK Airport	10/07/2009	1218	High Wind	48 kts.
Jones Beach	04/29/2010	1705	High Wind	42 kts.
Jones Beach	05/08/2010	1915	High Wind	46 kts.
Jones Beach	11/17/2010	1620	High Wind	38 kts.
Nassau	12/01/2010	1200	High Wind	55 kts.
Nassau	01/31/2013	0100	High Wind	61 kts
Nassau	04/03/2016	0700	High Wind	50 kts
Nassau	02/03/2017	0900	High Wind	56 kts
Nassau	10/29/2017	2300	High Wind	50 kts
Nassau	03/02/2018	1200	High Wind	57 kts
Nassau	10/16/2019	1900	High Wind	43 kts

Information specific to Freeport is not available on the NCDC website. However, it is reasonable to assume that high winds impacting southern Nassau County also impact Freeport.

3.1.4 Probability of Future Occurrences

Since 1938 11 hurricanes have caused reported damages in Nassau County, or an average of one hurricane less than every seven (7) years. This results in a “low” probability using the definitions at the beginning of the Risk Analysis. However, recent incidents have been far more frequent, causing the Planning Committee to rate the probability as “medium.” There have been 48 high wind events recorded for Nassau County, which includes the planning area, in the previous 47 years. This results in one event annually, for a “high” probability for high wind events.

3.1.5 Vulnerability/Impact

The State of New York Office of Emergency Management (OEM) used a computer model called SLOSH (Sea, Lake, and Overland Surges from Hurricanes) to show vulnerability in the 2011 State Hazard Mitigation Plan. The calculations predict the effects of coastal storm surge. Calculated surge was based on storms moving in different directions and with varying strengths. For the state plan the SLOSH model analyzed storms moving northeast and northwest (the direction that will have the greatest impact).

The SLOSH calculations were based on the storm surge above the mean tide and the strongest potential winds for each category storm. The error was +/- three feet. Additionally, the SLOSH model calculated inundation levels for each location as if the hurricane hit that particular location head-on. The “worst-case” scenario for storm surge was calculated using the SLOSH model.

The NYS Plan was the original source for inundation maps developed by the Army Corps. The maps were based on surge height projections as calculated by the SLOSH Model. Surge heights were calculated for set locations throughout the region for a number of category 1-4 hurricanes,

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varying in forward speed, landfall location, and track. The maximum values obtained for all hurricanes of a particular category were then transferred to a 1:24,000 base map (contour interval 10 feet) to delineate surge zones.

Using the SLOSH model, the Freeport Planning Committee was able to determine which roads and buildings could be inundated by a direct hit from a Category 1, 2, 3, or 4 hurricane. According to the SLOSH map, a Category 4 hurricane would produce storm surges as high as 29 feet.

The State Plan included impacted population figures for Nassau County. Though not limited to the planning area, the information is pertinent. The figures for the county were as follows:

Total Nassau County Population:	1,334,544
Impacted Population for Category 1 Storm:	108,139
Impacted Population for Category 2 Storm:	236,603
Impacted Population for Category 3 Storm:	334,397
Impacted Population for Category 4 Storm:	406,038
Maximum Impacted Population:	406,038
Percentage of Population Impacted:	30.43%

The percentage of the Freeport population impacted by a hurricane is probably far higher than the entire county, given that a much higher percentage of the planning area is located in defined Special Flood Hazard Areas. In addition, population density is twice as high in Freeport as in Nassau County (9,531 people per square mile in Freeport versus 4,655 people per square mile in the county).

The 2005 Freeport Hazard Mitigation Plan included a section describing the risks presented by houseboats in hurricanes and high winds. Although the numbers of houseboats in Freeport are declining due to village codes restricting them, some do remain in the planning area. Some of the vulnerability to storms arises because these dwellings are not self-propelled, making relocation in an emergency difficult. Special arrangements may be required to evacuate occupants. A database showing the location of all houseboats does not exist; therefore risks cannot fully be assessed. There is concern about lack of insurance and improper sewage disposal connected with using boats as residences.

3.2 FLOODING

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
Condition of partial or complete inundation of normally dry land area.	The risk of damages from flooding is greatest in Special Flood Hazard Areas (SFHAs). According to BureauNet, Category 1 to Category 4 storms produce waves up to 29 ft Hurricane Sandy 2012	Some kind of flooding occurs at least annually in the planning area.	High	1/3 of the Village is comprised of SFHAs. \$79,727,339. estimated damages for a flooding event. Additional sheltering + cost for emergency operations; damages/loss of business. Over 4,000 structures impacted according to BureauNet.

3.2.1 Hazard Description

Floods are a frequent and costly natural hazard to the Village of Freeport in terms of both human hardship and economic loss. A large part of the community is built in flood-prone areas or floodplains. The FEMA definition for flooding is “a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from the overflow of inland or tidal waters or the rapid accumulation of runoff of surface waters from any source.” Flooding can be categorized by its source, such as “river flooding.” However, in Freeport, the following types of flooding are the most common:

- Coastal flooding from storm surge or coastal storms
- Coastal erosion
- Unusual and rapid accumulation or runoff of surface waters from any source
- Local drainage or high groundwater levels
- Sea level rise
- Climate change

A floodplain is defined as the land adjoining a watercourse or body of water that becomes inundated with water during a flood. Floodplains often are referred to as “100-year floodplains.” A 100-year floodplain is not the flood that will occur once every 100 years. It is the flood that has a one-percent chance of being equaled or exceeded each year. FEMA’s National Flood Insurance Program (NFIP) has mapped the Special Flood Hazard Areas (SFHAs) on the Flood Insurance Rate Map (FIRM).

Coastal flooding is the most common type of flooding in Freeport. It is caused by sea water rising over and above the normal tide action, which can have many different causes, including storm surge, hurricanes, severe storms, and a phenomenon called “nor’easters.” Nor’easters

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are severe storms that occur in the Atlantic basin and are extra-tropical in nature with winds out of the northeast. Hurricanes, severe storms, and nor'easter's are further discussed in separate sections of this Plan.

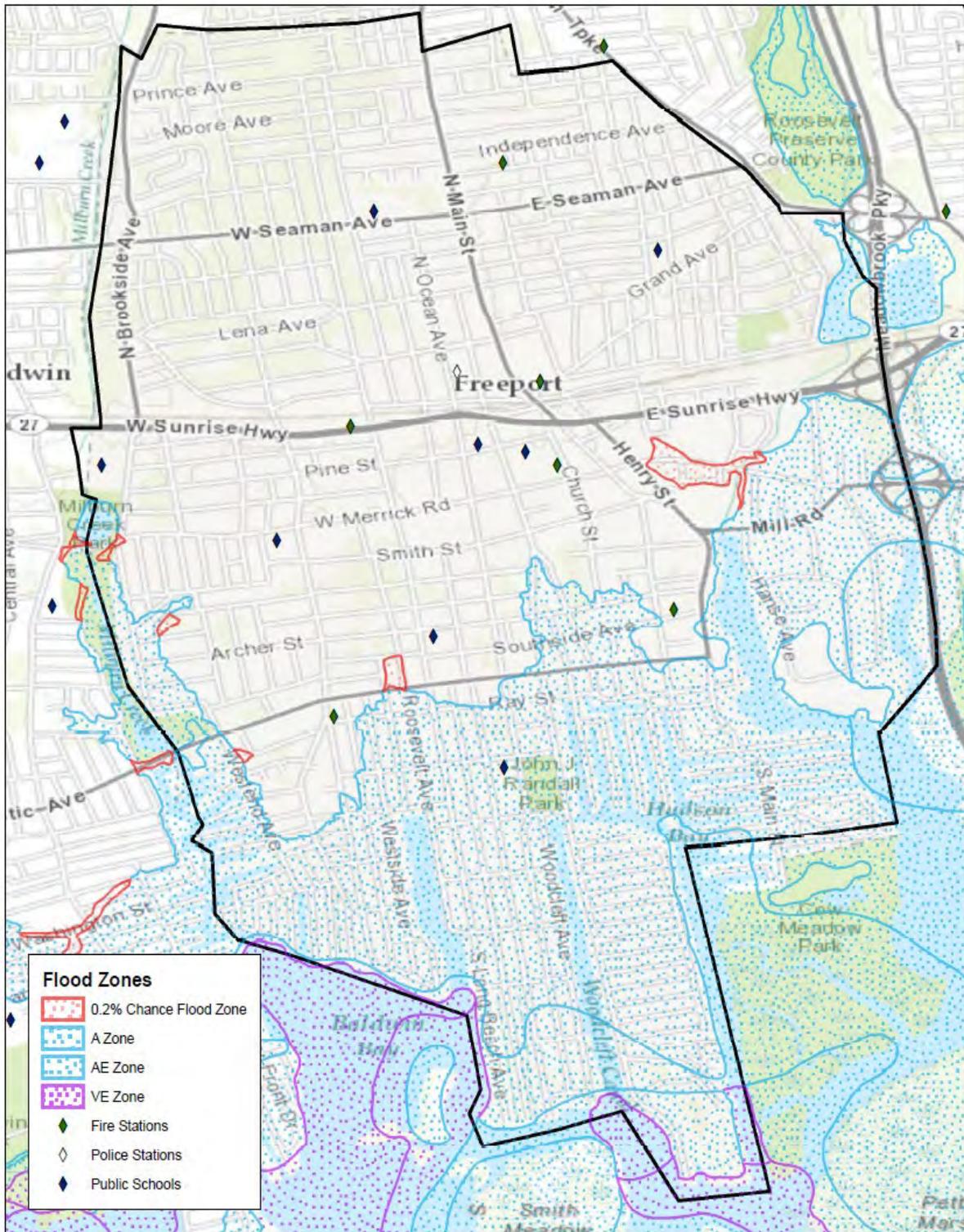
Other causes of flooding include Freeport's drainage system. Drainage outflow check valves are installed on storm drain outfalls to eliminate backflow issues through the existing drainage system. The drainage system requires additional maintenance to ensure that the check valves are operating properly. A portion of the system (Milburn Creek) comes under the jurisdiction of the County of Nassau and therefore is not covered by Village maintenance procedures.

Another source of flooding is the system of existing bulkheads that already are or are becoming nonfunctional. Bulkheads have a maximum lifespan, and many in Freeport have exceeded that point. Some older bulkheads are too low, allowing water to pass over them, causing significant flooding to adjoining properties. Many low-lying bulkheads are not being raised to current code requirements since they are not being replaced. This is causing significant erosion and property damage and increased flood levels in Long Creek, Swift Creek, and the surrounding marshes. New bulkheads can fail due to faulty materials or improper bore activity.

Freeport's history of floodplain management dates to February 14, 1976, when the Village joined the regular program of the NFIP. By joining the NFIP, property owners and residents of the community were able to obtain insurance for flooding which is not covered by their regular homeowners insurance. This was an important step since all federally-backed loans for properties in SFHAs are required to obtain insurance prior to loan approval. Since 1976 Freeport has been in compliance with the federal regulations. Freeport has successfully passed inspections by FEMA and the New York State Department of Environmental Conservation (DEC).

In early 1991, the Village reevaluated its local flood regulations. Meetings were held with FEMA, DEC, and the public to discuss the regulations. This process also included successfully challenging aspects of a new FIRM. In September 1993 a new Village Floodplain Management Code was adopted, along with a new flood rate map dated September 15, 1993. On August 24, 2009 Freeport adopted an updated FIRM, as shown on page 42. The Special Flood Hazard Areas consist of zone AE. There are no V zones located within the Village.

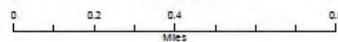
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Special Flood Hazard Area Structure Impact
Freeport, NY



DR-4085 MITIGATION GIS



Map Date: February 15, 2013

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During this time period the Village became aware of a voluntary NFIP program called the Community Rating System (CRS). The purpose of the program is to assist each community to go beyond the minimum FEMA regulations and to gear activities toward specific goals. Each community that participates is given a rating based on the flood prevention activities in which it engages. Based on this rating the NFIP provides the participating community a discount on all flood insurance policies in increments of five (5) percent up to a maximum of 45 percent. Freeport is rated Class 7 under the program and is the only community on Long Island to successfully achieve a 15 percent discount.

As outlined elsewhere in the 2020 Update, the Village of Freeport has taken positive steps to reduce damages caused by flooding. Freeport has on staff a full-time emergency manager to run its mitigation programs. Mitigation initiatives undertaken by Freeport include elevation projects such as raising streets in hard-hit areas and using a \$890,000 Flood Mitigation Assistance (FMA) Grant to help 25 homeowners affordably elevate their homes three feet above the Base Flood Elevation (BFEs). Sub-committees also are in place to address bulkhead problems, elevations in commercial areas, and public awareness. In addition, after Hurricane Sandy and through the Governor's Office of Storm Recovery and the NY Rising Program, an additional 188 homes have been elevated to 4' above the Base Flood Elevation.

3.2.2 Geographic Location/Extent

A significant flood event would likely cause severe damage to private and public property and the Village's infrastructure, given that one-third of the Village is located in Special Flood Hazard Areas. According to the 2009 FIRM, Freeport SFHAs encompass 991 acres. Approximately 3,756 structures and eight (8) public critical facilities are located in the floodplain. Approximately 12,000 residents reside in the flood hazard areas. The following is a partial list of waterways subjected to flooding in or near the Village:

<u>Waterway</u>	<u>Length in feet</u>	<u>Ownership</u>
Albert Canal	1,000	Private
Blue Hole Canal (portion)	4,100	Town of Hempstead
Crooked Creek	2,700	Town of Hempstead
Denton's Pond Creek	4,050	Town of Hempstead
East Channel	1,375	Private
Emories Basin	1,700	Freeport
Emory's Creek	3,375	Town of Hempstead
Freeport Creek	9,050	Town of Hempstead
Glover's Canal	900	Private
Gordon's Channel	1,650	Freeport
Hudson Canal	2,000	Freeport
Hudson Channel	1,900	Town of Hempstead
Freeport Little Swift Creek	1,900	Town of Hempstead
Long Creek	7,200	Town of Hempstead
Mallard Canal	1,000	Freeport
Miller Channel	2,025	Freeport
Nassau Channel	2,150	Freeport
Old Hempstead Narrows	900	Town of Hempstead
Plover Canal	1,000	Private

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Randall Bay	3,000	Freeport
Sportsman Channel	1,800	Freeport
<u>Waterway</u>	<u>Length in feet</u>	<u>Ownership</u>
Stadium Park Canal	3,350	Town of Hempstead
Teal Canal	1,150	Private
Woodcleft Basin	1,450	Freeport
Woodcleft Canal	4,440	Town of Hempstead
Yacht Basin	2,500	Private

Freeport has determined its highest flood risk areas by evaluating several sources of information, including the Flood Insurance Rate Map, the New York State Evacuation Study and associated surge maps and local flooding patterns. To date most of the flooding in Freeport has been concentrated south of Atlantic Avenue. However, there are other upland sources that could flood northern areas of Freeport. In the past, torrential rains have caused street flooding and water in basements throughout the Village.

Flooding of roads prevents access to and evacuation from flood-prone areas. The following roads are susceptible to flooding due to the street grade:

- Richmond Avenue from Miller Avenue to Woodcleft Avenue
- Manhattan Avenue from Miller Avenue to Woodcleft Avenue
- Suffolk Street from South Long Beach Avenue to Woodcleft Avenue
- Hamilton Street from South Long Beach Avenue to Woodcleft Avenue
- Adams Street from South Long Beach Avenue to Woodcleft Avenue
- Hudson Avenue from Jefferson Street to Howard Avenue
- Sportsman Avenue from Ray Street to the canal on South Ocean Avenue
- All streets south of Cedar Street
- Guy Lombardo Avenue south of Atlantic Avenue
- Albany Avenue from Merrick Road to Doxsee Drive

3.2.3 Previous Occurrences

The Village of Freeport, located on the Long Island glacial outwash plain, is low-lying, with elevations at or less than 20 feet above sea level. The Village is susceptible to tidal flooding associated with hurricanes, high winds and nor'easters. Shoreline areas and low-lying interior areas are subject to frequent and significant damage from tidal inundation, wave run-up, and backwater flooding from low-lying storm drains. Generally speaking, the Planning Committee determined that flooding in the Village is most severe during nor'easters, which typically occur during the late fall, winter, and early spring. Hurricanes, which typically occur between June and October, also pose a significant threat to Freeport residents. Both types of storms can deposit significant amounts of precipitation in the watershed and produce strong and sustained onshore winds. When high onshore winds are sustained over several tide cycles, as in a nor'easter, the resultant storm surge can combine with water runoff to produce severe flooding along the shore and back bay areas. Due to its geographic location Freeport is unique in this regard. The Village is often deluged with tidal flooding when adjacent communities are not.

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These events were characterized by torrential rains, strong winds, street flooding up to five feet, and flooding of crawl spaces beneath structures, basements, and first floors in low-lying buildings. Flooding patterns followed tide patterns except for the October 31 (Halloween) Storm of 1991, when flood waters did not recede for approximately three days. The Halloween storm was created by a collision between a low-pressure system, a cold high-pressure system, and the remnants of Hurricane Grace.

The National Climatic Data Center (NCDC), part of the National Oceanic and Atmospheric Administration (NOAA), lists several Freeport coastal floods in its database, which goes back to 2006. Note that although damages must have occurred during at least some of these events, no damages were reported to the NCDC. The NCDC-reported coastal flooding events are as follows:

October 7, 2006: A slow-moving coastal storm produced minor to moderate flooding across the beaches and back bays of Long Island. Street flooding was reported in Freeport during the morning high tide, and the USGS tide gage showed water levels at or above benchmark for moderate coastal flooding.

October 28, 2006: A strong storm produced winds of 40 to 50 mph, which caused minor to moderate coastal flooding along the Atlantic back bays of Nassau and southwest Suffolk counties. Moderate flooding was reported at the USGS tide gage for Hudson Bay at Freeport (5.31 feet stage level).

April 19, 2007: A strong late season nor'easter impacted the region with a prolonged period of moderate coastal flooding. The combination of a strong high-pressure weather system off the New England coast and a period of higher than normal spring tides resulted in several days of tidal piling across Atlantic-facing beaches and the Long Island Sound. The slow eastward movement of the low resulted in a prolonged period of long-fetch easterly flow. Tidal departures were highest on both the Atlantic back bays of western Long Island from Sunday evening through Monday morning, ranging from 2.5 to 3.5 feet. Isolated flooding episodes continued over the next few days. The storm caused over \$26 million in damage in Suffolk County, including significant beach erosion, flooding, and harm to homes, businesses, and infrastructure. (Note that Freeport-specific information was not available for this flood event.)

April 7, 2008: Prolonged easterly flow over two to three days occurred in response to a strong high-pressure system to the north. This resulted in the piling up of water in the southern bays of Long Island, and produced moderate levels of flooding briefly in Freeport. The tide gauge on the Hudson Bay at Freeport rose above the moderate flood stage of 5 feet National Geodetic Vertical Datum (NGVD), peaking at 5.03 feet.

July 23, 2009: A combination of high pressure to the northeast and a developing coastal low to the south produced strong northeast winds over the region. This caused piling water up in the back bays of Long Island. The USGS tidal gauge at Freeport measured a water level at or above the threshold for moderate flooding. There was an observed surge of 1.9 feet at Freeport.

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October 16, 2009: Moderate tidal flooding was caused by a strong pressure gradient between high pressure to the north and a coastal storm passing south of Long Island. A prolonged period of strong east to northeast winds across coastal waters coupled with astronomically high tides caused water to build along the coast followed by tidal piling. Street flooding was reported in Freeport. The USGS gauge at Freeport exceeded its moderate flood stage, peaking at 6.11 feet..

October 18, 2009: Moderate tidal flooding was caused by a strong pressure gradient between high pressure to the north and a coastal storm passing south of Long Island. A prolonged period of strong northeast winds across coastal waters and astronomically high tides caused tidal piling. Roads near the intersection of Woodcleft Avenue and Front Street in Freeport were reported inundated and impassable. Water was reported up to the doors of commercial buildings in Freeport. A maximum water level of 6.32 feet MLLW (Mean Lower Low Water) was reported at the USGS gauge in Freeport. This is 1.32 feet above the benchmark for moderate tidal flooding. In Freeport, Hudson Street flooded and several streets along the Nautical Mile were under water and impassable.

November 13, 2009: A strong and persistent east-northeast wind gradient over the region was caused by strong low pressure off the Carolinas (remnants of Hurricane Ida) and a strong high pressure system located over Eastern Canada. Between November 11 and 14. the tidal piling over several tidal cycles caused widespread moderate coastal flooding along the Long Island south shore and back bays. High seas and long-period easterly swells also caused significant beach erosion along ocean-facing beaches. Water rose to 5.22 feet, or 0.22 feet above the moderate coastal flooding benchmark, at the USGS gauge in Hudson Bay at Freeport..

November 14, 2009: A strong and persistent east northeast wind gradient continued over the region. Water rose to 5.40 feet at 6:12 a.m. (EST) at the USGS gauge in Hudson Bay at Freeport. This is 0.40 feet above the moderate coastal flooding benchmark of 5.0 feet.

March 13, 2010: A combination of strong high pressure over Southeast Canada and intensifying low pressure tracking slowly northeast from the Mid-Atlantic States created a prolonged period of strong easterly winds across the region from March 12 through March 14. The highest winds and resultant tidal rises occurred on March 13, resulting in widespread moderate coastal flooding. Positive tidal departures of 3 to 5 feet were recorded, with many places seeing water levels at their highest in almost 20 years. In addition, the prolonged east winds generated high surf that battered the Atlantic-facing shoreline for several days and caused severe beach erosion. Water rose to 6.21 feet MLLW at the USGS gauge at Freeport, or 1.21 feet above the moderate flooding benchmark.

November 5, 2010: A short period of strong east to northeast winds developed between stubborn high pressure over the Canadian Maritimes and intensifying low pressure tracking up the coast and over the region. These winds combined with long- period sea swells and astronomically high tides to cause waters to pile up along the coast.

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Widespread minor and localized moderate coastal flooding occurred along the south shore bays of Nassau County. The USGS gauge at Freeport exceeded its moderate flood stage of 5.0, peaking at 5.96 feet MLLW.

November 11, 2010: A two- to three-day period of strong northeasterly winds over a long fetch developed between strong high pressure building north of the region and a closed low-pressure system slowly drifting east of the region. The combined winds and long-period easterly swells piled water along the coast. It caused widespread minor and localized moderate coastal flooding along the south shore bays of Nassau County. The USGS gauge at Freeport exceeded its moderate flood stage of 5.0 feet MLLW, peaking at 5.94 feet.

August 8, 2011: Irene made landfall locally as a tropical storm, moving across southeast New York and western Connecticut before dissipating over New England near the Canadian border. Copious amounts of tropical moisture within the storm produced extended periods of heavy rainfall, resulting in widespread moderate to major flooding across the area. Buffalo Avenue at Merrick Road in Freeport was impassible due to flooding. The USGS gauge at Freeport exceeded its moderate flood stage of 5.0, peaking at 7.35 feet MLLW.

October 29, 2012: During the weekend of October 20-21, 2012, an area of disturbed weather just south of Hispaniola began to push to the west and strengthen. By Monday October 22, 2012, this area of convection eventually developed into Tropical Storm Sandy, becoming the 18th named storm of the Atlantic hurricane season. From this point, Tropical Storm Sandy turned and moved northward, making landfall in Jamaica as a category 1 hurricane on October 24th. Sandy then intensified into a Category 2 hurricane north of Jamaica and slammed into eastern Cuba. Sandy weakened to a Category 1 hurricane while tracking across the Bahamas. Sandy then took a slight northwestward motion near the northern Bahamas. It is during this time frame that the offshore Atlantic waters were heavily impacted by Sandy's passing. Its storm surge hit New York on October 29, 2012. The USGS gauge at Freeport exceeded its moderate flood stage of 5.0, peaking at 10.12 feet MLLW. Flooding exceeded the flood zone by 250 feet.

The NCDRC also reported several storm surge events that caused moderate flooding in Freeport. Damages were not reported for either event, which are described below:

June 21, 2009: The combination of high astronomical tides and water being piled up into the back bays and along the south shore of Long Island produced minor to moderate coastal flooding. Up to 1.5 feet of water inundated portions of Freeport. No property damage was reported, but bus routes were changed and resident's vehicles were moved out of the flooded area..

October 4, 2010: A two-day period of strong northeast winds developed between strong high pressure to the northwest of the area and weak low pressure tracking up the coast. The resultant tidal piling caused widespread minor and isolated moderate coastal flooding along the south shore bays of Nassau County. The USGS gauge at Freeport

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exceeded its moderate flood stage of 5.0 feet MLLW, peaking at 6.14 feet. Significant street flooding was observed on Hudson Avenue in Freeport.

January 10, 2016: Strong high pressure over Southeast Canada and low pressure drifting off the Mid Atlantic coast resulted in 2 days of persistent northeast winds Jan 8th and 9th. This was followed by 12 to 18 hours of east to southeast winds of 15 to 20 mph with gusts to 30 to 35 mph leading into high tides on Jan 10th. The resultant surge combined with high astronomical tides, resulted in widespread minor to moderate coastal flooding along southern and western coastal areas of Long Island and New York City on the morning of January 10th. The USGS tidal gauge in Hudson Bay at Freeport recorded a peak water level of 6.4 ft. MLLW at 812 am EST. The moderate coastal flood threshold of 5.8 ft. MLLW was exceeded from 718 to 924 am EST.

January 24, 2016: Low pressure developed along the southern mid Atlantic coast on the evening of the 23rd and then rapidly intensified as it slowly tracked northeast, south of Long Island, through the night of the 24th. The resulting surge from 36 hours of gale to storm force north to northeast winds, combined with high astronomical tides, resulted in widespread minor to moderate coastal flooding for three consecutive tidal cycles the morning of the 23d into the morning of the 24th along the southern coastal areas of Long Island. Areas of minor to localized moderate coastal flooding occurred along Long Island Sound and East End portions of Long Island during this time period as well. In addition, widespread dune toe erosion and localized wash overs were reported along the Atlantic Ocean facing beaches of Long Island. Fire Island was especially hard hit. The USGS tidal gauge in Hudson Bay at Freeport recorded a peak water level of 6.3 ft. MLLW at 830 am EST. The moderate coastal flood threshold of 5.8 ft. MLLW was exceeded from 706 to 930 am EST.

February 9, 2016: Low pressure that developed off the Florida coast on early February 7th, intensified into a large intense offshore storm which slowly tracked northeast up the coast through the night of February 8th. The large fetch around the storm and slow movement resulted in 2 to 3 feet of surge on top of astronomically high tides. This resulted in widespread minor to moderate coastal flooding during the morning high tides of February 8th and 9th. Moderate coastal impacts were mainly along the south shore bays of New York City and Long Island. The USGS tidal gauge in Hudson Bay at Freeport recorded a peak water level of 6.6 ft. MLLW at 836 am EST. The moderate coastal flood threshold of 5.8 ft. MLLW was exceeded from 712 to 948 am EST.

May 6, 2016: Three days of widespread minor to localized moderate coastal flooding occurred in response to periods of northeast winds and the highest spring tides of the year. In fact, some places were touching NWS minor flooding thresholds just from the high astronomical tides. Water levels peaked with the evening tides of 5/5 and 5/6. The USGS tidal gauge in Hudson Bay at Freeport recorded a peak water level of 6.1 ft. MLLW at 748 pm EST.

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January 24, 2017: A slow moving Nor'easter impacted successive high tide cycles with widespread minor to locally moderate coastal flooding on the evening of 1/23 and widespread moderate to locally major coastal flooding the morning of 1/24. Thirty six hours of east northeast gale to storm force winds helped build surge values to 3 to 4 feet above astronomical tides for the 1/24 morning high tide cycle. This caused widespread moderate to locally major coastal flooding along the southern and eastern bays and beachfront communities of Long Island. The USGS tidal gauge in Hudson Bay at Freeport recorded a peak water level of 6.4 ft. MLLW at 518 am EST. The moderate coastal flood threshold of 5.8 ft. MLLW was exceeded from 330 to 654 am EST.

March 2-4, 2018: A powerful coastal storm impacted the region Friday through Sunday with North to Northeast Gale to Storm force winds. This resulted in several tidal cycle of minor to moderate coastal flooding Friday morning through Sunday morning, with the most widespread moderate to locally major impacts occurring with the Saturday Night high tidal cycle. In addition, prolonged high surf from energetic easterly swells during this time period resulted in widespread areas of dune erosion and localized washovers along the Atlantic Ocean beachfront.. The USGS tidal gauge in Hudson Bay at Freeport recorded a peak water level of 6.5 ft. MLLW at 800 am EST on the March 2nd, 6.5 ft. MLLW at 930 am EST on March 3rd, 7.0 ft. MLLW at 954 pm EST on the March 3rd, the moderate coastal flood threshold of 6.2 ft. MLLW was exceeded from 812 to 1106 pm EST, and the major coastal flood threshold of 6.9 ft MLLW was exceeded from 912 to 1012 pm EST. and 6.7 ft. MLLW at 1006 am EST on March 4th.

December 22, 2018: Intensifying low pressure moving up the spine of the Appalachians on December 21st and into southern Quebec the morning of the 22nd produced strong southeast winds. These onshore winds in combination with high astronomical tides via the full moon of the 22nd, also produced widespread minor and localized moderate coastal flooding the mornings of the 21st and 22nd. A peak water level of 6.3 ft MLLW occurred at the USGS tidal gauge at Hudson Bay at Freeport from 2018-12-22 07:06 EST to 2018-12-22 07:18 EST.

January 20, 2019: Deepening low pressure tracked from the southeast United States on Saturday January 19, 2019 to the northeast on Sunday January 20, 2019. The low produced moderate coastal flooding along parts of the south shore of Long Island and New York City, and along western Long Island Sound, during the morning high tide cycle of the 20th. A peak water level of 6.5 ft MLLW occurred at the USGS tidal gauge at Hudson Bay at Freeport from 2019-01-20 06:48 EST

3.2.4 Probability of Future Occurrences

Based on the 25 recorded flood events in the past ten years, the Village of Freeport's probability of having an event in the next year is 100 percent. Past history shows an average of more than two events annually.

3.2.5 Vulnerability/Impact

The portions of the planning area most vulnerable to flooding are those in SFHAs. A number of critical facilities vital to the Village of Freeport are located in SFHAs. The Freeport Department of Public Works (DPW) is located within the AE Zone. The storm surge map indicates that this site is susceptible to significant flooding during Category 1 and Category 2 storms. Most of the buildings are located below the base flood elevation and have had numerous incidents of flooding. When flooding is predicted, equipment and personnel must be relocated off-site.

The Freeport Electric Power Plant II is located adjacent to the DPW in the AE flood zone. The storm surge map indicates that a Category 2 storm might bring flood levels to 15 feet. The road around the plant and its cooling water pumps, air compressors, and station transformers are located at elevation 9.6 feet. Flooding of Hanse Avenue and Buffalo Avenue would prevent personnel from entering and leaving the plant and could prevent fuel deliveries.

A major storm, especially a Category 3 or 4 hurricane, would damage all electrical equipment at the power plant, including generators, motors, station service transformers, cooling tower, oil tanks, diesel engines, and the buildings on-site. The combustion turbine and generator would experience significant saltwater intrusion, and, depending on the strength of the surge, the turbines could be moved off their foundation and the cooling tower rendered inoperable. A major surge could completely destroy the cooling tower.

Oil from the two active oil tanks at Power Plant II could possibly leak into the surrounding waterways, killing wildlife and polluting the water. The third tank, which has been decommissioned and is empty, could become a floating hazard. Station service transformers, if submerged, would be unfit to be put back into service. The switchgear station could be moved off its foundation, completely destroying switches, relays, and cables. Distribution facilities, such as poles and wires, could be subject to damage in the surge area, interrupting electrical service to affected areas. Falling trees and limbs might damage the distribution facilities.

Potential damage to Power Plant II has been mitigated with recent improvements. The plant has been modernized with a state-of-the-art efficient and clean power technology. The project installed two (2) new combustion turbines that use as fuel natural gas with a back-up of low sulfur distillate oil. The top of foundations for major pieces of equipment or equipment with the potential to impact the environment was set at 13.0 feet National Geodetic Vertical Datum (NGVD) or higher, or six feet higher than the base flood elevation. Setting the foundations for the turbines at 13 feet Mean Sea Level (MSL) enables Freeport to provide power during emergency situations. Other mitigation measures included the ballast for the oil water separator, which is pump-driven, which means that water cannot enter from external sources.

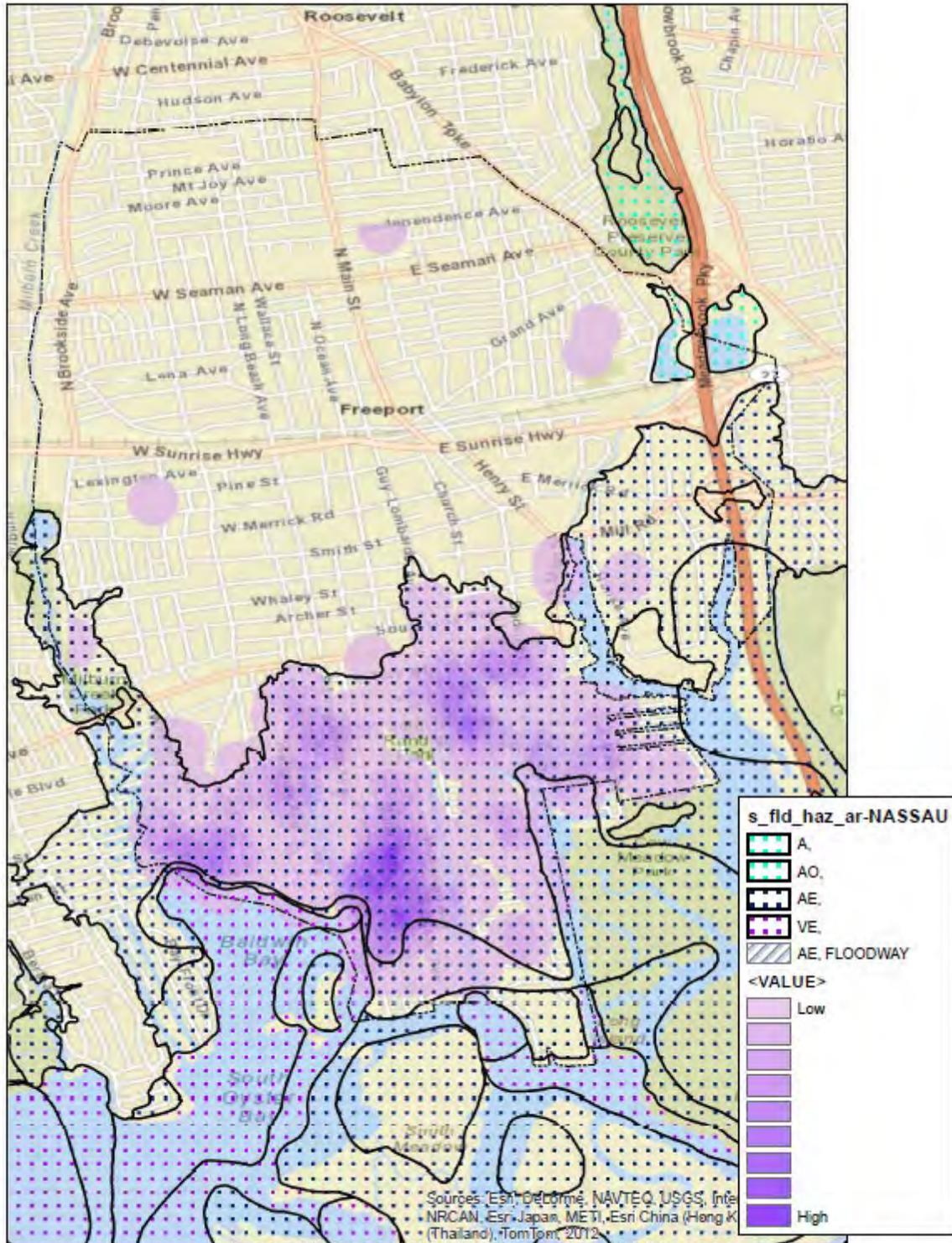
Electric substation A (intersection of South Bayview Ave. and Ray Street) and substation D (intersection of Front Street and South Ocean Ave.) have been eliminated. Both had been located in the flood zone. All electric transformers located on Woodcleft Ave. have been elevated by 3 feet to elevation 9.

Three sewer lift stations and one pump station are located in SFHAs. The pump stations are located on Howard Avenue, Suffolk Street, and South Bayview Avenue. The pump station is on Buffalo Avenue.

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One Freeport elementary school, Leo. F. Giblyn located at 450 South Ocean Avenue, is in a SFHA. The school suffered flood damage during Hurricane Sandy. The elementary school which houses grades K-4 temporarily had to relocate their 555 students to neighboring schools within the district due to incurred water damage caused by Hurricane Sandy. After six weeks, the students returned to their home school on Monday December 10, 2012.

Freeport, NY Repetitive Loss Areas



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In addition, privately-owned critical facilities, such as chemical storage facilities, are located in the industrial park, which is also in the AE zone.

The Planning Committee used two different methodologies to estimate flood damages for the planning area. The Committee noted that there are 3,756 structures located in Freeport's SFHAs, with a total estimated market value of \$1,577,520,000. The 2020 Committee estimated that flood damages to a home would amount to 38 percent of its value. (This estimate is based on Planning Committee members' personal experiences). Thirty-eight percent of the value of the homes in SFHAs is \$315,504,000. Claims paid by the NFIP for repetitive loss properties provide another indicator of possible flood damages. The map on page 53 shows repetitive loss areas in Freeport.

As of April 30, 2015 there were 3,150 flood insurance policies in effect, As of April 30, 2015 the Village had 1213 Repetitive Loss Properties. From 1978 to April 30, 2015 there were 3,511 NFIP repetitive loss claims filed for a total loss of \$130,307,041.70. \$114,285,773.41 represents building losses and \$16,021,268.29 represents content losses. Total claims filed January 1, 1987 to April 30, 2015 was 6,025 for a total loss of \$\$239,945,556

Types of Repetitive Loss properties are as follows:

Non Residential - 27
Condo Association - 10
2 to 4 Family Residential - 24
Other Residential – 5
Single Family Residential – 1,147

Of the 1213 Repetitive Loss Properties, 268 have 4 or more NFIP losses. These properties are broken down as follows:

15 Losses = 1
14 Losses = 1
13 Losses = 1
12 Losses = 1
11 Losses = 1
10 Losses = 2
9 Losses = 2
8 Losses = 7
7 Losses = 15
6 Losses = 39
5 Losses = 70
4 Losses = 128
3 Losses = 220
2 Losses = 725

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Non Residential – 7

Condo Association – 2

2 to 4 Family Residential – 6

Single Family Residential – 253

Yearly NFIP flood claims in Freeport are shown below

Year	Quantity of Claims	Total Paid
1977	2	\$ 612.00
1978	40	\$ 35,305.00
1979	48	\$ 53,597.00
1980	27	\$ 24,223.00
1981	2	\$ -
1982	2	\$ 588.00
1983	5	\$ 1,784.00
1984	32	\$ 16,564.00
1985	273	\$ 1,006,676.00
1986	4	\$ 1,535.00
1987	150	\$ 348,576.00
1988	1	\$ -
1989	9	\$ 9,270.00
1990	28	\$ 95,439.00
1991	291	\$ 2,554,744.00
1992	624	\$ 4,684,244.00
1993	151	\$ 639,792.00
1994	5	\$ 89,059.00
1995	6	\$ 50,102.00
1996	34	\$ 131,645.00
1997	3	\$ 37,352.00
1998	29	\$ 97,387.00
1999	15	\$ 44,755.00
2000	11	\$ 14,542.00
2001	8	\$ 10,923.00
2002	7	\$ 2,841.00
2003	15	\$ 11,199.00
2004	6	\$ 5,078.00
2005	115	\$ 493,600.00
2006	6	\$ 82,470.00
2007	36	\$ 427,621.00
2008	2	\$ 10,608.00
2009	6	\$ 69,356.00
2010	46	\$ 174,717.00

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2011	1283	\$ 29,207,330.00
2012	2631	\$ 199,191,187.00
2013	14	\$ 41,556.00
2014	25	\$ 37,721.00
2015	4	\$ -
2016	15	\$ 96,198.00
2017	5	\$ 28,582.00
2018	9	\$ 116,778.00

Total Quantity of Claims from 1977 to 2018 = 6025

Total Paid on Claims from 1977 to 2018 = \$239,945.556.00

Total Claims for Hurricane sandy = \$199,191,187.00

An analysis of NFIP claims shows a trend of increasing flood damage in Freeport. These figures only give a partial overview, however, since they do not reflect the damage to uninsured properties, non-reported damage, and uninsurable damage.

3.3 NOR'EASTER/WINTER STORM/ICE STORM

Hazard Description	Location/ Extent	Previous Events	Probability	Vulnerability/Impact
Heavy snow, rain, sleet, ice, and tremendous ocean waves	The risk of damages from nor'easters and winter storms is planning area-wide.	Past snow storms have occurred at least annually	High	Nassau County is ranked 25 th of 62 counties in the state for vulnerability to snow storms and nor'easters. According to BureauNet, there has been \$640,000+ in SFHA public infrastructure damage claims, and over \$37,000,000 in infrastructure damages. Result was \$7.90 per capita in damages.

3.3.1 Hazard Description

A nor'easter is a strong low-pressure system that impacts locales in the Mid-Atlantic States, including Freeport. A nor'easter gets its name from the continuously strong northeasterly winds blowing in from the ocean and over coastal areas ahead of the storm. It can form over land or coastal waters. These typically winter events produce heavy snow, rain, and tremendous ocean waves, often causing beach erosion and structural damage. Wind gusts associated with these storms can exceed hurricane force in intensity.

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Nor'easters may occur at any time of year but are most common from September through April. If a wintertime nor'easter moves up the coast, following a track west of New York City and the planning area, wintry precipitation will often change to rain. However, if the storm maintains a track just east of the City, snow or mixed precipitation is likely to occur given enough moisture and cold air.

Winters in the planning area often include heavy snow and ice. Heavy snow generally means snowfall accumulating up to four inches or more in depth in 12 hours or less, or snowfall accumulating up to six inches or more in depth in 24 hours or less. A blizzard is defined as a storm with winds of 35 miles per hour or more with snow and blowing snow, reducing visibility to less than 1/4 mile for at least three hours.

A winter storm may also include sleet or freezing rain. Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially-melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Freezing rain is rain that falls as a liquid but freezes into glaze upon contact with the ground. Both types of precipitation, even in small accumulations, can cause significant hazards to a community (National Weather Service, 2005).

Ice storms occur when damaging accumulations of ice, usually 1/4 inch or greater, accompany freezing rain. Significant accumulations of ice pull down trees and utility lines, resulting in loss of power and communications. These accumulations of ice make walking and driving extremely dangerous. The winter months can also bring frigid temperatures that pose a hazard to public health and safety, especially for people who work outdoors and at-risk populations, such as the homeless, seniors, and children.

3.3.2 Geographic Location/Extent

The entire planning area is vulnerable to winter storms, nor'easters, and ice storms. Unlike flooding, this hazard is not location-specific. The Planning Committee noted that nor'easters and winter storms result in moderate street flooding several times a year, based on members' personal experiences and newspaper references found on the Web at <http://www.newspaperarchives.com>.

Freeport experiences at least one winter storm/nor'easter/ice storm every year. Winter storms often include ice, snow, severe cold, sleet, and wind; each element has the potential to disrupt life in Freeport by making normal activity difficult and/or dangerous. They can disrupt electricity, telephone, and other critical infrastructures. Employees may be unable to get to work due to icy conditions, unplowed roadways, interruptions in transportation services, or facility damage. A longer stretch of severe winter weather may result in a shortage of supplies. A significant snowfall could result in roof collapse. Snowstorms do not generally impact the region for long periods of time but ice storms have shut down schools and businesses for extended periods. Ice is also the biggest threat to reliable power and phone service.

Snowstorms can cause isolated power outages, structural collapse, hazardous driving and walking conditions, closed roads, mass transit interruptions, and exposure to extremely cold temperatures. The severity of snowstorms is generally measured in the number of inches of snow. The Village does experience snowstorms during the winter months. The average snowfall

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during January is 7.8 inches and 9.3 inches during February, according to National Climactic Data Center (NCDC) records. During the winter months (October – April), the average daytime temperature in the planning area is 40 degrees.

The NCDC compiles the Regional Snowfall Index (RSI) for significant snowstorms that impact the eastern two-thirds of the U.S. The RSI ranks snowstorm impacts on a scale from 1 to 5, similar to the Fujita scale for tornadoes or the Saffir-Simpson scale for hurricanes.

Regional Snowfall Index

Category	RSI Value	Description
1	1–3	Notable
2	3–6	Significant
3	6–10	Major
4	10–18	Crippling
5	18.0+	Extreme

3.3.3 Previous Occurrences

Note that several nor'easters are discussed in the flooding hazard profile, and reference should be made to that section. A factor contributing to data limitations for previous nor'easter events is that records do not always differentiate between winter storms and nor'easters.

Although the NCDC does not collect data on nor'easters as a category, an informal list appears on the Weather Underground website. Following is a list of “notable nor'easters” that impacted the planning area, followed by a short description of each event. Note that the casualty numbers are area-wide, and are not representative of casualties in the planning area. They do represent the severity of the event, however.

- The Great Blizzard of 1888: This has been called one of the worst blizzards in U.S. history. Forty to fifty inches of snow fell, resulting in the death of over 400 people, mostly in New York.
- The Storm of the Century (1993): A superstorm with cyclonic winds that affected the entire eastern U.S. in mid-March. It killed 310 people and caused \$6.65 billion (2008 USD) in damage nationally.
- The Christmas 1994 Nor'easter: An intense storm which affected the east coast of the U.S., and exhibited traits of a tropical cyclone. Long Island was affected by high winds, coastal flooding, and beach erosion, and damage was extensive. Nationally, two people were killed, and damage amounted to at least \$21 million.

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- The North American blizzard of 1996: This severe snowstorm brought up to four feet of snow to areas of the mid-Atlantic and northeastern U.S., killing a total of 154 people.
- The North American blizzard of 2003: The storm dropped over two feet of snow in several major cities, including Boston and New York City, affected large areas of the Northeastern U.S., and killed a total of 27 people.
- The North American blizzard of 2006: A powerful storm that developed a hurricane-like eye when off the coast of New Jersey, it produced over 30 inches of snow in some areas and killed 3 people.
- The April 2007 nor'easter: An unusually late storm that dumped heavy snow in parts of Northern New England and Canada and heavy rains elsewhere, it caused 18 fatalities.
- Nor'Ida (2009): Formed from the remnants of Hurricane Ida, the storm produced moderate storm surge, strong winds, and very heavy rainfall throughout the mid-Atlantic region. It killed six people and caused \$300 million (2009 USD) in damage.
- The December 2010 North American blizzard: This was a major blizzard which affected large metropolitan areas including New York City. In some areas, the storm brought up to two feet of snow.
- The November 2012 nor'easter (named by The Weather Channel "Winter Storm Athena"): This storm was notable for battering northeast areas such as New York City that only days earlier had been severely damaged by Hurricane Sandy.
- April 30, 2014: A nor'easter impacted the area with very heavy rainfall amounts. The 4.97" that fell was the ninth greatest daily rainfall on record. Besides the rain it was also a very raw day with temperatures only in the 40s.
- December 9, 2014: A strong nor'easter lashed the area, beginning a few hours before daybreak and continuing thru mid-afternoon. It produced 2.54" of rain, a record for the date; winds gusted between 45-55 mph on Long Island.
- October 29, 2017: On the five-year anniversary of superstorm Sandy flooding the metro area, an intense nor'easter lashed the area with gusty winds and an all-day rain that amounted to 3.03" (and an additional 0.25" fell after midnight). This was more rain than fell in the past 60 days, and the biggest rainstorm of the year, passing the rainstorm of 5/2 by 0.01".
- March 2, 2018: The day after March came in "like a lamb", a fierce nor'easter battered the area. Throughout the day the area was lashed by a wind-driven mix of rain and wet snow that amounted to 2.24", gusts of 50-70 mph were common

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- On October 16, 2019 A nor'easter lashed the area from mid-afternoon until about 11:00 PM, dumping 1.83" of rain with howling winds gusting between 50-60 mph

Other notable nor'easters produced significant amounts of rain in the Freeport area. The storm occurring October 12 through 15, 2005, dumped 11.65 inches of water during the four-day event. The nor'easter on October 24-25, 2005 had a maximum wind speed of 43 miles per hour, produced 1.89 inches of rain, and exceeded the moderated flood stage at 5.38 feet. On April 15-16, 2007, there was a nor'easter with a maximum wind speed of 39 miles per hour and 3.04 inches of rain. On February 13, 2008 the storm produced snow and ice with 2.9 total accumulated inches. On April 28-29, 2008, the Village experienced a heavy rain event that resulted in rainfall totaling 1.96 inches. On January 23-24, 2017 A nor'easter brought winds that gusted between 33-47 mph throughout 1/23, but steady, wind-lashed rain didn't move in until late in the afternoon. By midnight 1.16" had fallen - and an additional 1.18" fell the next day. It was a cold rain, with temperatures in the mid-to-upper 30s; Other recent nor'easter events that impacted the community were obtained by cross-referencing flood stage crest events on <http://www.weather.gov> with the list of nor'easter events listed on the Weather Underground website. For the purposes of the listing below, note that moderate flood stage at the Freeport gauge is 5.0 feet.

- 12/01/2006 5.42 feet
- 12/12/2008 5.45 feet
- 10/17/2009 5.41 feet
- 03/07/2013 5.21 feet

Minor events occur one or more times per month. They are characterized by heavy rains, high winds, street flooding up to two feet in height, extreme high tides, and flooding of crawl areas, basements and the first floor of some low-lying buildings.

Major snowstorms that occurred between 1995 and 2019 are listed on the NCDC website:.

<u>Date of Event</u>	<u>Snow Accumulation</u>
December 19, 1995	12 inches
February 3, 1996	10 inches
February 16, 1996	12 inches
March 2, 1996	7 inches
March 14, 1999	7 inches
January 25, 2000	7 inches
December 30, 2000	15 inches
January 21, 2001	7 inches
December 5, 2002	8 inches
December 25, 2002	12 inches
February 7, 2003	7 inches
February 19, 2003	19 inches
April 7, 2003	7 inches

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December 5-7, 2003	7 inches
January 14, 2004	7 inches
January 28, 2004	7 inches
January 22, 2005	15 inches
February 11-12, 2006	13 inches
February 22, 2008	7.5 inches
December 19-20 2009	15 inches
February 10, 2010	11 inches
February 25-27, 2010	20.9 inches
December 26-27, 2010	16 inches
January 26-27, 2011	19 inches
February 8-9, 2013	11.4 inches
January 21, 2014	11 inches
January 26-27, 2015	9.8 inches
March 5, 2015	7.5 inches
January 23, 2016	27.5 Inches
February 9, 2017	9 inches
March 14, 2017	7.5 inches
March 20-21, 2018	8.2 inches

The NCDC lists one ice storm of record in Nassau County on February 13 and 14, 2007. The storm moved across Long Island, producing sleet, freezing rain, rain, gusty winds, and minor tidal flooding across the region. By 6:00 a.m. the next day, sleet and freezing rain occurred across Long Island with temperatures ranging from the lower 30s. Six-hour precipitation totals between 7 a.m. and 1 p.m. equaled between 0.50 and 0.75 inches. Nearly half an inch of ice and one to two inches of sleet accumulated on tree limbs, power lines, and roadways, especially across the northern half of the county, resulting in major mass transit disruptions.

Hurricanes and nor'easters that have caused the highest number of flood claims in the Village: are as follows:

<u>Event</u>		<u>Claims</u>	<u>Water Elevation</u>	<u>Annual Chance of Exceedance</u>
Hurricane Gloria	09/26-09/28/1985	117	7.6 MSL	0.2%
Nor'easter	01/03/1987	62	6.9 MSL	1.0%
Unnamed hurricane	10/31/1991	204	7.0 MSL	1.0%
Nor'easter	12/11-12/13/1992	234	7.2 MSL	1.0%
Nor'easter	03/13-03/14/1993	87	7.1 MSL	1.0%
Hurricane Irene	08/28/2011	1,155	7.35 MSL	1.0%
Hurricane Sandy	10/29/2012	2,449 +	10.12 MSL	0.2%

3.3.4 Probability of Future Occurrence

Since 1995, there have been twelve snowstorms that produced a foot of snow or more. However, the Village experiences winter storms on an annual basis. There is a 100 percent change of future winter storms. Since 1993, fourteen major nor'easters have impacted Freeport, resulting in a 51 percent chance of occurrence on an annual basis.

3.3.5 Vulnerability/Impact

Winter storms are called “deceptive killers” by the National Weather Service (NWS). Many deaths from winter storms occur as a result of traffic accidents on icy roads, heart attacks while shoveling snow, and hypothermia from prolonged exposure to the cold.

Property can be at risk due to flooding resulting from heavy snowmelt. Ice, wind, and snow can affect the stability of trees, power and telephone lines, and television and radio towers. Saturated soils can become hazards for houses, cars, utilities, and other property. The ability to travel after a natural hazard event is a priority issue for county residents, organizations, and providers of essential services such as hospitals and utilities. Inclement winter weather can cause prolonged and extreme traffic disruptions. Snow and ice events resulting in dangerous road conditions can lead to major traffic accidents. Roads blocked by fallen trees during a windstorm may have tragic consequences for people who need access to emergency services. Icy streets are difficult for emergency personnel to travel and may pose a secondary threat to life if police, fire, and medical personnel cannot respond to calls.

Historically, falling trees have been the major cause of downed electric lines, resulting in power outages, interruptions in service, damaged property, and the possibility of lethal electric shock. Snow and ice can also damage utility lines and cause prolonged power outages. Population growth and new infrastructure in Freeport creates a higher probability that severe winter storms will damage life and property.

The most frequent effect of severe cold weather on water systems is the breaking of cast iron mainlines. Another common problem during severe freeze events is the failure of commercial and residential water lines. Inadequately-insulated potable water and fire sprinkler pipes can rupture and cause extensive damage to property.

The 2019 New York State Hazard Mitigation Plan includes statistics on winter storm events in each of the state’s 62 counties. The State Plan ranked Nassau County, including Freeport, 25th in vulnerability to damages from snow. The ranking was based on average annual snowfall, extreme snowfall potential, number of snowstorm-related disaster declarations, population density, and the number of structures in the county.

The last presidential disaster declaration for Nassau County for a snow storm was the storm on December 26-27, 2010, snowstorm may give some insight into the types and amounts of damages that could be expected on an area-wide basis. The information pertains to all counties, including Nassau and Suffolk, included in the February 8, 2011, presidential disaster declaration. Following is a summary of the information obtained from Preliminary Damage Assessments (PDAs) conducted jointly by the State and FEMA. The PDA process is a mechanism used to determine the impact and magnitude of damage and resulting needs of individuals, businesses, public sector, and the community as a whole.

- Total number of residences impacted: three (3) with some damage to the structure and contents, but still habitable.
- Total Public Assistance cost estimates for all counties: \$37,706,554
- Statewide per capita impact: \$1.99
- Statewide per capita impact indicator: \$1.30

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- Countywide per capita impact: Bronx County (\$2.28), Kings County (\$2.20), Nassau County (\$7.99), Queens County (\$2.74), Rensselaer County (\$3.59), Richmond County (\$5.01), Suffolk County (\$6.83).

The New York State Plan indicates that from 1996 to 2017 there were 121 events that caused \$644,000 in damage in Nassau County. Since the last update of this plan, there has been one major snow event. On January 23, 2016, a snow storm produced 27.5 inches of snow. One death in Nassau County has been attributed to the storm and its aftermath. A man died from a heart attack while using a snowblower.

3.4 TERRORISM

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
Intentional, criminal, malicious acts	Anywhere in the planning area; Could range from low magnitude to high.	One in the past 150 years	Low	Private and public structures and infrastructure such as roads, culverts, etc; Possible damages cannot be calculated.

3.4.1 Hazard Description

The term “terrorism” refers to intentional, criminal, malicious acts. Terrorism is defined in the Code of Federal Regulations as “the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.” (28 CFR, Section 0.85). The Planning Committee decided to include this hazard in the 2005 Plan as a consequence of the events of September 11, 2001. After reviewing the then current conditions, the 2014 Planning Committee determined that the planning area continues to be at risk to this hazard, and therefore has included this hazard in the 2014 Plan Update.

The Village of Freeport, like any other place in the United States, is vulnerable to domestic or international terrorism. A publication entitled *Thirty Years of Terrorism; a Special Retrospective Edition* (1999), written jointly by the U.S. Department of Justice and Federal Bureau of Investigation, defines domestic terrorism as the unlawful use, or threatened use, of violence by those based and operating within the United States. It is an effort to intimidate or coerce, in furtherance of political or social objectives. International terrorism involves violent acts or acts dangerous to human life that are in violation of Criminal Law. These acts also are perpetrated to intimidate or coerce in furtherance of political or social objectives.

The most common terrorist act is bombing. Over 11,500 international terrorist attacks occurred in 72 countries in 2010, according to a U.S. State Department report called “Country Reports on Terrorism 2010.” The acts resulted in approximately 50,000 victims, including almost 13,200 deaths.

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While it is true that the federal government is increasing its efforts in the area of terrorism prevention and response, a large degree of responsibility for responding to threats of terrorism rests at the local level. The first responders to any future incidents will be local police, fire and rescue personnel. Therefore, local law enforcement officials have been strategically rethinking public security procedures and practices during the past decade.

Freeport has an Emergency Guide that addresses terrorism. It is located on its Web page at <http://www.americantowns.com/ny/freeport-emergency-guide-terrorism>.

3.4.2 Geographic Location/Extent

An act of terrorism is not predictable, could occur anywhere in the planning area, and could be a risk to any resident and any property. The extent of such an event is also not predictable. Unlike some natural disasters, estimates on how often a technological disaster will occur could not be obtained by the Planning Committee. Terrorist events could cause only minor damages, or could cause substantial numbers of deaths, bodily injury, economic loss, and damage to property and infrastructure. It may not be possible to prevent every deliberate act, but it is possible to reduce the risk of terrorism and the consequences of an incident.

3.4.3 Previous Occurrences

Research of public records revealed only one terrorism event in the planning area over the past 150 years. According to the Global Terrorism Database (<http://www.start.umd.edu>), an unknown assailant tried to firebomb the local draft board on June 25, 1971. There were no damages, injuries, or deaths. (GTD ID # 197106250001)

Though the Village of Freeport has not sustained any recorded damages from a direct attack, the Village Police Department has investigated incidents that could be linked to domestic or international terrorism. From November 1999 to the present, the Freeport Police Department investigated over 321 suspected terrorist incidents, including reports of anthrax, suspicious materials, and passport fraud.

3.4.4 Probability of Future Occurrences

Review of records of previous occurrences reveals that only one terrorist event has occurred in the past 150 years. This results in an average of less than a one percent chance of occurrence in any given year. However, the general perception, and the perception of the Planning Committee, is that the incidence of terrorist events in the United States is on the rise (http://www.nctc.gov/docs/2011_NCTC_Annual_Report_Final.pdf), so the risk may be underestimated. In addition, the random nature of man-made or technical hazards does not lend itself to precise probability estimates.

3.4.5 Vulnerability/Impact

The random and unpredictable nature of man-made hazards such as terrorism precludes an accurate vulnerability assessment. Another factor is the lack of prior events upon which to base predicted damages.

3.5 HAZARDOUS MATERIALS AT FIXED SITES AND IN TRANSIT

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
Exposure of the public to toxic substances	Industrial area and areas along Sunrise Highway especially at risk, but the entire village could be impacted.	Only one reported event that caused damages, reportedly \$15,000.	Low for incidents causing measurable damages, but moderate to high for reported responses to hazardous materials incidents.	All types of structures, including infrastructure, could be impacted. Humans could also be injured or even killed. Possible damages are not calculable, because of the random nature of the act.

3.5.1 Hazard Description

The term hazardous materials usually refers to hazardous substances, petroleum, natural gas, synthetic gas, acutely toxic chemicals and other toxic substances. A list and profiles of approximately 366 “extremely hazardous substances” (EHS) is maintained by the Environmental Protection Agency’s (EPA’s) Chemical Emergency Preparedness and Prevention Office (CEPPO). Each chemical profile includes physical/chemical properties, health hazards, fire and explosion hazards, reactivity data, precautions for safe handling and use, and protective equipment for emergency situations. A first aid guide also provides signs and symptoms of poisoning and emergency treatment for first responders.

Exposure to hazardous materials may result in injury, illness, or death. The impacts of a hazardous materials exposure may be short-term with negative effects immediately or within a few seconds, minutes or hours, or long-term with negative effects within days, weeks, or in some cases years after exposure.

Hazardous chemicals are widely used in heavy industry, manufacturing, agriculture, mining, the oil and gas industry, high tech industries, forestry, and transportation as well as in medical facilities and commercial, public and residential buildings. There are literally hundreds of thousands of chemicals that may be hazardous to human health, at least to some extent.

A typical single family home may contain dozens of potentially hazardous materials, including fuels, paints, solvents, cleaning chemicals, pesticides, herbicides, medicines, and others. However, for mitigation planning purposes, the focus of interest is primarily on larger quantities of hazardous materials in industrial use and/or in transit, where the potential for accidental spills or releases is high.

3.5.2 Geographic Location/Extent

There are a number of sites in the Village that handle, use, or store hazardous materials, including gas stations, dry cleaners, water treatment plants, and industrial properties. Located within the Village is an industrial park of approximately 35 acres. Some building in the industrial

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park have external storage. There are nine hundred and forty five (945) U.S. Environmental Protection Agency (EPA) registered sites in the Village. These sites are identified on the map on page 67. In addition, there are four hazardous waste sites in Freeport. The hazardous waste sites are located in an AE zone on the Federal Insurance Rate Map (FIRM) with a base flood elevation (BFE) of eight (8) feet. A map of the hazardous waste sites is on page 66.

Hazardous materials, in addition to being located at fixed sites, may be transported once or many times during their "life cycle." The life cycle of hazardous materials begins with raw materials, then moves into manufacturing, incorporation into other products, wholesale and retail trade, use, waste disposal, and recycling. For Freeport, transportation accidents present the highest risk for hazardous material incidents. The community has few large industrial sites. There are no railroads carrying freight in the planning area. The structures most at risk are those close to major highways, such as Sunrise Highway is the largest major commercial transportation route in the Village. It runs east/west through the center of the Village. It provides access from Queens County to Suffolk County. As mentioned, segments of Sunrise Highway in Freeport have an Average Annual Daily Traffic (AADT) volume of 54,200.

The severity of any hazardous material spill or release incident for an affected community depends on several factors, including:

- toxicity of the hazardous material
- quantity of the hazardous material spilled or released
- dispersal characteristics of the hazardous material
- local conditions such as wind direction and topography
- location of the spill or release in proximity to sensitive environmental areas such as a watershed that provides a community's drinking water
- efficacy of response and recovery actions

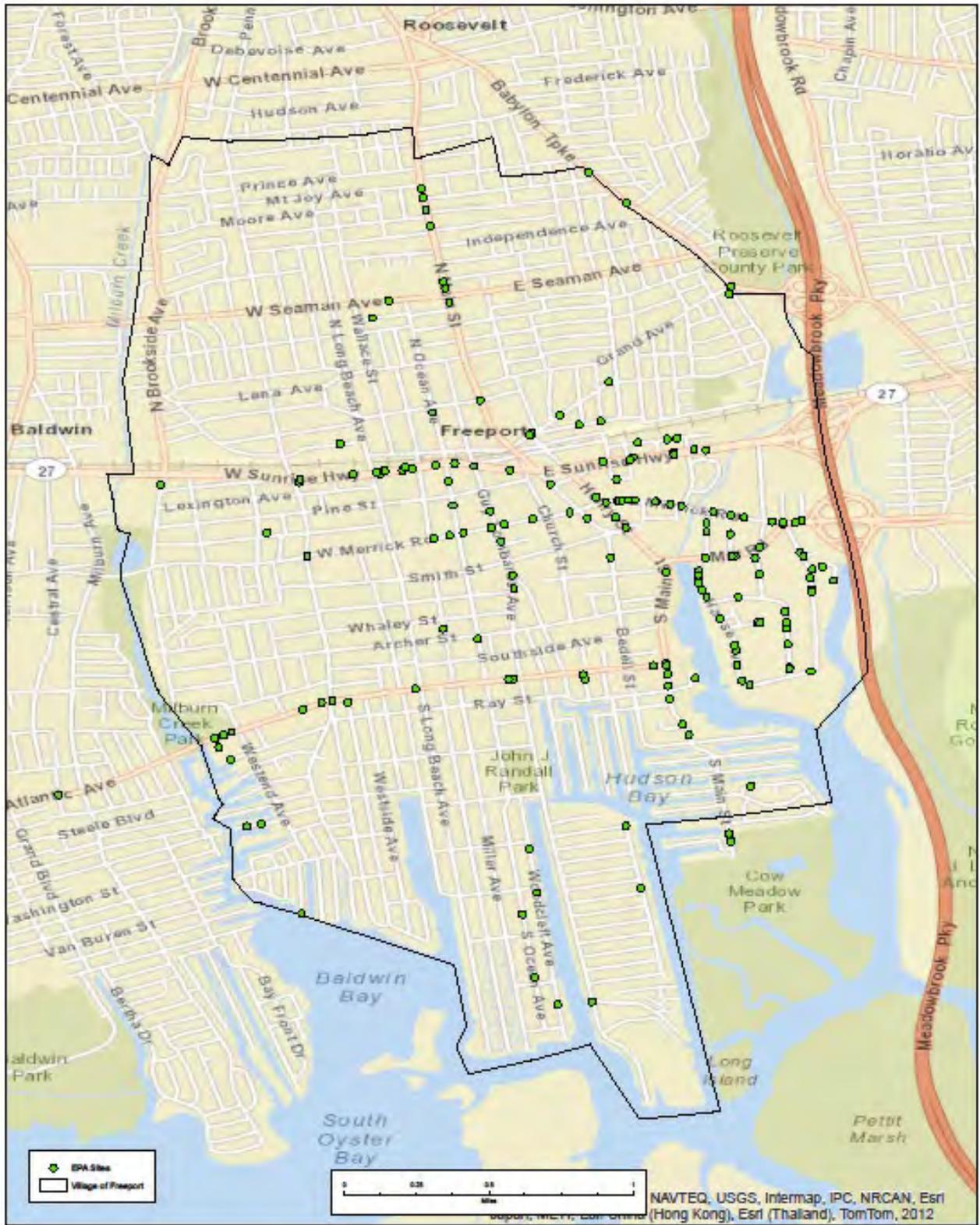
The principal modes of human exposure to hazardous materials include:

- inhalation of gaseous or particulate materials via the respiratory (breathing) process
- ingestion of hazardous materials via contaminated food or water
- direct contact with skin or eyes

Flammable materials are substances where fire is the primary threat, although explosions and chemical effects listed below may also occur. Common examples include gasoline, diesel fuel, and propane.

Explosives are materials where explosion is the primary threat, although fires and chemical effects listed below may also occur. Common examples include dynamite and other explosives used in construction or demolition.

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DR-4005 MITIGATION GIS

Environmental Protection Agency Registered Sites
Village of Freeport, NY



Map Date: February 7, 2013

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Irritants are substances that cause inflammation or chemical burns of the eyes, nose, throat, lungs, skin or other tissues of the body in which they come in contact. Examples of irritants are strong acids such as sulfuric or nitric acid.

Asphyxiants are substances that interfere with breathing. Simple asphyxiants cause injury or death by displacing the oxygen necessary for life. Nitrogen is a good example. Nitrogen is a normally harmless gas that constitutes about 78 percent of the atmosphere. However, nitrogen released in a confined space may result in asphyxiation by displacing oxygen. Chemical asphyxiants are substances that prevent the body from using oxygen or otherwise interfere with the breathing process. Common examples are carbon monoxide and cyanides.

Anesthetics and narcotics are substances which act on the body by depressing the central nervous system. Symptoms include drowsiness, weakness, fatigue, and incoordination, which may lead to unconsciousness, paralysis of the respiratory system and death. Examples include numerous hydrocarbon and organic compounds.

3.5.3 Previous Occurrences

In 2001, the Freeport Fire Department evacuated residents on two occasions due to the threat of explosion. In one event, a houseboat with large propane tanks aboard for cooking and heating caught fire and approximately eight homes had to be evacuated. In another, a leaking gas main caused the evacuation of six homes.

The Freeport Fire Department responds to approximately one hazardous materials spill (hazardous materials in transit) a year that requires assistance from the Nassau County Police and the Fire Marshall's Hazardous Material Response Team. However, Freeport has not had a major spill that required evacuation. The Freeport Fire Department responded to nine chemical releases in 2003, and to six chemical releases between 2006 and 2009. On October 21, 2008, the Department responded to a chemical release that resulted in a structural fire. Property loss was \$15,000. Between 2010 and 2020 the Fire Department responded to 842 hazardous materials spills, or an average of over 84 calls per year. More than half the spills reported in 2012 (172 of 302) occurred in October and November, most resulting from Hurricane Sandy,

3.5.4 Probability of Future Occurrences

As previously stated, the random nature of man-made or technical hazards does not lend itself to precise probability estimates. However, based on recent reported occurrences of all types of reported hazardous materials incidents, there has been more than one reported incident annually. This results in a 100 percent chance of at least one event in any given year.

3.5.5 Vulnerability/Impact

The random and unpredictable nature of man-made or technical hazards and the lack of prior events upon which to base predicted damages precludes an accurate vulnerability assessment. During the next plan update, the Planning Committee will revisit this hazard to see if it is possible to develop an accurate vulnerability assessment.

The greatest threat from a spill is injury to persons. The 2016 Emergency Response Guide ([ERG], jointly developed by Transport Canada [TC], the U.S. Department of Transportation [DOT], and the Secretariat of Transport and Communications of Mexico [SCT]) recommends minimum distances necessary to safely protect people from spills of vapors that are toxic by

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inhalation. The Table of Initial Isolation and Protective Action Distances ([www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Hazmat/ERG2012.pdf] pages 290-342) “predicts the size of downwind areas which could be affected by a cloud of toxic gas” in the first 30 minutes after a chemical spill. Depending on the type, size, and time of day of the spill, the primary impact or isolation area can range from 100 feet to 3,000 feet; the evacuation distance to protect people downwind can range from 0.1 to 7.0+ miles. The Village is densely populated, with approximately 8,700 persons per square mile. Therefore, a spill has the potential to affect anywhere from 274 residents to almost the entire population of Freeport. A Level 1 Emergency Hazardous Materials Response Team, in operation 24 hours a day, seven days a week, is located in the Nassau County Fire Marshall’s Office in Westbury, eight miles from Freeport. The evacuation of a large area surrounding a spill could overwhelm local emergency personnel.

The Village uses an emergency warning system of seven sirens. The sirens are sounded at the top of the hour to alert residents to possible emergencies; siren warnings every fifteen minutes signal that an evacuation is in progress for all or part of Freeport. Residents are advised to call the Emergency Hotline and/or to tune into Freeport’s Emergency Management radio station [WPYB 1690 AM] for further information. Residents may sign up to be listed on the Village’s emergency notification system called SwiftReach 911.

3.6 CYBER-TERRORISM

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
Unlawful threats/attacks against computers	The risks from cyber-terrorism are planning area- wide, ranging from interruption of public E- infrastructure/digital information infrastructure to destruction of computer-based communication systems	January 2020 Nassau County Cyber Attack	Cannot be calculated	Utilities, infrastructure; all computer-dependent businesses. Loss of revenue due to loss of services undeterminable.

3.6.1 Hazard Description

Cyber-terrorism is generally understood to reference the unlawful attacks and threats of attack against computers, networks, and the information stored on them. The intention of an act of cyber-terrorism is to intimidate or coerce a government or its people in furtherance of political or social objectives. The boundaries between cyber-terrorism and cyber-crime are not always clear; however the resulting threat and damage are the same. It can take a variety of different

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forms including internet worms or viruses used to shut down programs, or even entire systems; by accessing accounts and sensitive information; by changing or removing information; or by disrupting control systems for traffic signals, water or sanitary systems, electrical supply, and communication systems. Local governments face not only expenses related to notifying affected parties, making data recovery efforts, conducting forensic investigations, and defending themselves against possible legal claims when their systems and sensitive data have been compromised by cyber-attack, but also the loss of public trust.

Computerized control systems perform vital functions across the Freeport's critical infrastructures. They monitor and control the flow of water and electricity. These control systems can be vulnerable to a variety of attacks. Successful attacks on control systems could have devastating consequences endangering public health and safety.

3.6.2 Geographic Location/Extent

Cyber-terrorism could impact any portion or the entire planning area. As with most manmade or technical hazards, location and extent cannot be predicted. However, the impact of cyber-terrorism could be widespread. For example, the Freeport Electric Department controls power distribution to the planning area. Its control systems manage the generation, transmission, and distribution of electric power by opening and closing circuit breakers and setting thresholds for preventive shutdowns. An attack on their systems would have wide-spread impact.

Cyber-terrorism could impact the planning area's water system. The water department uses a Supervisory Control and Data Acquisition (SCADA) system. It remotely monitors well levels and controls the well pumps. The SCADA also monitors flows, tank levels, pressure in storage tanks, and water quality. The Village of Freeport water system provides water to a population of approximately 43,000 residents. All of residents and businesses in the planning area rely upon the Freeport Water System for drinking water. Disruption of service could impact the entire population of users.

The impact of an information breach for a municipality can be quite high. A study by the Ponemon Institute in 2011, as cited by the New York State Office of the State Controller (<http://www.osc.state.ny.us/localgov/pubs/research/snapshot/cybersecurity0811.pdf>), estimates an average breach cost of \$81 per record for public sector entities. If that cost estimate is applied to the number of individuals (over age 18) who live in Freeport, the potential dollars at risk under a worst case scenario involving a data breach involving a single piece of sensitive information for every adult resident is almost \$2,670,000.

3.6.3 Previous Occurrences

Research revealed no information on reported cases of cyber-terrorism in the planning area or in Nassau County. The New York State Technology Law Section 208(8) requires counties, cities, towns, villages, and other local agencies to adopt a breach notification policy. In December 2005, a law went into effect requiring municipalities to notify the Office of Cyber Security (OCS), The New York State Attorney General's Office and the State Consumer Protection Board when a breach occurs.

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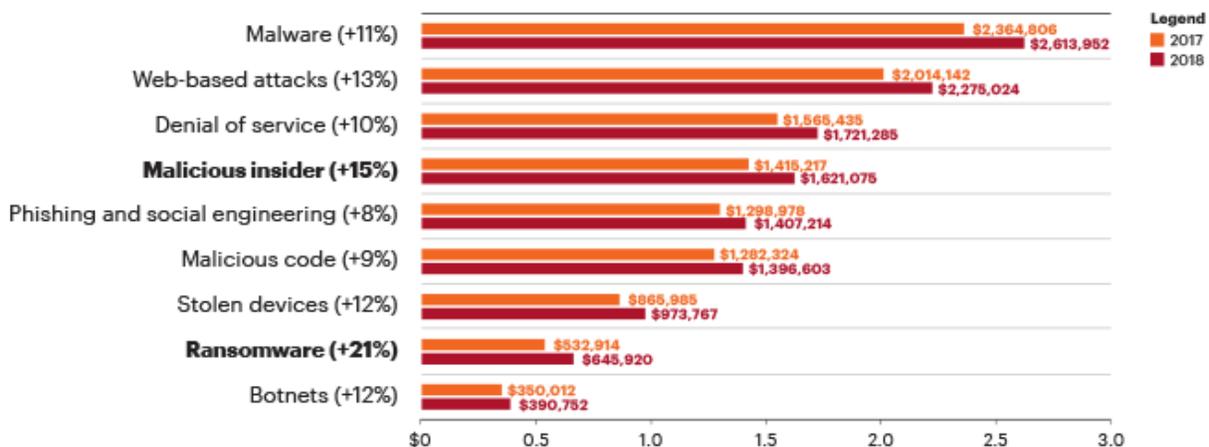
January 10, 2020 — Nassau County has recovered hundreds of thousands of dollars it had lost in a cyber attack. Nassau County Police Commissioner Patrick Ryder says it all began with an email that appeared to be from a vendor of the county that was seeking payment but claimed its bank account had changed. An initial investigation did not raise any red flags, so a payment was made for more than \$700,000. However, it turned out it was all a scam. "The email looked like it was from a vendor but it was from the crooks," Ryder said. "The money ended up in Seattle." Even though the money was then transferred into a number of different accounts, the county was able to get the money back. "We were able to identify those accounts, follow the money to the additional accounts where that money was then spread out, and then we were able to seize those accounts," Ryder said. Nassau County Comptroller Jack Schnirman said, "If there's language that creates a strong sense of urgency such as, 'You must act now,' there are spelling mistakes, and the reply mail is a personal address," that may indicate the email is a phishing scam.

3.6.4 Probability of Future Occurrence

Probability of future events of cyber-terrorism is difficult to calculate, as is often the case with man-made or technical hazards. Nationwide, there has been a 67 percent increase in breach incidents between 2014 and 2019. Records by Identity Theft Resource Center (ITRC) indicate that there were 1473 data breaches in 2019, 83 of which were classified as government or military breaches. ITRC also noted that breach incidents are underreported and often lack transparency, making estimates of probability difficult.

Evolving techniques: Cyber criminals are adapting their attack methods. They are targeting the human layer—the weakest link in cyber defense—through increased ransomware and phishing and social engineering attacks as a path to entry. Just about everyone with an email account in the U.S. has been a victim at least once of a phishing scam. An interesting development is when nation-states and their associated attack groups use these types of techniques to attack commercial businesses. Attempts are being made to categorize attacks from these sources as 'acts of war' in an attempt to limit cybersecurity insurance settlements.

People Based attacks have increased the most



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The New York State Office of the State Comptroller notes that the level and type of risk to a local government may vary depending on its size. Large municipalities are more vulnerable because of the volume of information they maintain and collect on a daily basis and smaller municipalities are at risk because they might not have the proper IT system or because they lack access to IT professionals who can assist them in network management and security.

3.6.4 Vulnerability/Impact

Freeport's vulnerability to cyber-terrorism, like most man-made or technical hazards, could be difficult to calculate for many reasons. Not all sources of information are public. However, in general, it can be said that cyber-attacks against computer systems could potentially shut down radio, telephone, and computer networks used to control and manage planning area services.

Cyber-terrorism could potentially result in loss of those services, as well as the ability to properly dispatch public safety personnel to the scenes of crimes or physical terrorist attacks. Cyber-terrorism could involve computer security issues such as viruses, stolen passwords, insider assistance, infected software designed to penetrate computers, and organized electronic traffic used to overwhelm computers. Attacks could also involve stealing classified files, altering the content of Web pages, disseminating false information, sabotaging operations, erasing data, or threatening to divulge confidential information or system weaknesses.

3.7 URBAN/STRUCTURAL FIRE

Hazard Description	Location/ Extent	Previous Events	Probability	Vulnerability/Impact
An uncontrolled fire occurring in a developed area	The risk of damages from urban fires is planning area-wide.	1,182 fire alarms in 2019	1.3 structural fires per month means 100% annual chance of occurrence	\$22,775,600 in damages between 2010-2019

3.7.1 Hazard Description

An urban/structural fire is an uncontrolled fire occurring in a developed area. Urban fire hazards are more significant in the hot, dry months, but can occur at any time of the year. Urban and structural fires typically involve a single structure, such as a house. Due to the high concentration of combustible building materials in the urban setting, urban fires have the potential to spread to other structures. As a fire increases in volume and energy, nearby surfaces become preheated and therefore burn more readily. Abnormally large fires may be able to jump from one structure to another across open areas. A fire storm, or conflagration, contains enough heat energy to create high winds as fresh air is drafted into the massive fire. A conflagration is difficult to stop, due to its massive size and rapid spread.

The leading causes of residential fires nationally include heat from improperly-operating electrical equipment, such as electric stoves, electric heaters, and other electrical appliances; matches or lighters; electrical short-circuit or arc; and heat from wood/paper-fueled equipment.

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Cooking is the leading cause and home heating is the second-leading cause of residential fires, according to the United States Fire Administration/National Incident Reporting System.

The Freeport Fire Department is a volunteer organization with 323 members, six fire stations, six pumpers, one aerial ladder, one tower ladder, one rescue truck, one ambulance, one foam/hazardous materials unit, two disaster response trucks, one dive team response vehicle, one fire boat, and various other vehicles. The Village Fire Department is one of the busiest departments on Long Island in regards to response to structural fires.

3.7.2 Geographic Location/Extent

The risk of fire exists with every structure in the planning area. Aging housing stock adds to the risk of house fires. Most vulnerable are older wooden balloon framing structures. Review of 2010 census data reveals no geographic concentration of balloon framing structures or housing stock built prior to 1939 in the planning area. Therefore, the Planning Committee determined that no geographic area within Freeport would be more at danger to urban or structural fire. A fire may occur in any structure, so it is logical that fire hazard increases as the concentration of structures increases. Structural loss is proportional to population concentration.

3.7.3 Previous Occurrences

Between January 2015 and January 2020 the Village of Freeport Fire Department reported that structural, automobile, and boat fires resulted in property and content losses totaling almost \$7 million. The Incident Loss Report shown below lists 30 fires that each resulted in losses of \$100,000 or more. During Hurricane Sandy, seven structural fires occurred; two commercial buildings on the Nautical Mile (Woodcleft Avenue), including the Fiore Brothers Fish Market, burned down, resulting in property losses of \$3.5 million. In early 2012 over 200 firefighters battled a three-alarm blaze at a marina on Hudson Avenue that resulted in the damage to or destruction of 20 boats valued at \$6 million.

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Incident Log with Damage Cost and Values
 Freeport Fire Department

Date Range: From 01/01/2015 to 03/01/2020
 Incident Type: Structure Fire
 Company: All Companies
 Sorted by: Not selected

Incident#	Date	#/##	Address	Occupant	Situation Found	Pre-Incident Value			Losses		
						Contents	Property	Total	Contents	Property	Total
2015-00201	01/01/2015		92 UNION ST		Building fire	0	0	0	0	20,000	20,000
2015-04193	04/12/2015	161	CHURCH ST		Building fire	0	0	0	0	30,000	30,000
2015-04203	04/13/2015	155	W MERRICK RD		Building fire	0	0	0	0	80,000	80,000
2015-04498	04/24/2015	482	S BAYVIEW AVE		Building fire	0	0	0	0	50,000	50,000
2015-06289	05/25/2015	164	JAY ST		Building fire	0	0	0	0	5,000	5,000
2015-06308	07/28/2015	61	PRINCE AVE		Building fire	0	0	0	0	5,000	5,000
2015-063104	09/17/2015	494	S OCEAN AVE		Building fire	0	0	0	0	15,000	15,000
2015-063139	08/28/2015	26	BROOKLYN AVE	LIRR FREEPORT	Building fire	0	0	0	0	15,000	15,000
2015-063142	08/30/2015	65	RAYNOR ST		Building fire	0	0	0	0	400,000	400,000
2015-063152	09/03/2015	9	E MERRICK RD		Building fire	0	0	0	0	2,000	2,000
2015-063172	09/08/2015	90	HILLSIDE AVE		Building fire	0	0	0	0	100,000	100,000
2015-063371	10/28/2015	40	HILLSIDE AVE		Building fire	0	0	0	0	500	500
2015-062785	05/26/2015	261	ST MARKS AVE		Building fire	0	0	0	0	4,000	4,000
2015-003063	03/31/2015		102 LIBERTY PARK DR		Building fire	0	0	0	0	50,000	50,000
2015-063531	12/14/2015	14	GILL AVE		Building fire	0	0	0	500	500	1,000
2015-063563	12/22/2015	23	W SEAMAN AVE		Building fire	0	0	0	0	100,000	100,000
2016-000003	01/01/2016	119	PEARSALL AVE		Building fire	0	0	0	0	30,000	30,000
2016-000190	01/26/2016	50	N BERGEN PL		Building fire	0	0	0	0	25,000	25,000
2016-000409	04/30/2016	172	ST MARKS AVE		Building fire	0	0	0	0	20,000	20,000
2016-000410	04/30/2016	172	ST MARKS AVE		Building fire	0	0	0	0	40,000	40,000
2016-000544	06/09/2016	268	S BROOKSIDE AVE		Building fire	0	0	0	0	100,000	100,000
2016-000619	07/01/2016	22	PEARSALL AVE		Building fire	0	0	0	0	10,000	10,000
2016-000664	07/16/2016	68	2ND ST E		Building fire	0	0	0	0	25,000	25,000
2016-000692	07/24/2016	18	FOREST AVE		Building fire	0	0	0	0	100,000	100,000
2016-000693	07/26/2016	18	FOREST AVE		Building fire	0	0	0	0	15,000	15,000
2016-000698	07/26/2016	125	SPORTSMANS AVE		Building fire	0	0	0	0	100,000	100,000
2016-000721	07/29/2016	215	MAIN ST N		Building fire	0	0	0	0	10,000	10,000
2016-000160	02/15/2015	30	LAURETTE LA		Building fire	0	0	0	0	2,000	2,000
2016-000761	08/06/2016	377	PENNSYLVANIA AVE		Building fire	0	0	0	0	30,000	30,000
2016-000793	08/16/2016	175	ARCHER ST		Building fire	0	0	0	0	30,000	30,000
2016-000893	09/12/2016	118	ROOSEVELT AVE		Building fire	0	0	0	0	160,000	160,000
2016-000928	09/24/2016	125	MILLER AVE	WHARFSIDE	Building fire	0	0	0	0	100,000	100,000
2016-000940	09/26/2016	307	PENNSYLVANIA AVE		Building fire	0	0	0	0	2,000	2,000

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Incident#	Date	### Address	Occupant	Situation Found	Pre-Incident Value			Losses		
					Contents	Property	Total	Contents	Property	Total
2016-000959	10/04/2016	109 JAY ST		Building fire	0	0	0	0	6,500	6,500
2016-001010	10/21/2016	61 EAST AVE		Building fire	0	0	0	0	100,000	100,000
2016-001090	11/17/2016	145 RANDALL AVE		Building fire	0	0	0	0	1,000	1,000
2016-001129	12/02/2016	24 ROBERT ST		Building fire	0	0	0	0	50,000	50,000
2016-001228	12/31/2016	662 MILLER AVE		Building fire	0	0	0	0	150,000	150,000
2016-001229	12/31/2016	211 SMITH ST		Building fire	0	0	0	0	10,000	10,000
2017-000006	01/03/2017	234 WOODCLEFT AVE		Building fire	0	0	0	0	35,000	35,000
2017-000070	01/23/2017	208 LENA AVE		Building fire	0	0	0	0	150,000	150,000
2017-000126	02/10/2017	13 SAGAMORE ST		Building fire	0	0	0	0	1,500	1,500
2017-000139	02/14/2017	74 FRANKEL AVE		Building fire	0	0	0	0	150,000	150,000
2017-000146	02/16/2017	202 RANDALL AVE		Building fire	0	0	0	0	10,000	10,000
2017-000207	03/13/2017	30 PENNSYLVANIA AVE		Building fire	0	0	0	0	150,000	150,000
2017-000256	03/26/2017	52 UNION ST		Building fire	0	0	0	0	150,000	150,000
2017-000278	03/31/2017	252 PINE ST		Building fire	0	0	0	0	70,000	70,000
2017-000302	04/06/2017	766 LONG BEACH AVE S	Mule	Building fire	0	0	0	0	300,000	300,000
2017-000303	04/06/2017	766 LONG BEACH AVE S		Building fire	0	0	0	0	2,500	2,500
2017-000313	04/12/2017	131 GRAND AVE		Building fire	0	0	0	0	75,000	75,000
2017-000326	04/16/2017	103 SHONNARD AVE		Building fire	0	0	0	0	2,000	2,000
2017-000416	05/19/2017	129 CENTRE ST		Building fire	0	0	0	0	30,000	30,000
2017-000430	05/24/2017	347 BEDELL ST		Building fire	0	0	0	0	30,000	30,000
2017-000431	05/24/2017	397 GUY LOMBARDO AVE		Building fire	0	0	0	0	50,000	50,000
2017-000577	07/02/2017	257 WEST END AVE		Building fire	0	0	0	0	80,000	80,000
2017-000580	07/02/2017	93 WOODSIDE AVE		Building fire	0	0	0	0	20,000	20,000
2017-000447	05/29/2017	75 VIRGINIA AVE		Building fire	0	0	0	0	100,000	100,000
2017-000736	08/11/2017	210 GUY LOMBARDO AVE		Building fire	0	0	0	0	100,000	100,000
2017-000929	10/11/2017	46 BEDELL ST		Building fire	0	0	0	0	180,000	180,000
2017-000962	10/18/2017	250 MERRICK RD		Building fire	0	0	0	0	50,000	50,000
2017-001013	10/31/2017	54 WASHBURN AVE		Building fire	0	0	0	0	50,000	50,000
2017-001050	11/09/2017	395 ATLANTIC AVE		Building fire	0	0	0	0	5,000	5,000
2017-001141	12/15/2017	60 DEHNHOFF AVE		Building fire	0	0	0	0	150,000	150,000
2017-001160	12/21/2017	248 PENNSYLVANIA AVE		Building fire	0	0	0	0	100,000	100,000
2017-001169	12/23/2017	290 PENNSYLVANIA AVE		Building fire	0	0	0	0	50,000	50,000
2017-001129	12/10/2017	28 ARCHER ST		Building fire	0	0	0	0	5,000	5,000
2018-000004	01/01/2018	187 RAY ST		Building fire	0	0	0	0	50,000	50,000
2018-000030	01/07/2018	56 GUY LOMBARDO AVE		Building fire	0	0	0	0	90,000	90,000
2018-000112	02/05/2018	51 FOREST AVE		Building fire	0	0	0	0	40,000	40,000
2018-000079	01/20/2018	219 LEXINGTON AVE		Building fire	0	0	0	0	10,000	10,000

Date: 02/09/2020

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Time: 15:31

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Incident#	Date	### Address	Occupant	Situation Found	Pre-Incident Value			Losses		
					Contents	Property	Total	Contents	Property	Total
2018-000234	03/16/2018	253 PARK AVE		Building fire	0	0	0	0	10,000	10,000
2018-000320	04/15/2018	13 LAFAYETTE PL		Building fire	0	0	0	0	85,000	85,000
2018-000435	05/20/2018	116 WEST END AVE		Building fire	0	0	0	0	5,000	5,000
2018-000506	06/11/2018	228 SEAMAN AVE E		Building fire	0	0	0	0	35,000	35,000
2018-000557	06/27/2018	548 BROOKSIDE AVE N		Building fire	0	0	0	0	200,000	200,000
2018-000622	07/11/2018	120 OCEAN AVE N		Building fire	0	0	0	0	5,000	5,000
2018-000707	07/31/2018	299 RUTLAND RD		Building fire	0	0	0	0	150,000	150,000
2019-000053	01/20/2019	115 BAYVIEW AVE N		Building fire	0	0	0	0	200,000	200,000
2019-000167	02/21/2019	268 MILLER AVE		Building fire	0	0	0	0	100,000	100,000
2019-000215	03/07/2019	48 BERGEN PL S		Building fire	0	0	0	0	35,000	35,000
2019-000234	03/14/2019	140 HUDSON AVE		Building fire	0	0	0	0	5,000	5,000
2019-000246	03/18/2019	314 MILLER AVE		Building fire	0	0	0	0	20,000	20,000
2019-000562	06/22/2019	172 SWEETZ AVE		Building fire	0	0	0	0	60,000	60,000
2019-000692	07/27/2019	1 MERRICK RD		Building fire	0	0	0	0	4,000	4,000
2019-000718	08/05/2019	55 BERGEN PL S		Building fire	0	0	0	0	100,000	100,000
2019-000433	05/18/2019	175 SEAMAN AVE E		Building fire	0	0	0	0	25,000	25,000
2019-000522	06/09/2019	192 CARMAN ST		Building fire	0	0	0	0	10,000	10,000
2019-000897	09/23/2019	447 MILLER AVE		Building fire	0	0	0	0	5,000	5,000
2019-000974	10/18/2019	50 HARDING PL		Building fire	0	0	0	0	100,000	100,000
2019-001026	10/30/2019	299 LOCUST AVE		Building fire	0	0	0	0	200,000	200,000
2019-001170	12/23/2019	178 PINE ST		Building fire	0	0	0	0	10,000	10,000
2019-001187	12/27/2019	68 FREDERICK AVE		Building fire	0	0	0	0	180,000	180,000
2015-050787	05/05/2015	190 W SUNRISE HWY		Fires in structure other	0	0	0	0	250,000	250,000
2015-053406	11/05/2015	30 WALLACE ST		Cooking fire, confined	0	0	0	0	5,000	5,000
2015-053473	11/26/2015	84 ROYAL DR		Cooking fire, confined	0	0	0	0	5,000	5,000
2016-001109	11/26/2016	11 LAKEVIEW AVE		Cooking fire, confined	0	0	0	0	500	500
2016-000191	02/23/2016	39 LAYTON ST		Cooking fire, confined	0	0	0	0	2,000	2,000
2016-000208	02/27/2016	200 MOORE AVE		Cooking fire, confined	0	0	0	0	2,000	2,000
2017-000354	04/26/2017	222 SMITH ST		Cooking fire, confined	0	0	0	0	3,000	3,000
2018-000393	05/09/2018	280 ROSE ST		Cooking fire, confined	0	0	0	0	500	500
2017-000295	04/04/2017	230 PARK AVE		Fuel burner/boiler	0	0	0	0	2,000	2,000
Total Number of Incidents:					101	0	0	0	6,083,500	6,084,000

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The tables below summarizes Freeport’s reports to Nassau County and the breakdown of the Fire Department’s responses. From January 1, 2015 to December 31, 2019, the Freeport Fire Department responded to 6099 fire alarms. There were 96 structural fires and 67 vehicle fires over the five-year period. The structural fire rate equaled 0.68 fires per 1,000 residents. In addition, Freeport’s volunteer firefighters responded to 1470 ambulance and rescue calls. Nineteen firefighters were injured while on-duty.

Freeport Fire Department Fire Reporting 2015-2019

<u>YTD FIRE LOSS REPORT FOR FREEPORT</u>	2015	2016	2017	2018	2019
Estimated Dollar Loss	\$1,253,500.00	\$803,500.00	\$2,270,000.00	\$1,212,500.00	\$1,422,500.00
Number of Strutual Fires	16	11	26	24	19
Heating unit Fires	5	9	13	12	13
Cooking Fires	14	19	14	13	4
Gas BarBQue	4	4	2	3	0
Number of Vehicle Fires	9	9	17	13	19
Number of Brush Fires, grass, outside rubbish and dumpsters	13	17	20	25	33
Number of hazardous materials spills	26	35	26	35	26
Number of Carbon Monoxide alarms	71	73	76	51	82
Number of Mutual Aids	40	22	22	22	24
Number of False Alarms	13	9	6	17	12
Number of Automatic Alarms with no damage	51	43	54	53	47
Number of Automatic Alarms no apparent cause	405	444	393	381	399
Number of all other fire responses not specified	207	236	258	286	294
Number of Ambulance and Rescue Calls	289	244	242	255	345
Number of Mutual Aid Ambulance /Rescue calls to other dept	19	15	16	26	19
TOTAL ALARMS	1182	1190	1175	1216	1336
<u>Death or Injury to Fire Dept members</u>					
Number of injuries to firefighters requiring treatment	3	1	8	5	2
Number of injuries to firefighters requiring admittance to hospital	0	0	0	0	0
Deaths as a result of fire related injuries to firefighters	0	0	0	0	0

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3.7.4 Probability of Future Occurrence

The Village of Freeport had an average of 1.3 fires per month in the Village, meaning that there is a 100 percent annual chance of occurrence.

3.7.5 Vulnerability/Impact

There were a total of 14,589 housing units in the Village as of the 2010 Census, of which, 4,797 units were built prior to 1939 (32.9%) and pose the greatest risk of fire. Most structural fires are not widespread and usually affect only one or two structures. However, the potential does exist for a structural fire that could affect an entire business district, thereby causing significant economic damage and displacing businesses and families.

From 2005 to 2010, the Freeport Fire Department responded to 92 fires that caused some type of structural damage. This represents a Fire Rate of 0.35 fires per thousand persons. During 2005-2010 there were three (3) civilian casualties. The fire rate in the past five years equals 0.68 fires per 1,000 people.

The Freeport Fire Department in its Incident Loss Report for the period 2015-2019 showed total property losses of approximately \$7 million. With property damages over the past five years equaling almost \$7 million, Freeport's vulnerability to fire averages over \$1.4 million per year. The Planning Committee will conduct research to obtain more planning area-specific damage information for the next plan update in five years.

3.8 EARTHQUAKE

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
Motion of the earth caused by release of energy along tectonic plates	The risk of an earthquake event is planning area-wide	Although there have been no severe earthquakes in Freeport, there have been in areas of New York	Low	Losses for a 500-year. return period earthquake would be \$85 million based on HAZUS.. All structures and infrastructure would be impacted.

3.8.1 Hazard Description

An earthquake is a sudden motion or trembling that is caused by a release of energy accumulated within or along the edge of earth's tectonic plates. Earthquakes occur primarily along fault zones. Fault zones are tears in the Earth's crust, along which stresses build until one side of the fault slips, generating compressive and shear energy that produces the damage. Heaviest earthquake damage generally occurs nearest the epicenter, which is a point on the Earth's surface directly above the point of fault movement. The composition of geologic materials between these points is a major factor in transmitting the energy to buildings and other structures on the Earth's surface.

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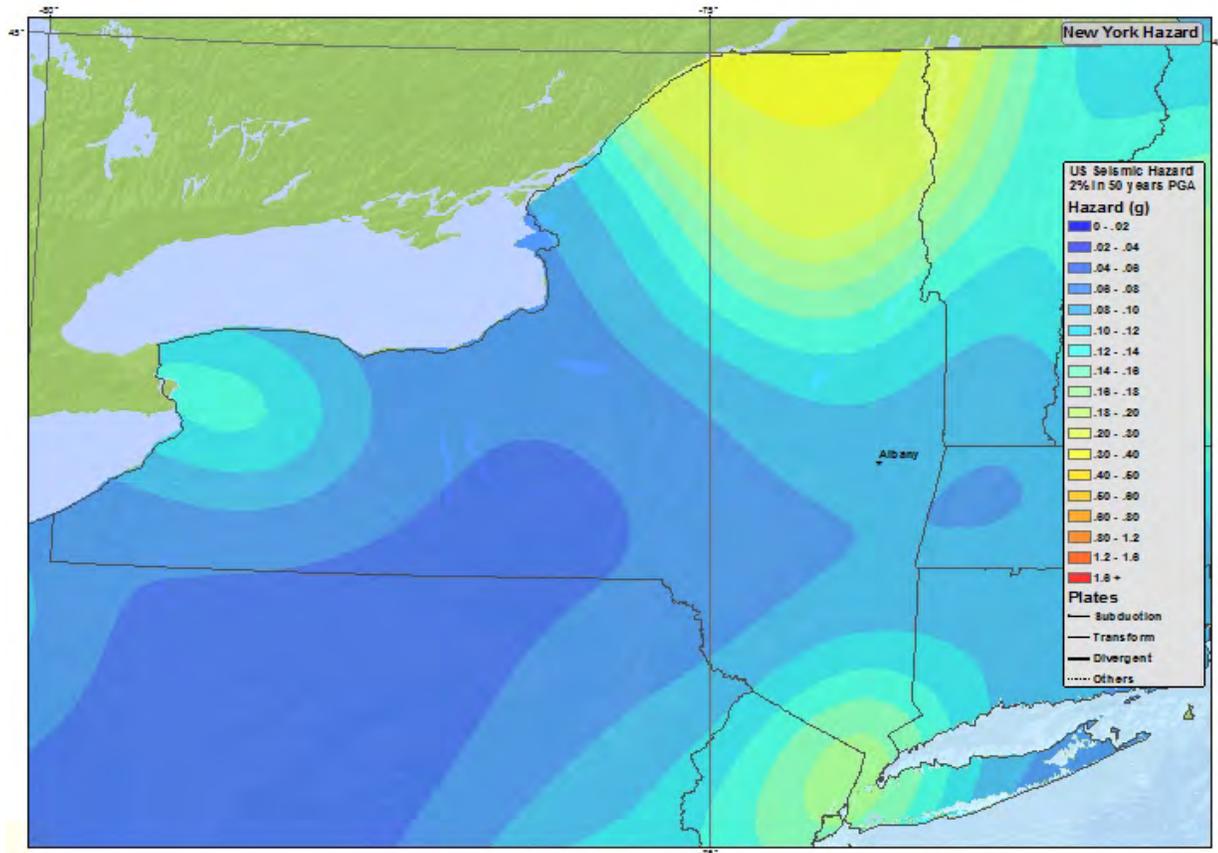
There are no major faults in the Long Island area. However, the New York State Geological Survey has stated that earthquakes of up to magnitude 6.0 to 6.5 on the Fujita scale are possible anywhere in the state. Minimization of the loss of life, property damage, and social and economic disruption due to earthquakes depends on reliable estimates of seismic hazard.

3.8.2 Geographic Location/Extent

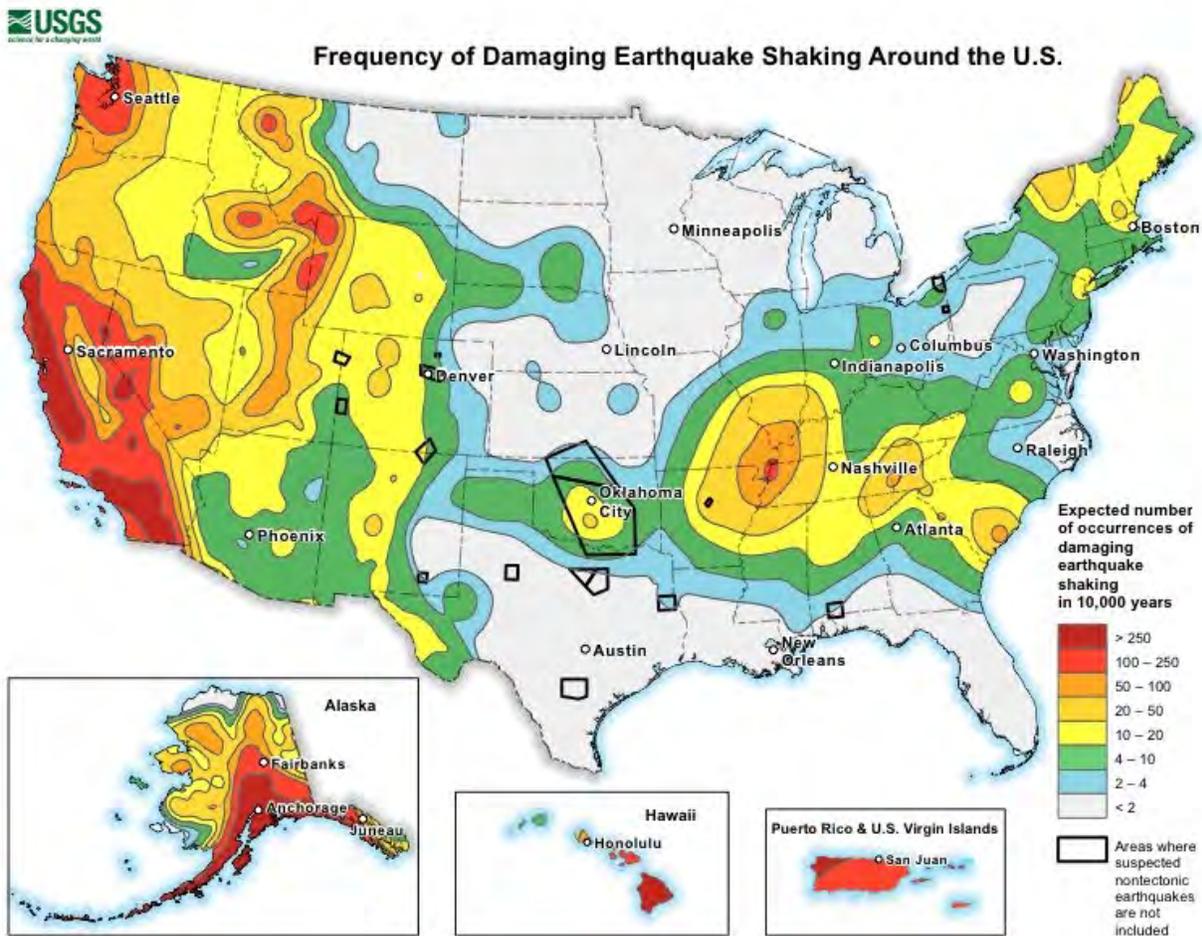
The risk of an earthquake event is planning area-wide. No particular portions of Freeport are more likely to experience an earthquake than others.

The 2008 map below is from the United States Geological Survey (USGS) and is included in the New York State Hazard Mitigation Plan. It incorporates new findings on earthquake ground shaking, faults, seismicity, and geodesy. The map shows the frequency of exceeding a given set of ground motions in various parts of the State as measured by %PGA (Percent Peak Ground Acceleration, a common earthquake measurement that shows the geographic area affected, the probability of an earthquake of each given level of severity, and the strength of ground movement expressed in terms of percent of the acceleration force of gravity). The State Plan notes that Freeport falls within one of three areas in New York State with a relatively high seismic risk. Freeport has a two percent chance of experiencing ground motions of between 0.14 g and 0.18 g in the next fifty years. This is not a high intensity quake, relatively speaking, but still would cause damage.

New York State -- Seismic Hazard Map 2008



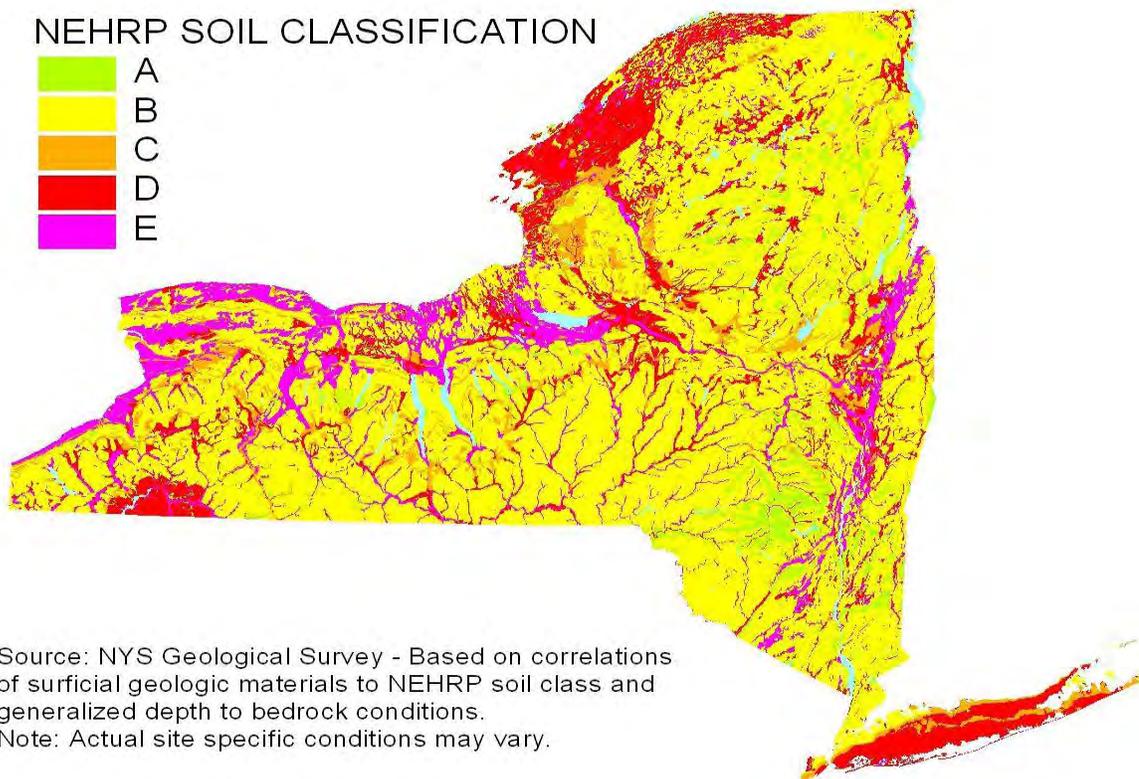
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The plan also notes that the soil types in much of Nassau County would tend to cause an amplification of ground motion. An example of amplification is “liquefaction” of soils. This is a commonly-used term to describe how certain saturated soft soil ground can sometimes take on the characteristics of a fluid when shaken by an earthquake. Amplification of shaking occurs in areas of “soft soils,” including fill, loose sand, waterfront, and lake bed clays. Accordingly, the National Earthquake Hazard Reduction Program (NEHRP) developed a soil classification for New York State. The five NEHRP soil classes A through E show the types of soils that either tend to further amplify and magnify or reduce ground motions from an earthquake (low [green] to high [purple] in the map below):

- A - Very hard rock (e.g., granite, gneisses; most of the Adirondack Mountains)
- B - Rock (sedimentary) or firm ground
- C - Stiff Clay
- D - Soft to medium clays or sands
- E - Soft soil (including fill, loose sand, waterfront, lake bed clays)

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The State Plan identified counties that would experience an amplification of ground motion during seismic activity based on the NEHRP soil classification map above. Western Nassau County, including Freeport, is comprised of “D” soil and would experience amplification.

Earthquake extent or severity depends on the amount of energy released at the epicenter, the distance from the epicenter, and the underlying soil type. An earthquake’s magnitude is a measurement of the total amount of energy and is expressed in terms of the Richter scale. Intensity measures the effects of an earthquake at a particular place and is expressed in terms of the Modified Mercalli scale. The table below shows the approximate comparison between Richter scale magnitude and Modified Mercalli Intensity (MMI).

Intensity measures the effects of an earthquake at a particular place on humans, structures and (or) the land itself. The intensity depends not only upon the magnitude but also upon the distance from the earthquake to the point and the local geology at that point. The United States presently uses the Modified Mercalli (MM) Intensity Scale to evaluate the effects of an earthquake. The scale is composed of 12 levels of increasing intensity. It does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects.

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Magnitude and Intensity Comparison	
Richter Magnitude Scale	Typical Maximum MMI
1.0 to 3.0	I
3.0 to 3.9	II to III
4.0 to 4.9	IV to V
5.0 to 5.9	VI to VII
6.0 to 6.9	VII to IX
7.0 and Higher	VIII or Higher

The table below describes how each of the 12 MMI levels would impact the planning area.

12 levels of Modified Mercalli Intensity:

- I Not generally felt
- II Felt only by a few persons. Delicately suspended objects may swing.
- III Felt quite noticeably by persons indoors. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration similar to the passing of a truck.
- IV Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building
- V Felt by most; many awakened. Some dishes, windows broken. Unstable objects overturned.
- VI Felt by all. Heavy furniture moved; a few instances of fallen plaster. Damage slight.
- VII Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
- VIII Damage slight in specially-designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Falling of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
- IX Damage considerable in specially-designed structures; well-designed frame structures thrown out of plumb. Damage great even in substantially built buildings, with partial collapse. Buildings shifted off foundations.
- X Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations.
- XI Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
- XII Damage would be total. Objects thrown into the air.

3.8.3 Previous Occurrences

The Village has never experienced a major earthquake. However, the Multidisciplinary Center for Earthquake Engineering Research lists the following earthquakes in areas within 50 miles of the planning area.

December 19, 1737: An earthquake in New York City area (estimated magnitude 5.0, intensity VII) knocked down several chimneys and rang church bells in New York City. It was felt in Boston, Philadelphia, and New Castle, Delaware.

February 5, 1878: A severe shock (magnitude unknown, intensity VI) broke windows and

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crockery and shook houses in Flushing, Queens.

August 10, 1884: This earthquake near New York City (magnitude 5.5, intensity VII) affected the area along the Atlantic Coast from southern Maine to central Virginia and westward to Cleveland, Ohio. Chimneys fell and walls were cracked in several states, including New York. Many towns reported fallen bricks. Property damage was notable at Amityville and Jamaica, New York, where chimneys fell and walls cracked.

January 9, 1992: A 3.1 magnitude earthquake occurred 45 miles from Freeport.

January 17, 2001: A small magnitude (2.5) earthquake occurred in New York City and was felt in the Village. There was no damage.

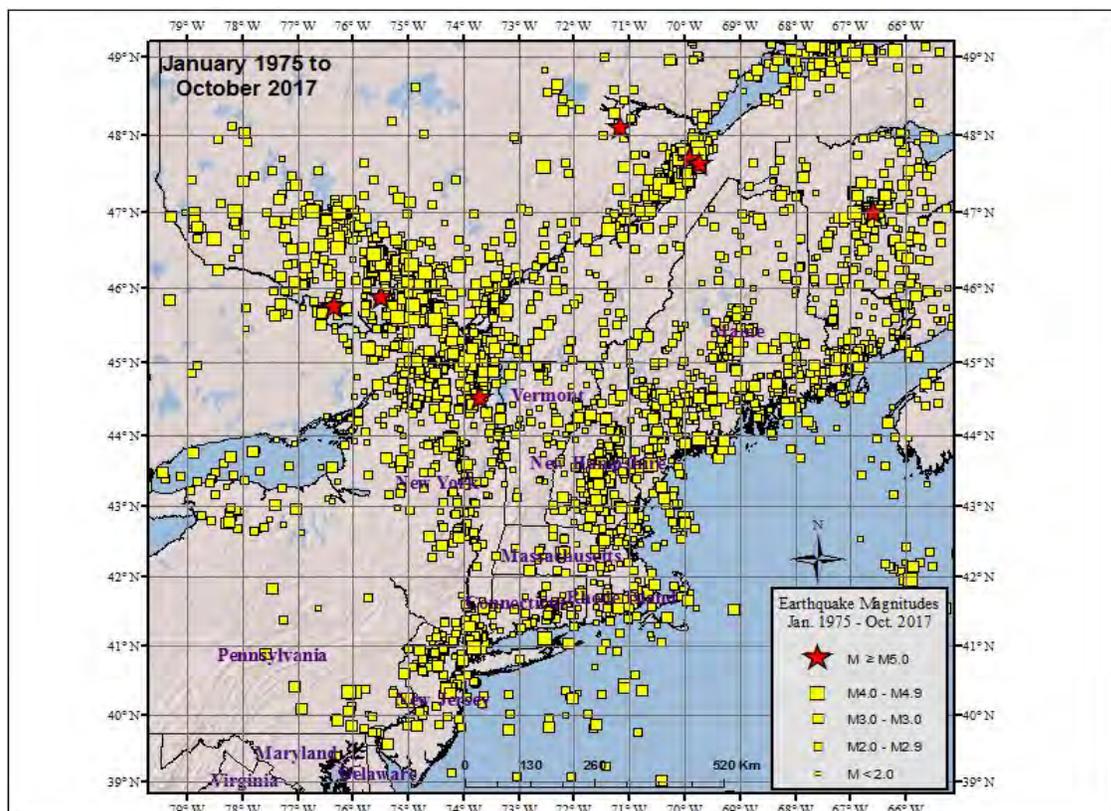
April 20, 2002: A 5.1 magnitude earthquake in upstate New York caused more than \$2 million in damage in Essex and Clinton counties and was a federally-declared disaster.

February 10, 2010: A 2.2 magnitude earthquake occurred 46 miles from Freeport.

June 6, 2010: A 2.3 magnitude earthquake occurred 42 miles from Freeport.

December 25, 2010: A magnitude 2.1 earthquake occurred 34 miles from Freeport.

April 9, 2019: A magnitude 3.0 earthquake about 30 miles off the shore of Long Island.



3.8.4 Probability of Future Occurrence

While there is certainly a possibility of earthquakes being felt in the planning area, the Planning Committee concluded that the probability of an earthquake causing significant damage to Freeport is low. The Planning Committee noted that significant earthquakes would occur rarely in Freeport, but could cause moderate damage to private property and moderate structural damage to public facilities. The USGS Earthquake Hazard Program provides the probabilistic ground motion values, in percentages. For Freeport they are as follows:

	<u>10%PE in 50 yr</u>	<u>5%PE in 50 yr</u>	<u>2%PE in 50 yr</u>
PGA	5.431101	10.102410	20.591669
0.2 sec SA	11.585340	19.826429	38.949791
0.3 sec SA	8.404955	14.969210	27.763920
1.0 sec SA	2.722660	4.723418	8.929203

3.8.5 Vulnerability/Impact

Risk to buildings in Freeport are as follows:

- Structures built before 1940 are likely to perform poorly in earthquake shaking and are therefore most vulnerable. In Freeport 3,612 residences (26 percent of all residences) were built before 1940 and would be at high risk from an earthquake.
- Structures built after 1939 but prior to 1984 (when Freeport adopted the NYS Building Code) would most likely perform better, but these structures would still sustain damages because of their age. In Freeport, 9,904 residences (72.9 percent of all residences) were built during this time period. The Planning Committee determined that these structures are also at high risk
- Structures built after 1984 are likely to still be vulnerable to earthquake shaking but would perform better than those built prior to that date. Freeport has 263 residences, or just under 2 percent of all structures, that were built after 1984,

Though the probability of an earthquake is low, the damages caused would be great. The economic impact of a considerable earthquake in the Village would be losses of millions of dollars. Secondary hazards caused by an earthquake could include structural failure of buildings and storage tanks, disruption of utilities, disruption of transportation facilities, and fire. Information on which to base damages to Freeport structures is not available. However, the New York State Hazard Mitigation Plan includes county-level earthquake loss estimates (from 2004 and 2008 studies). They are based on a software program developed by FEMA called HAZUS. HAZUS (“Hazards US”) is a nationally-applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. It uses Geographic Information Systems (GIS) technology to estimate physical, economic, and social impacts of disasters. The methodology factors both the regional variation in hazards and the variation and extent in the built environment from county to county. For instance, the annualized loss enables the comparison of risk between a county having a high potential for earthquakes but a low population density with a county having a low probability for earthquakes but a high population density. The annualized loss methodology combines the estimated losses

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associated with ground shaking for eight return periods: 100, 250, 500, 750, 1000, 1500, 2000, and 2500 years. These are based on values from the USGS seismic probabilistic curves. The aggregation of these losses and exceedance probabilities are then annualized, providing, in essence, the estimated cost of earthquakes to a county each year.

The Total Exposure represents the dollar value of all general building stock and calculated potential total losses (Capital Stock + Income Losses) for the four return periods of 2500, 1000, 500, and 250 years. Figures are unavailable for Freeport, but data for Nassau County is presented as indicative of what Freeport could expect in terms of exposure and loss.

Total Exposure:	\$109,313,341,000
Total Losses:	\$109,303,000
Losses for 2,500-year return period:	\$5,723,355,000
Losses for 1,000-year return period:	\$1,583,463,000
Losses for 500-year return period:	\$84,883,000

The State Plan included annualized total earthquake loss per capita (normalized or divided by population) by county. Information on the Exposure Ratio Rank, or the rank of the Annualized Loss Ratio, is expressed in dollars per \$1 million of exposure. The Exposure Rank is ordered by its Total Exposure, which is the expected repair and replacement dollar costs directly derived from all buildings, contents, and inventory, assuming an event causes complete damages. It does not include income-related loss, nor does it account for regional variability in earthquake hazard (i.e. differences across the state in percentage Peak Ground Acceleration, Spectral Acceleration, Liquefaction, etc.). The replacement costs supplied by HAZUS@M software/data are derived from the Mean Square Foot costs of a nationally-accepted reference on building construction (2002) for residential, commercial, industrial, and institutional buildings. The highest ranking counties are, understandably, the most densely built and populated counties. The figures below are for Nassau County.

Total Exposure	\$109,313,341,000
Annualized Capital Stock Losses	\$5,576
Annualized Income Losses	\$681
Annualized Total Losses	\$6,256,000
Annualized Loss Ratio [in Dollars per \$1 Million of exposure]	57
Annualized Loss per Capita [in Dollars]	4.69
Exposure Rank	3
Exposure Ratio Rank	14
Annualized Loss Rank	4
Annualized Loss per Capita Rank	10

As seen in the figures above, Nassau County ranks third among New York State’s 62 counties in possible earthquake damages. Nassau and Suffolk counties rank even higher - they are tied for number one - in annualized earthquake losses when soil composition is factored into the equation.

3.9 TORNADOS

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
A violent windstorm characterized by a twisting, funnel-shaped cloud.	The risk of a tornado event is planning area-wide	A tornado has not touched down in the planning area, but there have been 16 tornados within 50 miles of Freeport in the past 12 years.	Low; a tornado has never been recorded in the planning area.	Based on a 1989 F-4 tornado that touched down in Nassau County, it is presumed that an F4 tornado could cause up to \$50 million in damages and injure up to 20 people

3.9.1 Hazard Description

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. A tornado can form when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Tornados can be created by thunderstorms and sometimes by hurricanes. Tornados can be accompanied by lightning or hail. Tornado season is generally March through August, although tornadoes can occur at any time of year (FEMA, 2004). Tornados tend to strike in the afternoons and evenings, with over eighty percent striking between noon and midnight. The average forward speed of a tornado is 30 miles per hour, but they have a wide range of speeds. A tornado can be nearly stationary or it can move forward at up to 70 miles per hour. The National Oceanic and Atmospheric Administration (NOAA) Storm Prediction Center (SPC) indicates that a tornado can last between a few seconds to over one hour. The typical tornado lasts less than ten minutes.

Damages caused by tornados are typically from high winds and wind-blown debris. Destruction caused by tornados depends on the size, intensity, and duration of the storm. Tornados cause the greatest damage to lightweight structures, such as mobile homes, and tend to remain localized during impact.

3.9.2 Geographic Location/Extent

All portions of the planning area are equally at risk from a tornado event. A tornado is just as likely to touch down in one section of Freeport as another.

Dr. T. Theodore Fujita developed a scale used to measure tornado damages called the Fujita Tornado Damage Scale (F-Scale). It provides estimates of tornado strength based on damage surveys. Since it is not possible to make direct measurements of tornado winds, an estimate based on damage is a reasonable substitute. The new Enhanced Fujita Scale (EF-Scale) addresses some of the limitations identified by meteorologists and engineers since the introduction of the Fujita Scale in 1971. The new scale, adopted on February 1, 2007, identifies 28 different free-standing structures most affected by tornados, taking into account construction

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quality and maintenance. The range of tornado intensities, zero to five, remains as before, with 'EF-0' being the weakest, associated with very little damage, and 'EF-5' representing complete destruction. The Storm Prediction Center has published a brief description of the Enhanced Fujita Scale compared to the Fujita Scale, as follows:

EF-Scale:	Old F-Scale:	Typical Damage:
EF-0 (65-85 mph)	F0 (65-73 mph)	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF-1 (86-110 mph)	F1 (73-112 mph)	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF-2(111-135 mph)	F2 (113-157 mph)	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF-3 (136-165 mph)	F3 (158-206 mph)	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF-4 (166-200 mph)	F4 (207-260 mph)	Devastating damage. Whole frame houses Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF-5 (>200 mph)	F5 (261-318 mph)	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yard); high-rise buildings have significant structural deformation; incredible phenomena will occur.
EF No rating	F6-F12 (319 mph to speed of sound)	Inconceivable damage. Should a tornado with the maximum wind speed in excess of EF-5 occur, the extent and types of damage may not be conceived. A number of missiles such as iceboxes, water heaters, storage tanks, automobiles, etc. will create serious secondary damage on structures.

3.9.3 Previous Occurrences

Long Island gets far fewer tornados than the Midwest due to its geographic location. Since the jet stream is south of Long Island most of the year, planning area temperatures remain cool. The cooler air stabilizes the atmosphere, thus suppressing the threat of thunderstorms and tornados. During the summer months, the jet stream moves north, bringing warmer air and instability, thereby increasing the threat of thunderstorms and tornados. However, the cold water of the Atlantic Ocean lessens the intensity of thunderstorms.

Although a tornado has never touched down in Freeport, historical tornado activity in Nassau County is significantly above the New York state average and is one percent greater than the overall U.S. average. Eight tornados touched down in Nassau County in the 30 years between 1970 and 2000. On July 10, 1989, a category F4 tornado touched down 23.3 miles from the village center. It was part of an outbreak of 17 tornados in the northeastern United States that injured 150 people and caused \$130 million in damages over a five-state area. The tornado was accompanied by 2.5-inch hail. In the town of East Moriches in adjacent Suffolk County, a man was thrown with his trailer across an airfield, but escaped the destroyed trailer with only minor injuries. In 1998 an F2 tornado injured six people and caused \$1 million damages in Lynbrook.

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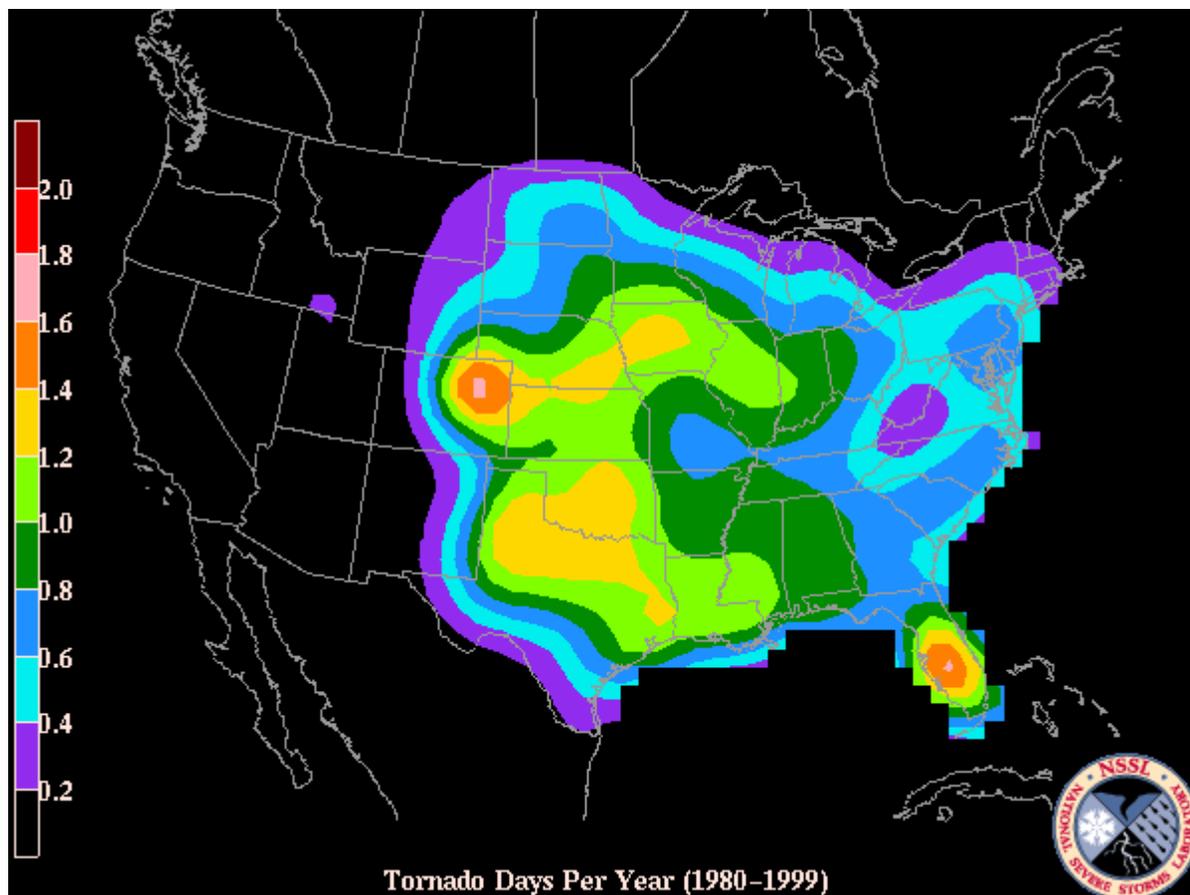
More recent tornado events are detailed in the NCDC weather archives, which shows that, 16 tornados were reported in New York City and Nassau and Suffolk counties between 2000 and 2012 as follows:

<u>Date</u>	<u>Location</u>	<u>Time</u>	<u>Type</u>	<u>Magnitude</u>	<u>Injuries</u>	<u>Property Damage</u>
09/15/2000	Southold	0520	Tornado	F1	0	\$0
07/01/2001	Hampton Bays	0030	Tornado	F0	0	\$0
07/01/2001	Shinnecock Hills	0035	Tornado	F0	0	\$0
08/25/2006	Amityville	1105	Tornado	F0	0	\$0
07/18/2007	Islip Terrace	0825	Tornado	EF1	0	\$0
08/08/2007	Coney Island	0532	Tornado	EF2	0	\$0
07/25/2010	Spuyten Duyvil	1355	Tornado	EF1	7	\$150,000
08/16/2010	Flushing	1642	Tornado	EF1	2	\$17,200,000
09/16/2010	Brooklyn	1633	Tornado	EF0	0	\$8,5000,000
08/28/2011	Hollis	0300	Tornado	EF0	0	\$0
08/28/2011	Babylon	0350	Tornado	EF0	0	\$0
08/28/2012	Great River	1206	Tornado	EF0	0	\$100,000
09/08/2012	Rockaway Beach	0958	Tornado	EF0	0	\$20,000
09/08/2012	Homecrest	1001	Tornado	EF1	0	\$250,000

3.9.4 Probability of Future Occurrence

NOAA maps of tornado frequency place Freeport in the lowest category in the United States. Freeport experiences less than one tornado per 3,700 square miles. As can be seen in the NOAA's National Severe Storms Laboratory map below, the planning area is likely to experience a tornado between 0.4 to 0.6 days per year.

As previously noted, a tornado has never touched down in Freeport. However, because there is a history of tornados in Nassau County, the Planning Committee determined that the possibility of a tornado in Freeport exists. They rated the possibility "low."



3.9.5 Vulnerability/Impact

There are 24 mobile homes in Freeport, according to the 2010 census. These structures are most at risk to damage from a tornado.

A tornado event would probably impact a small geographic area in relationship to the total planning area. However, Freeport's high residential and commercial density means that a tornado could damage many structures and have village-wide impact economically. Since a tornado could occur in any location in the Village, critical facilities and infrastructure are also at risk. A tornado could cause power outages, disruptions to transportation, and loss of workplace access, all of which impact the local economy. Trees, branches, and other objects could fall on power lines, buildings, roads, and vehicles.

Sufficient information was not available on which to base a detailed estimate of planning area losses. A tornado has not been reported in the planning area. However, newspaper accounts of an August 8, 2007 tornado that hit Brooklyn could offer some insight. It had a path of approximately 9 miles from Staten Island across the Verrazano Narrows to Brooklyn. The National Weather Service estimated its strength in Brooklyn as EF2 on the Enhanced Fujita Scale. At least 40 buildings and 100 cars were damaged, with losses in the tens of millions of U.S. dollars. No serious injuries or fatalities were reported, but several people were treated at area hospitals for flying glass injuries. The storm system produced severe street flooding, and

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disrupted all modes of transportation throughout the city. Similar damages could be expected in Freeport.

Another source of information for tornado vulnerability is the 2011 New York State Hazard Mitigation Plan. It presents the results of a vulnerability assessment identifying the New York counties most vulnerable to wind hazard. A final rating score was tabulated based on the value of each vulnerability indicator (the higher indicators for wind exposure result in more points assigned to the final score). The wind vulnerability assessment uses readily available data to give a gross indication of counties most threatened by and vulnerable to wind hazard.

The methodology provides a reasonable assessment of vulnerability using key available indicators. However, it is noted that many vulnerability indicators for wind are not readily available, and are not comprehensive and standardized enough to be easily included in our analysis at this time. Gaps include building attributes and associated levels of vulnerability, local or site-specific conditions, and building positional accuracy. The analysis results may be best used as a guide to help target communities that would benefit from further wind hazard and vulnerability analysis. The analysis ranks Nassau County, where Freeport is located, second only to Suffolk County in wind damage susceptibility.

Jurisdictions Most Threatened by Extreme Wind and Vulnerable to Extreme Wind Loss

County	Rating Score	Wind Zone (h-hurricane susceptible)	# of Tornadoes	Population Density (per square mile)	Total # of Structures (HAZUS)
Suffolk	19	h	20	1,542.8	461,456
Nassau	18	h	8	4,642.1	395,748
Albany	17	h	7	552.8	83,117
Dutchess	18	h	11	339.8	79,721
Erie	17	3	17	906.3	277,470
Orange	17	h	8	407.5	92,068
Richmond	17	h	3	7,633.8	111,561
(Staten Is)					
Westchester	17	h	8	1,951.4	211,689
Bronx	16	h	1	31,412.5	89,896
Kings	16	h	1	34,951.2	258,603
(Brooklyn)					
Queens	16	h	1	20,442.3	343,289

The Planning Committee will conduct research before the next plan update to obtain more data that is specific to the planning area. Nassau County information is certainly relevant, but Freeport-specific information is needed for a more accurate assessment of the planning area's vulnerability. During the recent Tropical Storm Isaias on Tuesday August 4th, 2020, the NWS was reporting winds of only 65 mph in our area but the weather station on top of Freeport's Powerplant #2 recorded a wind speed on 94 mph.

3.10 EPIDEMIC/PANDEMIC

Hazard Description	Location/Extent	Previous Events	Probability	Vulnerability/Impact
<p>Serious injury or death to extremely large numbers.</p>	<p>Worldwide</p>	<p>West Nile in 1999, 2003 and 2010</p> <p>COVID 19 pandemic in 2020</p>	<p>High</p>	<p>Nassau County has over 38,000 confirmed cases of COVID 19 with over 1900 deaths. Freeport, has over 1400 active COVID 19 cases in 2020 (as of May 5, 2020)</p>

3.10.1 Hazard Description

An epidemic is the rapid spread of disease to a large number of people in a given population within a short period of time. For example, in meningococcal infections, an attack rate in excess of 15 cases per 100,000 people for two consecutive weeks is considered an epidemic.

Epidemics of infectious disease are generally caused by several factors including a change in the ecology of the host population (e.g., increased stress or increase in the density of a vector species), a genetic change in the pathogen reservoir or the introduction of an emerging pathogen to a host population (by movement of pathogen or host). Generally, an epidemic occurs when host immunity to either an established pathogen or newly emerging novel pathogen is suddenly reduced below that found in the endemic equilibrium and the transmission threshold is exceeded.

An epidemic may be restricted to one location; however, if it spreads to other countries or continents and affects a substantial number of people, it may be termed a pandemic. The declaration of an epidemic usually requires a good understanding of a baseline rate of incidence; epidemics for certain diseases, such as influenza, are defined as reaching some defined increase in incidence above this baseline. A few cases of a very rare disease may be classified as an epidemic, while many cases of a common disease, such as the common cold, would not.

A pandemic is a global outbreak of disease. Pandemics happen when a new virus emerges to infect people and can spread between people sustainably. Because there is little to no pre-existing immunity against the new virus, it spreads worldwide.

The virus that causes COVID-19 is infecting people and spreading easily from person-to-person. On March 11, 2020 the COVID-19 outbreak was characterized as a pandemic by the WHO.

3.10.2 Geographic Location/Extent

All portions of the planning area are equally at risk from an epidemic event.

Pandemics are large-scale outbreaks of infectious disease that can greatly increase morbidity and mortality over a wide geographic area and cause significant economic, social, and political disruption. Evidence suggests that the likelihood of pandemics has increased over the past century because of increased global travel and integration, urbanization, changes in land use, and greater exploitation of the natural environment. These trends likely will continue and will intensify. Significant policy attention has focused on the need to identify and limit emerging outbreaks that might lead to pandemics and to expand and sustain investment to build preparedness and health capacity.

The international community has made progress toward preparing for and mitigating the impacts of pandemics. The 2003 severe acute respiratory syndrome (SARS) pandemic and growing concerns about the threat posed by avian influenza led many countries to devise pandemic plans). Delayed reporting of early SARS cases also led the World Health Assembly to update the International Health Regulations (IHR) to compel all World Health Organization member states to meet specific standards for detecting, reporting on, and responding to outbreaks. The framework put into place by the updated IHR contributed to a more coordinated global response during the 2009 influenza pandemic. International donors also have begun to invest in improving preparedness through refined standards and funding for building health capacity.

Despite these improvements, significant gaps and challenges exist in global pandemic preparedness. Progress toward meeting the IHR has been uneven, and many countries have been unable to meet basic requirements for compliance. Multiple outbreaks, notably the 2014 West Africa Ebola epidemic, have exposed gaps related to the timely detection of disease, availability of basic care, tracing of contacts, quarantine and isolation procedures, and preparedness outside the health sector, including global coordination and response mobilization. These gaps are especially evident in resource-limited settings and have posed challenges during relatively localized epidemics, with dire implications for what may happen during a full-fledged global pandemic. There is growing concern that China's delay in reporting of the COVID-19 virus to the WHO increased the spread of the virus.

3.10.3 Previous Occurrences

There have not been many serious past occurrences of epidemic affecting the planning area until COVID-19 in 2020.

The most recent was the West Nile Virus. Encephalitis caused by a West Nile-like virus was found in New York during the summer of 1999. It is believed that mosquitoes carried the virus. The Village is a coastal community surrounded by salt marshes that are potential breeding areas for larvae. Nassau County was responsible for mosquito control.

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The Nassau County Departments of Health and Public Works conducted mosquito control efforts by inspecting breeding sites and, when necessary, applying larvicide. Mosquito surveillance consists of 42 trap sites located throughout the county. Public Works receives many calls during the summer and fall months from residents concerning dead birds.

On July 23, 2003 a crow found in Nassau County (Levittown) tested positive for the West Nile Virus. On August 8, 2003, the Nassau County Health Dept. identified the first mosquito pool that tested positive for the virus in Bayville. In 2001, there were four confirmed cases of West Nile virus and two deaths in Nassau County; in 2000, there were no cases; and in the first year of the disease, 1999, there were six cases and one death. In the United States during 1999, there were a 4,156 recorded West Nile cases that included 284 deaths.

Nassau County reported 57 West Nile-cases and 3 deaths during 2010. All of New York State reported 129 cases with 5 deaths during 2010. During 2009 there were no cases reported in Nassau County and 7 within the entire state, with no deaths. In 2008, Nassau reported only 20 cases with 4 deaths and New York State reported 46, with 6 deaths. Two cases were reported in Nassau County during 2007, with no deaths. New York State reported 22 in 2007, with 2 deaths. In 2006, Nassau County reported 5 cases with 1 death and New York State reported 23 cases with 4 deaths.

Severe acute respiratory syndrome (SARS) may become another concern. However, in the spring of 2003, only two (2) known cases have been diagnosed in Nassau County and forty-eight (48) in New York State. There have been no deaths from SARS in New York State. Since 2004, there have not been any known cases of SARS reported anywhere in the world

In January 2020 the CDC responded to a pandemic of respiratory disease spreading from person to person caused by a novel (new) coronavirus. The disease has been named "coronavirus disease 2019" (abbreviated "COVID-19"). This situation poses a serious public health risk. The federal government is working closely with state, local, tribal, and territorial partners as well as public health partners, to respond to this situation. COVID-19 can cause mild to severe illness; most severe illness occurs in adults 65 years and older and people of any age with serious underlying medical problems..

3.10.4 Probability of Future Occurrence

With confirmed COVID-19 cases worldwide surpassing 4 million and continuing to grow, scientists are pushing forward with efforts to develop vaccines and treatments to slow the pandemic and lessen the disease's damage.

The novel coronavirus is rapidly spreading globally and has already led to more than 275,000 deaths and 4 million positive cases. Even though the countries across the globe have closed their borders and continue to take stringent measures (including a complete lockdown) to contain the spread of this highly infectious virus, the flattening of the curve is yet to be seen.

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In the United States, COVID-19 has caused more than 80,000 fatalities and the number of positive cases has touched almost 1.3 million. In Nassau County there are over 38,000 active cases with 1904 deaths.

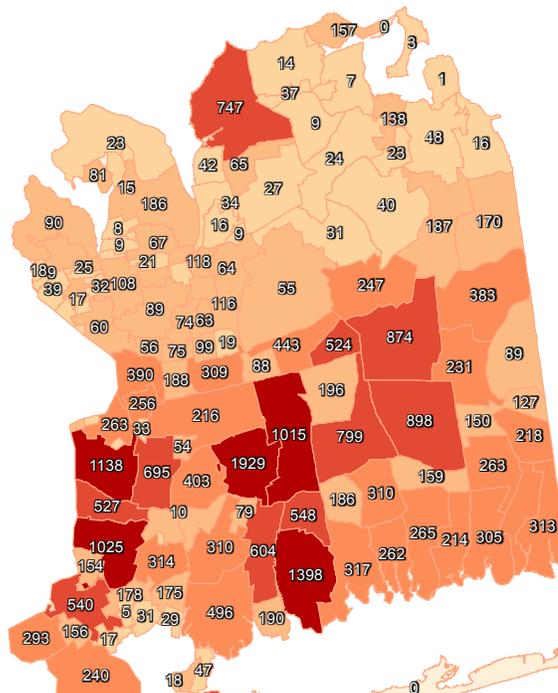
Health experts across the globe have been constantly reminding people to stay indoors so as not to overwhelm the health care system and give the medical experts and scientists more time to develop a vaccine for the novel coronavirus. Ultimately, social distancing and lockdown serve the same purpose--to prevent more people from getting infected and buying more time.

The world has joined hands to find a vaccine for the novel coronavirus and scientists and medical researchers across the globe are scrambling for the first breakthrough. Since the virus spreads easily and is already overwhelming the healthcare system of most countries, a vaccine is the most effective way of putting a pause on the spread of infectious disease. At present, almost 80 groups globally are working at break-neck speed for the same, even though a vaccine fit for humans normally takes years to develop.

Until a vaccine is found and made available to all residents in our planning area there will continue to be new cases and fatalities.

3.10.5 Vulnerability/Impact

With over 1400 residents of Freeport infected with COVID-19 (the second hardest hit community in Nassau County), and 38,000 in Nassau County, there is a very high probability of continued spread of the pandemic until a vaccine is found and distributed.



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Different parts of the country are seeing different levels of COVID-19 activity. The United States nationally is in the acceleration PHASE of the pandemic. The duration and severity of each pandemic phase can vary depending on the characteristics of the virus and the public health response.

Situation in the United States and CDC Recommendations:

- CDC and state and local public health laboratories are testing for the virus that causes COVID-19. As of May 2020, there were over 8 million people in the U.S. tested for the virus.
- All 50 states have reported cases of COVID-19 to CDC.
- U.S. COVID-19 cases include:
 - People who were infected while travelling, before returning to the United States
 - People who were infected after having close contact with someone known to be infected with the virus
 - People in a community who were infected with the virus but don't know how or where they were infected
- All U.S. states are reporting community spread of COVID-19.
- CDC is recommending that everyone does their part to help respond to this emerging public health threat by following these CDC recommendations:
 - Wear a cloth face covering in public settings to avoid spreading COVID-19 to others in case you are infected but do not have symptoms.
 - The cloth face cover is meant to protect other people in case you are infected.
 - The cloth face coverings recommended are not surgical masks or N-95 respirators. Those are considered critical supplies that should be reserved for healthcare workers and other first responders, as recommended by CDC.
 - The cloth face covering is not a substitute for social distancing.
 - CDC continues to recommend that people try keep about 6 feet between themselves and others.

States/Territories	Confirmed	Deaths	Recovered
New York (state)	323,978	25,956	-
New Jersey	131,890	8,549	-
Massachusetts	72,025	4,420	-
Illinois	68,232	2,974	-
California	60,446	2,452	-
Pennsylvania	51,845	3,106	-
Michigan	45,054	4,250	-
Florida	38,002	1,539	-
Texas	34,422	948	16,090
Connecticut	30,995	2,718	-
Georgia	30,739	1,326	-
Louisiana	30,399	2,094	-

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Maryland	28,163	1,338	1,903
Indiana	21,870	1,377	-
Ohio	21,576	1,225	-
Virginia	21,570	769	-
Colorado	17,830	921	-
Washington	15,905	870	-
Tennessee	13,938	239	6,564
North Carolina	12,758	477	-
Iowa	10,404	219	3,486
Rhode Island	10,205	370	-
Arizona	9,707	426	-
Missouri	9,102	396	-
Wisconsin	8,901	362	-
Alabama	8,699	347	-
Minnesota	8,579	485	4,212
Mississippi	8,424	374	-
South Carolina	6,936	305	-
Nebraska	6,771	86	-
Kentucky	5,934	283	-
Delaware	5,778	193	2,008
Kansas	5,734	144	-
Nevada	5,663	276	-
Washington, D.C.	5,654	285	825
Utah	5,595	58	2,342
New Mexico	4,291	169	1,073
Oklahoma	4,201	253	2,909
Arkansas	3,611	87	2,123
Oregon	2,887	115	-
South Dakota	2,779	29	1,977
New Hampshire	2,740	111	1,110
Idaho	2,158	66	1,399
Puerto Rico	1,924	99	-
North Dakota	1,323	31	582
West Virginia	1,287	51	630
Maine	1,174	62	766

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Vermont	908	52	-
Hawaii	626	17	548
Wyoming	479	7	416
Montana	456	16	417
Alaska	372	10	284
Guam	149	5	124

State Data as of May 7, 2020

The complete clinical picture of COVID-19 is not fully known. Reported illnesses have ranged from very mild (including some people with no reported symptoms) to severe, including illness resulting in death. While information so far suggests that the majority of COVID-19 illnesses are mild, early reports found serious illness in 16% of people who were infected. A CDC Morbidity & Mortality weekly report that looked at severity of disease among COVID-19 patients in the United States by age group found that 80% of deaths were among adults 65 years and older, with the highest percentage of severe outcomes occurring in people 85 years and older. People with serious underlying medical conditions — like serious heart conditions, chronic lung disease, and diabetes, for example — also seem to be at higher risk of developing severe COVID-19 illness.

The risk posed by COVID-19 depends on characteristics of the virus, including how easily it spreads between people; the severity of resulting illness; and the medical or other measures available to control the impact of the virus (for example, vaccines or medications that can treat the illness) and the relative success of these. Because there are not yet vaccines or treatments for COVID-19, nonpharmaceutical interventions become the most important response strategy. These are community interventions that can help reduce the impact of disease, like social distancing and good hand hygiene.

When considering the risk that COVID-19 poses to Americans, it's helpful to break down this risk into two types: risk of exposure and risk of serious illness and death.

RISK OF EXPOSURE

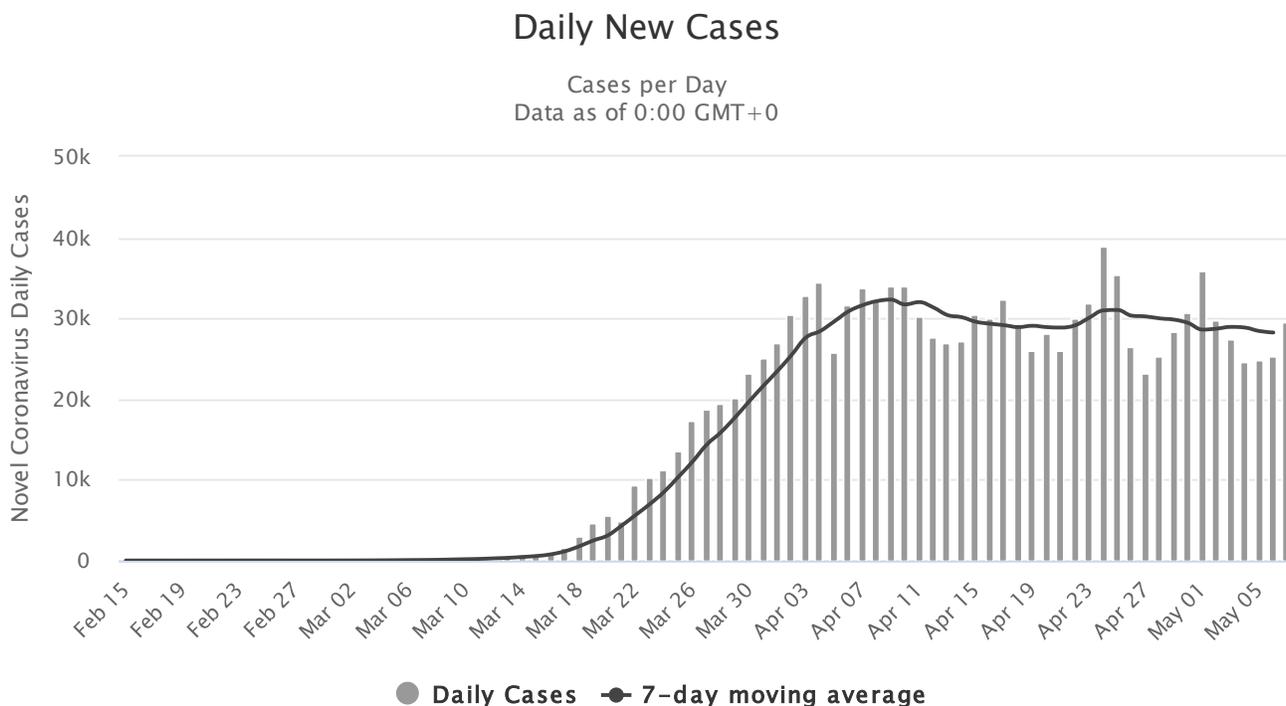
- Cases of COVID-19 and instances of community spread are being reported in all states.
- People in places where ongoing community spread of the virus that causes COVID-19 has been reported are at elevated risk of exposure, with the level of their risk depending on their location.
- Healthcare workers caring for patients with COVID-19 are at elevated risk of exposure.
- Close contacts of persons with COVID-19 also are at elevated risk of exposure.
- Travelers returning from affected international locations where community spread is occurring also are at elevated risk of exposure, with their level of risk depending on where they traveled.

RISK OF SEVERE ILLNESS:

Based on what we know now, persons at higher risk for severe illness from COVID-19 are:

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- People 65 years and older
- People who live in a nursing home or long-term care facility
- People of all ages with serious underlying medical conditions



ECONOMIC IMPACT OF COVID-19

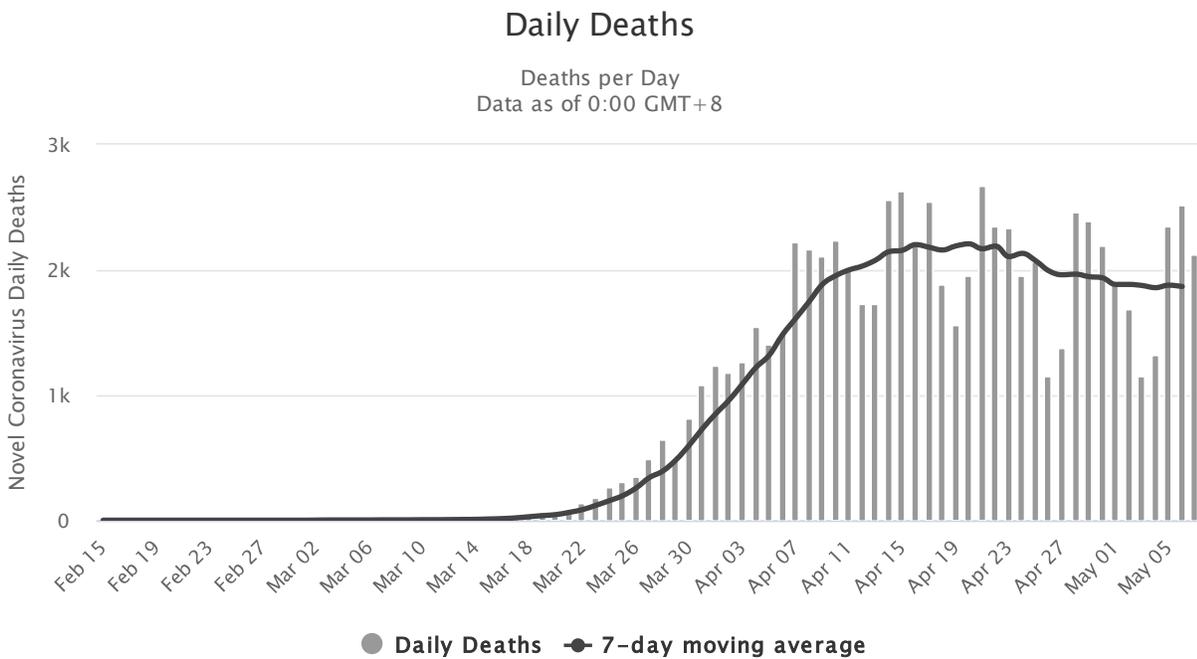
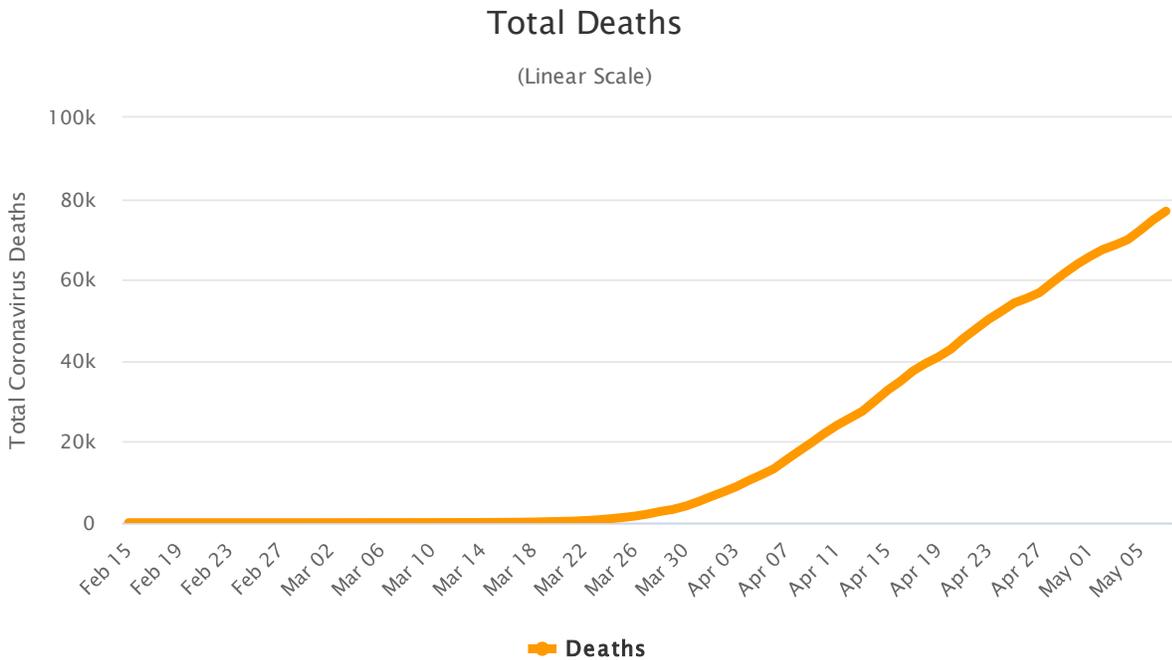
New York’s economy is in a more precarious state than at any time since the 1970s fiscal and economic crisis. The current public health and economic crisis far surpasses the personal, psychological, and economic devastation wrought by 9/11, the 2008-09 Great Recession, or Superstorm Sandy.

Facing the rapid spread of the coronavirus disease 2019 (COVID-19) pandemic, state and local leaders, including Freeport, have taken unprecedented measures to protect their communities, such as closing schools and businesses, banning large gatherings, and placing residents under shelter-at-home orders.

The social distancing public health imperative at present has incapacitated a substantial portion of our economy. Job losses and new unemployment claims that have mounted since the beginning of the pandemic are unprecedented. Over a million New Yorkers have lost jobs in an environment where businesses have been ordered to close and non-essential personnel told to stay at home. Workers and industries are expected to experience the most profound displacement and economic losses as business closures and social distancing measures demanded by the health crisis continue.

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As communities move toward recovery, policymakers face difficult questions about how and when to relax interventions and how to weigh the economic cost of prolonged mitigation measures against the risk of a second wave of the virus.



3.11 CATEGORIZATION OF HAZARDS

After reviewing the data gathered on the hazards impacting the planning area, the Planning Committee categorized the hazards as high, medium, and low risk. Low-risk hazards are those that can be addressed by projects to mitigate their impacts eventually, but not necessarily in the next five years. Moderate-risk hazards are those that can be addressed by mitigation projects implemented in the next three to five years. High-risk hazards are those that can be addressed by projects to be implemented within the next two years. The hazard profiling activity resulted in the following categorization of hazards.

High-Risk Hazards: Hurricane/High Wind
 Flooding
 Nor'easter/Winter Storm/Ice Storm
 Epidemic

Moderate-Risk Hazards: Tornado
 Hazardous Materials at Fixed Sites and in Transit
 Terrorism
 Cyber-Terrorism

Low-Risk Hazards: Earthquake
 Urban/Structural Fire

4 SUMMARY OF EXISTING CAPABILITIES

This 2020 Freeport Hazard Mitigation Plan is an update of the 2014 Hazard Mitigation Plan that was approved by FEMA and adopted by the Board of Trustees. The 2014 Freeport Hazard Mitigation Plan is an update of the 2005 Hazard Mitigation Plan that was approved by FEMA and adopted by the Board of Trustees. In turn, the 2005 Plan was an update of the Village's 1997 Floodplain Management and Hazard Mitigation Plan. The Village of Freeport has made significant progress on the strategy set forth in the original 1997 plan. The following paragraphs represent a summary of accomplishments.

4.1 EMERGENCY WARNING SYSTEM

An Emergency Siren Warning System was installed in 2002. The warning system is activated in the event of a flood, storm, or any other type of hazard that threatens the community. In addition, an outreach program was developed. Informational material is mailed bi-yearly and an Emergency Information Phone Number (Emergency Management Hotline) was established. The Village also established a radio station that transmits in the event of an emergency. An operating license was received in July 2003 for WBYM, 1690 AM. The siren system is intended to notify residents to tune in to the radio station or call the Emergency Management Hotline for information.

In an effort to provide more reliable and effective communications with our residents, the Village installed an emergency notification system in June 2005. The system is designed to easily

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record and broadcast voice messages to all individuals within the community; it can make thousands of calls a minute to warn of an emergency or to share vital information. These messages may include information on floods, fires, water emergencies, road closures, missing persons, evacuation orders, and weather emergencies. The system currently under contract to the Village is SwiftReach 911.

We found out by the resident survey done in 2020 that residents rely on the sirens and swiftreach system more than we thought.

4.2 ACCURATE FLOOD DATA

The Village of Freeport, in collaboration with Sea Grant and the Town of Hempstead, installed a tide-stage gage with telephone and satellite telemetry. The tide-stage gage was installed at the Town of Hempstead Marina in September 1999 and began operating on October 1, 1999. Near "real time" tide stage levels can be accessed by anyone by means of the Internet and/or telephone. This information is used to predict above-normal tides and determine activation of the early warning system described above. The data is also used when designing road improvement projects to determine the grade elevation required to mitigate street flooding.

4.3 FLOODING ON ROADS

In 1998 the Village identified all roads that are below the base flood elevation. In order to mitigate damages, the grade of the following streets has been elevated:

- Hampton Place from West End Avenue west to canal
- Buchanan Street from Meister Boulevard to South Meister Blvd
- Stirling Avenue
- Lester Avenue
- Woodcleft Avenue
- Garfield Avenue from President Street south to canal
- Casino Street from South Long Beach Avenue to St. Marks Avenue
- Cedar Street from South Long Beach Avenue to St. Marks Avenue
- St. Marks Avenue from Casino Street . to 500 feet n/o Cedar Street
- Westside Avenue from Casino Street to 500 feet n/o Cedar Street
- Roosevelt Avenue from Casino Street to 500 feet n/o Cedar Street

4.4 FLOOD DAMAGE FROM TIDAL WATERS BACKING UP THROUGH STORM DRAINS.

Since 1990, the Village has installed check valves for storm drains in the following sites:

- Roosevelt Avenue west of South Long Beach Avenue
- Florence Avenue at Jeanette Avenue
- Hampton Place at end of block
- Hudson Avenue between Hubbard Avenue. and Howard Avenue at Trudy B's bulkhead
- Hudson Avenue at Grant Street in boatyard in chamber
- Hudson Avenue between Overton Street and Polk Street in sidewalk

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- Garfield Street at end of block
- Garfield Street middle of block
- Guy Lombardo Avenue at Cedar Street in sidewalk
- Guy Lombardo Avenue south of Front Street at bulkhead
- Woodcleft Avenue at Adams Street
- Woodcleft Avenue at Suffolk Street
- Woodcleft Avenue between Suffolk Street and Manhattan Street
- Miller Avenue and Suffolk Street
- West Fourth Street west of South Main Street
- Cedar Street and Casino Street
- 3 additional valves since 2014 on Guy Lombardo Ave
- 3 additional valves since 2014 on Hudson Ave

4.5 IMPACT OF FLOODING ON RESIDENTIAL AND COMMERCIAL PROPERTIES.

Residential properties at the greatest risk for flooding were identified in 1997. Repetitive Loss properties identified as such by the National Flood Insurance Program (NFIP) have been added to the GIS database. The data is updated on a regular basis to maintain currency. The Village of Freeport Building Department. has obtained 712 elevation certificates in the AE Flood Zone. They have also implemented an incentive program and an outreach program to encourage participation.

The Village has also obtained financial assistance from the Flood Mitigation Assistance Program and the Hazard Mitigation Grant Program for the elevation of residential properties. The program began in early 1996, when a notice was sent to all properties located in the AE floodplain (approximately 3,515 properties) advising of the programs and soliciting interest in the elevation of their structures. Another such notice was sent in December 2001. Between 1999 and 2007, twenty-five (25) homes were elevated to a minimum of 10 Mean Sea Level (MSL) under the programs. Property owners contributed 25 percent of the total cost of the projects. Twenty-three (23) of these homes weathered Hurricane Sandy with little or no damage.

After Hurricane Sandy and through the Governor's Office of Storm Recovery and the NY Rising Program an additional 309 Structures had permits issued for home elevations. 180 of the 309 have been completed and are compliant with all relevant codes.

As an incentive to mitigate the damages of flooding, the Village does not require filing fees for a flood mitigation project. Although this is a relatively minor cost savings in the construction process, it serves as motivation for those seeking to make their homes or businesses safer from flood damage.

All new construction and substantial renovation work in the Village of Freeport requires the installation of hurricane clips or straps. The clips prevent high winds from ripping the roof off a structure during a storm. The clips are made of galvanized steel and are used to connect rafters to the roof at the top, middle, and bottom part of the structure. This forms a continuous load path lessening damages to the structure.

4.6 OUTREACH PROGRAMS.

The Village of Freeport has implemented a hazard awareness program that began in 1993 and has evolved over the years. As previously mentioned, a bilingual Hazard Awareness Newsletter (which includes flooding) is sent bi-annually to all residents and business owners, and a Flood Mitigation Newsletter is sent annually to all residents and business owners located in NFIP-designated Special Flood Hazard Areas (SFHAs). The Village also maintains a public information website (www.Freeportny.com) that has links to information on flood/hurricane mitigation projects and hazard preparedness. In another outreach program, the Village broadcasts public service announcements on Cablevision channel 18 and Verizon Fios channel 44. The Freeport Emergency Management Office and the Village of Freeport also have Facebook pages to update residents through social media.

Increased public awareness is also the goal of the hazard mitigation exhibits located in the lower lobby of Freeport Village Hall. With the assistance of Simpson Strong-Tie, Inc., a disaster-resistant model building was constructed and is on display. During October of every year, the Freeport Fire Department, in conjunction with the Freeport Chamber of Commerce, holds an Annual Fire Expo. The Fire Expo in 2019 was the 31st such event.

In 2007 the Village also purchased a “Fire Safety House” which provides a hands-on learning tool to prepare the community for the experience of unexpected structural fires. The “Fire Safety House” is a mobile classroom featuring child-size rooms and real-life hazards, such as smoke and heat. This creates an environment that provides children with the knowledge and experience to prevent fires. Demonstrations show the steps to follow in the event of a fire. The “Safety House” is used in educational sessions at all Freeport public schools and local private schools/day care centers. In addition, sessions are held at most public events such as carnivals, festivals etc. It is also loaned to other communities for similar events.

4.7 BULKHEADS MAINTENANCE PROGRAM

The status of and condition of bulkheads located in the Village of Freeport is monitored through inspections by the Freeport Building Department. Information on condition and year of installation is maintained in the Village’s GIS System. In response to the need for bulkhead maintenance, the Village of Freeport commenced an innovative pilot program in 2003 that is ongoing. The program assists property owners with the replacement of deteriorated bulkheads using the latest technology and materials. The replacement is in compliance with the Village Code requirement that the measurement of the top whaler of the bulkhead be at 5.9 utilizing the NAVD88 datum. The bulkhead replacement program provides financial assistance to property owners in the form of low-interest loans. Repayment of the loan is accomplished by annual assessments to the property over a 20-year period. The Village’s Engineering Department provides technical assistance with plans and specifications for each project. The Engineering Department also obtains required permits from the Army Corp of Engineers, the NYS Department of Environmental Conservation, the Town of Hempstead Department of Conservation of Waterways, and the Village of Freeport. Finally, the Engineering Department requests bids for the work, awards the project to the lowest bidders, and provides construction

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management. In addition, Village permit fees are waived. Eight (8) homeowners participated in the program in 2007.

4.8 THE PROTECTION OF UTILITIES

As part of a mitigation program, 4,500 linear feet of electric, telephone and cable lines were relocated underground in the Village's commercial waterfront area in 1999. This program was undertaken in order to prevent losses due to wind at a cost of \$1,188,000.

In 2006, all electric street lighting lines were relocated underground during the reconstruction of Guy Lombardo Avenue.

4.9 EMERGENCY OPERATIONS CENTER

In 2002, the Village established an Emergency Operations Center (EOC), which is managed by an Emergency Management Coordinator. It is staffed as each situation requires. The EOC acts as the center of communications and operations during an emergency

4.10 REDUCE WIND DAMAGES

Window film has been installed on the windows and doors the Village of Freeport's Emergency Operation Center in order to make it wind and wind/blast resistant.. Some windows in Village Hall also have been treated with the film.

4.11 COMMUNITY EMERGENCY RESPONSE TEAM (CERT) TRAINING PROGRAM

CERT is a community-based program that provides basic training to community volunteers for response in emergency situations. CERT members give critical support to first-line responders and provide immediate assistance to their communities and neighbors. CERT members also help with non-emergency preparedness projects that improve the overall safety of the Village. FEMA sponsored the training courses. The NYS Emergency Management Office, Nassau County Emergency Management Office, and the Village of Freeport provided training to twenty (20) Freeport residents. The volunteers completed the training course in January 2004. CERT training is open to all community members on an annual basis.

4.12 MANAGEMENT POLICY

The Freeport Police Department has established procedures under which it responds to incidents requiring immediate decision-making to control the incident. This policy of "Incident Command" has been used since 2005 for civil unrest, and for all incidents where the department assumes command of a situation. An incident is any situation that involves the response of Police Department personnel and requires a coordination of activities. A critical incident is any incident of an unusual or severe nature that:

- Causes the loss of human life, threatens the safety of citizens, or causes severe property damage

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- Requires extensive or extraordinary measures to stabilize or control

For large scale incidents requiring outside resources from multiple agencies the Village adopted in 1997 the Village Incident Management System which follows NIMS.

4.13 MOBILIZATION PLAN

The duty of the Freeport Police Department to protect life and property requires an ability to properly respond to any variety of incidents. Some of these incidents, due to their nature, location, or duration, may require personnel and resources beyond the capabilities of the Freeport Police Department. A mobilization plan has been established for these instances. Should an emergency arise, this plan will ensure a continued and orderly response of on-duty and off-duty personnel to the incident.

4.14 POLICIES FOR CIVIL UNREST AND TERRORISM

The Freeport Police Department in 2002 enacted a departmental Strategy for Homeland Security. The strategy provides administrative and supervisory guidance to enable a coordinated departmental response to each threat-level advisory. In this way, appropriate security and protective measures are taken. In order to ensure public safety as well as the safety of department members, all department members are trained in the strategy so that they understand their role and responsibilities.

4.15 FLOODPLAIN MANAGEMENT CODE

In 1991 the Village began evaluating local codes for the implementation of flood regulations, and by 1993 a new floodplain management code was adopted. The code guides development in the Special Flood Hazard Area (SFHA). A new FEMA flood insurance rate map (FIRM) was adopted based on village-recommended changes to the old map. The new code increased wind resistance standards, provided bulkhead construction parameters, increased lowest floor elevations three (3) feet above FEMA base flood elevation (BFE) standards, and required hurricane clips on structures.

A new Flood Insurance Study for Nassau County was conducted in 2009. In August 2009, the Village of Freeport updated its Flood Damage Prevention Code. A local law to amend Chapter 87 of the Village Code, entitled "Flood Damage Prevention," was passed by repealing Chapter 87, §87-1 through §87-21, and adopting a new Chapter 87 on August 24, 2009 after a public hearing that same day.. In 2009 the Village of Freeport received and adopted a new Flood Insurance Rate Map (FIRM), effective September 11, 2009.

On 02-27-14, the Village of Freeport did once again amend Chapter 87 of the Flood Damage Prevention ordinance to include that for all substantially damaged, substantially improved or new construction in the Flood Zone, that the measurement of the lowest floor of the structure to be 4' above the Base Flood Elevation and to include that all utilities must also be located at a minimum of 4' above the Base Flood Elevation. The Village of Freeport also requires that for these elevated properties, that a Non-Conversion Agreement be signed and notarized by the owner of the property prior to permit issuance. This helps to ensure that the unfinished lower

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level areas below the lowest habitable floor, remains non-habitable space used specifically for parking, storage, or building access only.

4.16 MUTUAL AID AGREEMENT

In November 2002, the Village of Freeport entered into a Mutual Aid Agreement with four (4) local communities - the Villages of East Rockaway, Lynbrook, Malverne, and Valley Stream - in the event of an emergency; the agreement remains in effect today. The purpose of the agreement is to protect the health, safety, and welfare of these villages by providing mutual aid when a village declares a local emergency. The aid requested may be manpower, supplies, and/or equipment. In 2011, Freeport entered into an agreement with the Town of Hempstead to provide mutual aid in obtaining fuel for Village vehicles and equipment in the case of shortages caused by damaged tanks.

4.17 EMERGENCY MANAGEMENT PLAN

The Village of Freeport in 1997 adopted a comprehensive Emergency Management Plan that addresses the community's planned response to various levels of man-made or natural emergency situations. The plan remains in force and follows NIMS.

4.18 PUBLIC SAFETY COMMITTEE

The Village of Freeport has formed a Public Safety Committee to review all aspects of maintaining the safety of our residents, including terrorism. The Village has prepared risk assessments of its utilities. The Federal Bureau of Investigation has also conducted a vulnerability assessment of the Village. Since these vulnerability and risk assessments provide sensitive information, they are and will be assigned "For Official Use Only" status.

4.19 ZONING REGULATIONS TO INCLUDE FLOODPLAIN MANAGEMENT

The Village's Zoning Regulations establish zoning districts and set forth the regulations governing land use and development. The Zoning Code and the Floodplain Management Code guide land use and development in the Special Flood Hazard Area (SFHA).

4.20 WATER REGULATIONS AND PREVENTIVE MEASURES

To prevent contamination from backflow, the water utility regulates cross-connections and back-flow prevention devices in the Village. Freeport employs a licensed full-time inspector to ensure compliance with the state sanitary code. Each cross-connection and back-flow check valve is inspected annually, with results reported to the Village. If an illegal connection is found, the owner is required to install a reduced pressure zone device or a double check valve. If this is not done or an annual inspection report is not filed, the owner's water service is disconnected from the water main.

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An annual mailing to all users includes a section describing the dangers of illegal cross-connections. It also advises regular maintenance and inspection of pipes, as well as regular cleaning and flushing of the system, to help reduce the buildup and growth of biofilms that contribute to corrosion conditions that can cause leaks and breaks.

The Water Department also has a water main replacement program. Older pipes are replaced prior to the end of their lifespan in order to eliminate potential water main breaks. For further corrosion control, the Water Department annually samples the water of thirty (30) homes throughout the village for copper and lead. In the event of contamination, the Water Department would use the early warning siren system, the radio station notification system, and the emergency hotline to notify residents. Immediate public notification will minimize contact with contaminated water.

Water can be contaminated by the overfeeding of sodium hypochlorite or caustic soda, which is added to raise the PH level of the water and thus reduce its corrosiveness. To mitigate this type of contamination, the treatment systems are equipped with safety back-ups to prevent overfeeding of chemicals. Wells and pumping stations are inspected several times a day. Each inspection records the amount of chemicals being added to the system. Water samples are also collected daily in various sections of the village and sent to an approved lab for analysis. Each well and pumping station is monitored by a SCADA (Supervisory Control and Data Acquisition) system, a computer-controlled system that monitors and controls industrial processes. The Village system automatically contacts officials and the Police Department in the event of an emergency.

5 MITIGATION STRATEGY

The 2020 Plan Update process began with the Hazard Mitigation Planning Committee meeting roughly every other week from January 22 to March 18, 2020. The Committee reviewed the goals and actions in the previously approved 2014 Plan and determined that most were still valid. The Committee also reviewed the progress made on proposed projects since the prior plan's approval in 2014. The 2014 mitigation projects considered included prevention; protection of private property; protection of infrastructure, critical facilities, and utilities; public awareness; emergency services; training; and the ability to share information.

An analysis of development between 2014 and 2020 was performed during the update of this plan to determine if any new development had occurred in any flood hazard areas. In May of 2017, a permit was issued to the Freeport Housing Authority for the construction of a new 101 Unit Affordable Housing building to be constructed. This structure was constructed to replace an existing building that was significantly damaged due to flood waters during Hurricane Sandy. The new structure was constructed to comply with all existing Flood Damage Ordinances.

Since 2014, there have been a total of 59 Single family homes constructed in the flood zone, 10 of which were modular homes. 38 of these structures were determined to be 3 story homes which required for them to have residential fire sprinkler systems installed throughout the entire structure and all the structures were constructed to the Village's current floodplain

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management standards. The Village is essentially “built-out” and has little or no vacant land remaining for development. Most of the development that had occurred in the Village has been redevelopment. Future development is likely to continue the pattern of in-fill construction of single-family homes, reuse or replacement of existing structures. Any new construction of structures in the flood hazard zone, which includes the placement of manufactured homes and the substantial improvement of existing structures, must comply with the floodplain management regulations and be elevated so that the lowest floor, including basement, is a minimum of 4 feet above the BFE shown on the FEMA flood map.

A summary explanation of the Committee review of the 2014 actions is included after each of the listed actions beginning on page 116. The Committee concluded that while most of the actions proposed in the 2014 strategy remained valid, the rearrangement of the presented information into a format more compatible with current FEMA guidelines was warranted. In 2014 the Committee determined that some of the 2005 actions should be consolidated, and some should be eliminated. A list of the eliminated actions, and the reason for their elimination, is as follows:

- Goal 1 Action 1c: “The development of a plan for tornado notification” was eliminated since this action was accomplished by the existing siren system.
- Goal 1 Action 1e: “Working with the NOAA and other agencies to improve early notification of thunderstorms and tornados” was eliminated since this action was accomplished by the existing siren system.
- Goal 3 Action 1a: “Obtain existing data or participate in a study to evaluate whether there has been an increase in water flow through Jones Inlet that might be causing the erosion of the surrounding marshes” was eliminated as an action because it does not mitigate any hazards included in the 2014 Plan Update.
- Goal 3 Action 1b: “Seek Town, County, and interagency cooperation to increase code enforcement against speeding water craft” was eliminated since this action does not mitigate any hazards.
- Goal 3 Action 1c: “Seek funding under the 1996 Environmental Quality Bond Act to protect wetlands, identify sources of erosion, and develop an erosion control program” was eliminated because the action does not mitigate any hazards included in the 2014 Plan Update.
- Goal 3 Action 1e: “Funding to clean and maintain the Freeport Reservoir and waterways” was eliminated since this action does not mitigate any hazards in the 2014 Update.
- Goal 5 and all Actions: “Create an emergency relocation/evacuation site” was eliminated since this goal and the strategies to address that goal are emergency response and not mitigation measures.
- Goal 8 and all Actions: “Provide a better assessment of the vulnerability of critical

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facilities, loss of utilities, and estimated damages” was eliminated since this goal and the strategies to address that goal duplicate Goal 3, Action 3.2.2.

As in the 2014 Plan, the Committee was most interested in those mitigation actions/projects that address high-priority hazards and achieve the agreed-upon goals. Progress on the 2014 mitigation projects was evaluated. As in the 2014 Plan, the selection and prioritization of the 2020 projects and activities was based on the following criteria:

- **Community/Planning:** The proposed activity must be accepted and supported by the community and consistent with community goals and plans.
- **Feasibility:** The activity must be feasible and provide a long-term solution to the hazard as defined by the community.
- **Authority:** The Village must have the legal authority to implement the activity.
- **Economic:** The activity must be cost-effective and benefit the community. The Village Board of Trustees must have the authority to secure funding for the activity.
- **Implementation:** The Village must have the capability to implement the activity and to maintain it.
- **Political:** The activity must be supported by the Mayor, the Board of Trustees, and other local political leaders.
- **Legal:** The activity must comply with all laws, rules, and regulations, acts, and executive orders.
- **Environmental:** The activity must be consistent with environmental goals and must not negatively impact the environment.

Application of the above criteria to each proposed action resulted in their ranking as low, medium, or high priority. High-priority actions are those with a timetable of up to two years for starting implementation. Medium-priority actions are those that would be implemented in two to five years. Low-priority actions are those where implementation would not begin in the first five years. These priorities are detailed on the following pages.

Projects and activities that met the above-listed criteria are set forth in this section as recommended actions. Many of the actions in this plan require little additional funding. Costs can be absorbed into the operating budget, resulting in projects that can be implemented easily. At the same time, some projects that require additional funding will be incorporated into the Capital Improvement Budget based on the project’s priority. Those projects that meet FEMA-approved cost-benefit analysis could be submitted to the New York State Division of Homeland

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Security and Emergency Services (NYS DHSES) under the appropriate assistance program. Other measures may be eligible for state or federal assistance.

As part of the process of analyzing the actions in the previously approved plan, the Planning Committee summarized the updated vulnerability assessment. The summary resulted in a list of problem statements, which are as follows.

1. Freeport has a substantial amount of waterfront development comprised of both residential and commercial structures. They were built before the development of coastal floodplain restrictions and were constructed on concrete foundations and protected by bulkheads. Few are elevated high enough to meet today's standards. This area is highly vulnerable to storms such as hurricanes and nor'easters.
2. The remainder of Freeport is vulnerable to damages to public utilities and infrastructure, such as water pollution and electrical outages.
3. Much of Freeport's public works buildings and other community structures are located in coastal floodplains, impacting public services in the event of future flooding hazard events.
4. Rising sea elevations exacerbate the situation for all Long Island communities, including Freeport.
5. Elevation of existing structures will be costly, and in many cases impractical.
6. Buy-outs have not been a popular solution with many residents and business owners in the past.
7. The tax base in the community will not support alone large-scale solutions to Freeport's vulnerability.

The Planning Committee used the above problem statements in their review of 2014 plan strategy. The results of that review are included in the analysis of each of the proposed 2020 actions, on the following pages.

In the 2014, the Committee determined that one major change in the 2014 Hazard Mitigation Plan was warranted. This is the deletion of a section of the 2005 plan's strategy. The 2005 Plan specifically eliminated further consideration of two actions - the relocation and government buy-out of structures from the SFHAs – because they were found to be politically infeasible. In 2005 the Committee concluded that these activities would not be cost-effective and would not be supported by the citizens of Freeport.

The extensive damage in the Village of Freeport caused by Hurricane Sandy led the Planning Committee to re-evaluate its position on relocation and buyouts in SFHAs in the 2014 Plan. Residents of Freeport should have the opportunity to participate in such programs should they choose to do so. For this reason, the Planning Committee has decided to include these two programs in its mitigation strategy. However, the Planning Committee also feels that the Village should be very careful that a buy-out program does not create a situation where large portions of the community are returned to open space and scattered homes remain. Quality of life for all residents must be considered.

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An addition in the 2020 Hazard Mitigation Plan was the re-evaluation of how to protect Village residents from Epidemics/Pandemics as a result of COVID-19. Nation wide shortages of PPE and testing was looked at.

The following pages list the goals and actions/projects proposed by the 2020 Planning Committee. The actions/projects are listed under the goals they support. As previously stated, these actions/projects are the same as those in the 2014 plan but have been reprioritized. Each action/project recommended for implementation has been analyzed in terms of priority, financial feasibility, cost and source of funds, responsible party.

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Village of Freeport All Hazard Mitigation Plan Matrix of Action Items

Action #	Action Type	Priority	Agency	Cost	Funding Source	Feasibility	Progress since 2014
1.1.1	Additional siren for warning system	High	Emergency Management	\$20,000.	NYS DOS	High	Seven-siren warning system in place; all sirens repaired in 2012, need an additional siren
1.1.2	Secondary siren control at OEC	Moderate	EM	\$10,000.	NYS DOS	Moderate	Project has been completed
1.1.3	Publicize emergency response	High	EM, Buildings, Public Relations	Administrative	Village operating budget	High	Completed and on-going
1.1.4	Hazard newsletter	High	EM, PR	Administrative	Village operating budget	High	Completed and on-going
1.1.5	Establish redundant communication system	High	Nassau County	\$180,000.	Unknown	High	In Progress
1.2.1	Get more accurate flood data	High	Public Works	Administrative	Village operating budget	High	Installed gage. Completed and on-going
1.2.2	Relocate DPW buildings from SFHA	Moderate	Public Works; Trustees	\$12,000,000.	FEMA; EPA; NYS DEC	Low [cost]	Seeking Funding
1.2.3	Seek funding to relocate DPW buildings	Moderate	Public Works	Administrative	Village operating budget	High	No progress
1.2.4	Seek funding for generators	Moderate	Public Works; Trustees	\$15,000.	Village capital budget	High	One generator purchased for Water Operations building
1.2.5	Identify mitigation for school in SFHA	Moderate	Freeport School District	Administrative	Unknown	Moderate	Completed
1.2.6	SAVE program	High	Freeport SD; Police	Administrative	Village operating	High	Completed; on-going

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Action #	Action Type	Priority	Agency	Cost	Funding Source	Feasibility	Progress since 2014
1.2.7	Seek funding to relocate power plant control room	High	Freeport Municipal Utility	\$10,000,000.	Freeport Municipal Utility	Low [cost]	This project is pending do to Covid 19 but will continue
1.2.8	Seek funds for tree removal	High	Public Works, Utility	\$100,000.	Community Development Block Grants	High	Seeking to restore funding
1.2.9	More security for critical facilities	High	Village purchasing agent, utility	\$200,000.	Village capital budget	High	Completed; on-going
1.2.10	Bury utility lines underground	High	Utility	\$20,000,000.	Utility capital budget	High	On-going; moved street light utility lines underground on Guy Lombardo Avenue during street reconstruction
1.2.11	Raise pad mount electric transformers located in the SFHA	High	Utility	\$1,000,000.	Utility capital budget	High	On-going Project that is 90% Complete.
1.3.1	Raise grade of selected streets to mitigate flooding	High	Public Works, Trustees	\$14,500,000	Roadway capital budget	High	On-going, Raising portions of Nassau Ave in 2020
1.3.2	Document reduced flooding due to street reconstruction	Moderate	Public Works	Administrative	Village operating budget	High	On-going
1.3.3	Reduce flooding from storm drain backup	High	Public Works	Administrative	Village operating budget	High	Completed; on-going; funding secured

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Action #	Action Type	Priority	Agency	Cost	Funding Source	Feasibility	Progress since 2014
1.3.4	Replace valves on streets	High	Public Works, Trustees	\$1,000,000.	Village capital budget	High	Replaced some valves; funding secured from NYSDOT, project On-going
1.3.5	Revise drain maintenance procedures	High	Public Works, Police	\$0.	Village operating budget-	High	Completed and on-going
1.3.6	Phase II Storm Water Management	High	Public Works	\$0.	Village operating budget-	High	Complying; on-going
1.3.7	Test new bulkhead materials	Moderate	Public Works	\$2,000.	Village capital budget	High	On-going
1.4.1	Install SCADA Integrated Outage Management System	High	Utility	\$120,000.	Utility capital budget	High	The OMS project was GOSR funded and was 100% Completed in 2018.
1.4.2	Install 4000 smart meters in flood zones	Moderate	Utility	\$500,000.	Utility capital budget	High	On-going Project still Pending
1.4.3	Raise 4,000 electric meter pans and service	High	Utility	\$12,000,000.	Utility capital budget	High	Complying; on-going
1.5.1	Coordinate interagency cooperation	Moderate	EM, Buildings	Administrative	Village operating budget	High	Completed; new mutual aid agreements in place
1.6.1	Provide HAZMAT training for village employees	High	EM, Fire	\$200,000.	Federal & State grants	Low	None; DPW/FD trained

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Action #	Action Type	Priority	Agency	Cost	Funding Source	Feasibility	Progress since 2014
1.6.2	Train EM responders in hazard events	Low	EM, Fire	\$50,000.	Village operating budget	High	None; Fire Department training annual and on-going
1.6.3	Set up POD	Moderate	EM	\$0.	Village operating budget-	High	In progress; working with Nassau County
1.6.4	Install household smoke alarms	Low	Fire, Village attorney	Administrative	Village operating budget	High	Completed; required by 2007 NYS Building Code
1.6.5	Terrorism response plan	Low	Fire, EM, Police	Administrative	Village operating budget	Low	None
1.6.6	Link law enforcement data	Moderate	Police, EM	\$75,000.	US Dept. of Justice	High	On-going
1.6.7	Hire crime analyst	Moderate	Police	\$100,000.	Village operating budget	Low	PD is seeking a replacement. Project On-going
1.6.8	Pandemic PPE	High	EMO	\$10,000	Village Operating budget	High	NEW
1.6.9	Pandemic PPE	High	Fire	\$37,000	Fire Act Grant	High	NEW
2.1.1	Encourage purchase of flood insurance	Moderate	Buildings	Administrative	Village operating budget	High	Completed and on-going
2.1.2	Educate public about flood insurance	Moderate	Buildings	Administrative	Village operating budget	High	Completed and on-going
2.1.3	Publicize differences in flood insurance	Moderate	Buildings	Administrative	Village operating budget	High	None
2.1.4	Provide public with flood zone information	Moderate	Buildings	Administrative	Village operating budget	High	Completed and on-going

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Action #	Action Type	Priority	Agency	Cost	Funding Source	Feasibility	Progress since 2014
2.1.5	Update Floodplain Management Code	High	Buildings, attorney	Administrative	Village operating budget	High	Completed 2009 and again in 2014
2.1.6	Consider buy-outs and acquisitions in SFHA	High	Buildings, Trustees, attorney	Unknown but very costly	FEMA HMA, CDBG	Low [without funding]	None
2.1.7	Obtain a Class 6 rating	High	Buildings	Administrative	Operating budget	High	Improved rating from 8 to 7
2.2.1	Staff training FEMA programs	High	Buildings	\$2,500.	Village operating budget	Moderate	Completed; on-going annually
2.2.2	Staff training in seismic + wind design	Moderate	Buildings	\$500.	Village operating budget	High	Completed; on-going annually, Village now has 2 on staff certified floodplain managers certified.
2.2.3	Staff training non-FEMA programs	High	Buildings	\$1,500.	Village operating budget	Moderate	None
2.2.4	Training in mutual aid assistance	Low	EM	\$2,000.	Village operating budget	Moderate	None
2.2.5	Outreach to building professionals to increase compliance	High	Buildings, Trustees	\$250.	Village operating budget	Moderate	Ad-hoc
2.3.1	Enforce all codes	Moderate	Buildings, Trustees	\$0.	Village operating budget-	High	Completed and on-going
2.3.2	Investigate regulations re: houseboats	Moderate	Trustees, attorney	Administrative	Village operating budget	Unknown	None

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Action #	Action Type	Priority	Agency	Cost	Funding Source	Feasibility	Progress since 2014
2.3.3	Investigate new regulations for mitigation	Moderate	Trustees, attorney	Administrative	Village operating budget	Unknown	New Floodplain Management Code; new Building Code
3.1.1	Network GIS computers	High	IT	\$50,000.	Federal & State grants	Moderate	None; grants submitted, funding not secured
3.1.2	Expand property database, use GIS	High	Village Assessor	Administrative	Village operating budget	Moderate	None
3.1.3	Use GIS to track flooding	High	Buildings, EM	Administrative	Village operating budget	Moderate	None
3.1.4	Input GIS information on critical facilities	High	Buildings, EM. Fire	Administrative	Village operating budget	High	Partially completed
3.2.1	Provide laptops to first responders	High	Fire	\$20,000.	Village capital budget	High	Completed; each Fire Department vehicle has laptop with GIS
3.2.2	Obtain HAZUS software	Low	Buildings, EM	\$0	Village operating budget	Low	None
3.2.3	Expand technological resources	High	Police, Fire, EM	Unknown	Federal and State grants	Low	None
3.2.4	Additions to LPS System	High	Police	\$352,780	Federal and State grants	High	NEW

5.1 GOALS, OBJECTIVES, AND ACTIONS

Goal 1: Minimize Future Damage from Hazards

Objective 1.1: Improve the Village of Freeport's emergency warning system.

Action 1.1.1: Install an additional siren on the southern end of Guy Lombardo Avenue.

Priority/timetable: High

Responsible Party: Emergency Management

Estimated Cost: \$20,000

Source of Funds: NYS DOS Community Grant program

Financial and Political Feasibility: Installing an additional siren can be accomplished easily with relatively minimum funding.

Hazards Addressed: Tornados, Severe Storms, Flooding

Progress Since 2014: The Village has an Emergency Siren Warning System which is activated when flood, storm, or any other type of warning to the public is required. The system consists of seven (7) sirens. The village received funding to repair and replace all seven and they were repaired in 2012. An outreach program publicizing the siren system is also in place and informational materials are mailed bi-yearly. An additional siren is needed and Village is seeking funding.

Action 1.1.2: Establish a secondary control for the siren system in the Emergency Operations Center (EOC).

Priority/timetable: Moderate

Responsible Party: Emergency Management

Estimated Cost: \$10,000

Source of Funds: NYY DOS

Financial and Political Feasibility: Installing a secondary control can be accomplished easily with minimum funding, and would be popular with the public.

Hazards Addressed: Tornados, Severe Storms, Flooding

Progress Since 2014 Plan: Project has been completed

Action 1.1.3: Publicize the Village's existing emergency response systems, such as the radio station. This information is and will continue to be included in the Village's annual Community Outreach programs.

Priority/timetable: High

Responsible Party: Emergency Management, Building and Public Relations departments

Estimated Cost: No additional costs

Source of Funds: No funding needed

Financial and Political Feasibility: The emergency radio station can be publicized through the existing community outreach program without additional funding. Incorporating information on extreme cold/heat, epidemic, ice storms, fire, and terrorism can be easily accomplished with minimum funding.

Hazards Addressed: All

Progress Since 2014 Plan: The existing siren system is designed to notify residents to tune in to the radio station for information. An established Emergency Management Hotline is also available. The Village also maintains a public information website

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(www.Freeportny.com) that has links to flood/hurricane mitigation and hazard preparedness. Although this action has been accomplished, the Planning Committee wants to ensure that publicizing the radio station will continue, and so has retained this action in the 2020 Plan Update.

Action 1.1.4: Newsletters could provide information on how to minimize the impact of all hazard events, such as extreme weather, carbon monoxide poisoning, fire prevention, mosquito control, disease transmission, ice storms, strapping down water heaters, etc..

Priority/timetable: High

Responsible Party: Public Relations Department, Emergency Management

Estimated Cost : \$3,000

Source of Funds: General Fund

Financial and Political Feasibility: can be accomplished easily with minimum funding and would be popular with the public

Hazards Addressed: All

Progress Since 2014 Plan: The Village has a hazard awareness program. A bilingual Hazard Awareness Newsletter, which includes flooding, is sent out bi-annually to all residents and business owners. Although the action has already been accomplished, the Planning Committee determined that the program is important enough that its continuation needs to be assured by including it as a strategy in this 2020 Plan Update. Possible improvements to newsletter would be to digitize annual mailing for social media posting.

Action 1.1.5: Establish a redundant communications system for use by all public safety officials during hazard events and replace the current 800 radio system.

Priority/Timetable: High

Responsible Party: Nassau County

Estimated Costs: \$180,000

Source of Funds: Unknown

Financial and Political Feasibility: Nassau County Purchased radios but has not distributed them.

Hazards Addressed: All

Progress Since 2014 Plan: This action was new to the 2014 Plan. On-going project.

Objective 1.2: Mitigation of damages to public buildings, infrastructure, utilities, and other critical facilities.

Action 1.2.1: Obtain more accurate flood data by monitoring the tidal gage and entering flood level data into the GIS system to use in improved road design.

Priority/timetable: High

Responsible Party: Department of Public Works

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Can be easily accomplished with no additional funding and would be supported by the Board of Trustees and the public.

Hazards Addressed: Flooding

Progress Since 2005 Plan: The Department of Public Works monitors the tidal gage during times of flooding and records the levels for the roads that flood. The information

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has been and will be used for the design of future road improvement projects.

Action 1.2.2: Relocate and consolidate the Department of Public Works structures out of the Special Flood Hazard Area (SFHA). The new site must be accessible 24 hours a day and must not have a negative impact on residential neighborhoods. Building and site needs include the:

Service garage	80' x 100'	8,000 sf
Parks office/sign shop	75' x 30'	2,500 sf
Parks garage	100' x 75'	7,500 sf
Administration/Engineering	35' x 85'	2,975 sf
Salt storage facility	100' x 50'	5,000 sf
Gasoline pumps	90' x 50'	4,500 sf
Parking area and access	200' x 300'	60,000 sf
Material storage	200' x 200'	40,000 sf
Highway garage	300' x 100'	30,000 sf

Total area required: 160,225 sf

Priority/timetable: Moderate

Responsible Party: Department of Public Works and Board of Trustees

Estimated Cost: \$12,000,000

Source of Funds: Federal and State grant funds

Financial and Political Feasibility: Very expensive and, depending on the site, may have public support.

Hazards Addressed: Flooding

Progress Since 2014 Plan: The Village has explored all available sites and will continue to do so. The Village also is actively exploring a passive flood defense system. Project in On-going

Action 1.2.3: Seek funding to relocate the Public Works Department structures out of the SFHA.

Priority/timetable: Moderate

Responsible Party: Department of Public Works

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Can be easily accomplished with no additional funding and would be supported by the Board of Trustees and the public.

Hazards Addressed: Flooding

Progress Since 2014 Plan: No progress has been made. Funding cannot be sought until an appropriate site is found.

Action 1.2.4: Seek funding to purchase stationary generators to provide emergency energy needs for the Public Works Buildings, all other Village governmental facilities, and the following firehouses and water system wells and buildings:

Headquarters 15 Broadway
Hose 5 47 Leonard Avenue

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Hose 1 22 Southside Avenue
Hose 4, 221 West Sunrise Highway
Wells number 1A, 3, 4A, 5, 6, and 9
Water Operations Building
Two (2) Chemical Treatment Buildings

Priority/timetable: Moderate

Responsible Party: Department of Public Works and Board of Trustees

Estimated Cost: \$15,000

Source of Funds: Village Capital Budget

Financial and Political Feasibility: Can be easily accomplished with minimum funding and would be supported by the public

Hazards Addressed: Flooding, Hurricanes

Progress Since 2014 Plan: The water operations building was equipped with a stationary generator. No progress has been made since 2014.

Action 1.2.5: Work with Freeport Union Free School District to identify mitigation strategies for the elementary school building (Giblyn) located in the SFHA.

Priority/timetable: Moderate

Responsible Party: Freeport Union Free School District

Estimated Cost: Identification of strategy would incur only administrative costs

Source of Funds: Cost depends on the strategy chosen.

Financial and Political Feasibility: Depends on the project chosen. However, the benefit would be high; urgency may be greater due to flooding from Hurricane Sandy.

Hazards Addressed: Flooding

Progress Since 2014 Plan: Project has been completed.

Action 1.2.6: Continue to work with the school district on the state-mandated SAVE program to prevent violence in the schools.

Priority/timetable: High

Responsible Party: Freeport Union Free School District, the Village Police Department

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by the public and inexpensive to run

Hazards Addressed: Civil unrest, Terrorism

Progress Since 2014 Plan: This ongoing program was in place at the time of the 2005 plan and continues today. The Planning Committee determined that this important program needs to be part of the 2020 mitigation strategy to ensure its continuation.

Action 1.2.7: Seek funding to relocate the electric power plant control room out of the SFHA. The control room should be relocated from Power Plant II to Power Plant I, which is not in a SFHA.

Priority/timetable: High

Responsible Party: Village of Freeport Municipal Electric Utility

Estimated Cost: \$10,000.000

Source of Funds: Utility Capital Budget

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Financial and Political Feasibility: Very expensive, but also very high rewards. Politically feasible but only if funded through external sources.

Hazards Addressed: Flooding, Hurricanes

Progress Since 2014 Plan: This project is pending do to COVID 19 but will continue as soon as possible.

Action 1.2.8: Continue to seek funding for the removal of trees that contribute to damages from hazard events.

Priority/timetable: High

Responsible Party: Department of Public Works, Freeport Municipal Electric Utility

Estimated Cost: \$100,000

Source of Funds: Community Development Block Grants

Financial and Political Feasibility: Supported by the Board of Trustees and the public

Hazards Addressed: Winter Storm, Nor'easter, Tornadoes, Hurricanes

Progress Since 2014 Plan: Between 2006 to 2009 the Freeport Community Development Agency awarded the Village \$100,000 each year which paid for the removal of one hundred (100) trees annually. Freeport is working to restore the funding. Since 2014 The village has shifted the responsibility for tree removal to the property owners.

Action 1.2.9: Upgrade security for critical facilities, such as water wells and power plants, to insure protection from human-caused hazards. Install window film on all public facilities.

Priority/timetable: High

Responsible Party: Purchasing Agent, Village of Freeport Water and Electric Utilities

Estimated Cost: \$200,000

Source of Funds: Village and Utility Capital Budgets

Financial and Political Feasibility: Supported by the Board of Trustees and the public

Hazards Addressed: Terrorism, Civil Unrest

Progress Since 2014 Plan: Security systems have been upgraded at the Water Operations building, Power Plants I and II, Public Works Department, and Village Hall. Project completed.

Action 1.2.10: Seek funding annually to continue to move electrical utility lines underground.

Priority/timetable: High

Responsible Party: Village of Freeport Municipal Electric Utility

Estimated Cost: \$20,000,000

Source of Funds: Utility Capital Budget

Financial and Political Feasibility: Would be supported by the Board of Trustees and the public however, very expensive.

Hazards Addressed: Hurricanes, Winter Storms, Nor'easters, Tornadoes, Hurricanes

Progress Since 2014 Plan: Street lighting was moved underground on Guy Lombardo Avenue from Atlantic Avenue to Sunrise Highway during the reconstruction of the road in 2007.

Action 1.2.11: Seek funding to raise by three (3) feet one hundred (100) single- and three-phase pad mount electric transformers located in the SFHA to mitigate damages from flooding.

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Priority/timetable: High

Responsible Party: Village of Freeport Municipal Electric Utility

Estimated Cost: \$1,000,000

Source of Funds: Utility Capital Budget

Financial and Political Feasibility: Supported by the Board of Trustees and the public but very expensive.

Hazards Addressed: Flooding

Progress Since 2014 Plan: This action was new to the 2014 Plan and is an ongoing project that is 90% completed.

Objective 1.3: Mitigate flood damages to streets and roads

Action 1.3.1: Raise selected streets that are below the base flood elevation. Seek approximately \$14,500,000 in funding to raise the following streets:

Richmond Avenue from Miller Avenue to Woodcleft Avenue

Manhattan Avenue from Miller Avenue to Woodcleft Avenue

Suffolk Street from South Long Beach Avenue to Woodcleft Avenue

Hamilton Street from South Long Beach Avenue to Woodcleft Avenue

Adams Street from South Long Beach Avenue to Woodcleft Avenue

Hudson Avenue from Jefferson Street to Howard Avenue

Sportsman Avenue from Ray Street to canal

Albany Avenue from Stadium Drive

South Ocean Avenue, south of Cedar Street

Guy Lombardo Avenue south of Ray Street

South Long Beach Avenue, south of Suffolk Street

Priority/timetable: High

Responsible Party: Public Works Department and Board of Trustees

Estimated Cost: \$14.5 million

Source of Funds: When the Village of Freeport prepares capital budgets for road improvements, design and budgeting of the projects include mitigation measures such as grade raises in roads located in the floodplain.

Financial and Political Feasibility: High,

Hazards Addressed: Flooding

Progress Since 2014 Plan: This action is on-going; road improvements, including grade raises, are added to the Capital Budget annually. We anticipate raising a portion of Nassau Avenue in 2020.

Action 1.3.2: Continue to document the significant decreases in street flooding after a road elevation project.

Priority/timetable: Moderate

Responsible Party: Department of Public Works

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by the public, and inexpensive.

Hazards Addressed: Flooding

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Progress Since 2014 Plan: On-going

Action 1.3.3. Reduce flooding and flood damage from tidal waters backing up through storm drains.

- Enter the location of all check valves into the GIS system
- Revise maintenance procedures to increase the functioning of the check valves and provide early identification of problem sites
- Seek funding to replace obsolete or nonfunctioning valves

Priority/timetable: High

Responsible Party: Public Works Department

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by the public, and inexpensive.

Hazards Addressed: Flooding

Progress since 2014 Plan: Completed and on-going: Locations of all check valves have been input into the GIS system. Maintenance procedures have been revised. Funding for the replacement of 22 check valves has been secured.

Action 1.3.4: Seek approximately \$1,000,000 in funding for replacement of valves at the following sites:

Guy Lombardo Avenue south of Norton Street

Guy Lombardo Avenue at Grant Street.

Guy Lombardo Avenue at Tyler Street

Roosevelt Avenue at Adams Street

Roosevelt Avenue at Front Street

Branch Avenue at south of Bryant Street

Cary Place at end of block

Dock Drive at end of block

Sportsman Avenue at end of block

Arthur Street south of Cornelius Street

Arthur Street in middle of block

Arthur Street at end of block

President Street between Garfield Street and Gordon Place

Bedell Street east of South Main Street

Cedar Street east of Roosevelt Avenue

Cedar Street at Guy Lombardo Avenue

South Ocean Avenue north of Front Street

Florence Avenue dead end

Meister Boulevard east of Buchanan Street

Lester Avenue dead end

Irving Avenue dead end

Sterling Avenue south of Meister Boulevard

Clinton Street at Prospect Street

Westside Avenue south of Lewis Street

Adams Street west of South Long Beach Avenue

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South Long Beach Avenue south of Suffolk Street
South Long Beach Avenue north of Waterfront Park
Waterfront Park at bulkhead
Hudson Avenue south of Howard Street
Woodcleft Avenue at Adams Street
Woodcleft Avenue at Hamilton Street
Woodcleft Avenue at Suffolk Street
Woodcleft Avenue at Manhattan Street
Woodcleft Avenue at Richmond Street
West 4th Street west of South Main Street

Priority/timetable: High

Responsible Party: Department of Public Works and Board of Trustees

Estimated Cost: \$1,000,000

Source of Funds: Village Capital Budget, NYS DOT

Financial and Political Feasibility: Supported by the Board of Trustees and the public but very expensive.

Hazards Addressed: Flooding

Progress Since 2014 Plan: Completed and on-going: The check valves have been replaced on Irving Avenue, Front Street, Roosevelt Avenue, Nassau Avenue, Suffolk Street, and Long Beach Ave south of Suffolk Street.

Action 1.3.5: Improve drainage system throughout the Village by revising drainage maintenance procedures. Coordinate drainage maintenance activities with Nassau County and enforce regulations prohibiting dumping into creeks and catch basins.

Priority/timetable: High

Responsible Party: Village Public Works Department and Freeport Police Department

Estimated Cost: No additional costs

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by the public, and inexpensive

Hazards Addressed: Flooding

Progress since 2014 Plan: Completed and on-going: Drainage maintenance procedures have been changed. A vacuum truck has been purchased. Coordination with the county and the Freeport Police Department continues.

Action 1.3.6: Continue to update and comply with Phase II Storm Water Management requirements.

Priority/timetable: High

Responsible Party: Department of Public Works

Estimated Cost: Compliance does not cost the Village any additional funds

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by Board of Trustees and the public. Virtually no costs to the Village; continuing compliance has high rewards.

Hazards Addressed: Flooding

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Progress Since 2014 Plan: Completed and on-going; the Village has been successfully complying for some years.

Action 1.3.7: Investigate the use of new materials for Village bulkheads, and test the use of alternative materials for durability.

Priority/timetable: Moderate

Responsible Party: Public Works Department

Estimated Cost: \$2,000 for materials, test site,, staff time

Source of Funds: Village capital/operating budget

Financial and Political Feasibility: Low-cost project that would be supported by the public as well as elected officials

Hazards Addressed: Flooding, Hurricanes

Progress Since 2014 Plan: This action was new to the 2014 Plan. There were no alternatives found however we have replaced the bulkheads at Waterfront Park and the dead end of Hampton Place.

Objective 1.4: Seek electrical system improvements to enhance the robustness of the distribution network and provide significant advancements in safety, reliability, and reduced outage time during storm restoration efforts

Action 1.4.1: Install New SCADA Integrated Outage Management System to alleviate the information bottleneck and provide a timely solution for the restoration of electric services.

Priority/timetable: High

Responsible Party: Village of Freeport Municipal Electric Utility

Estimated Cost: \$120,000

Source of Funds: Utility Capital Budget

Financial and Political Feasibility: Supported by the public as well as elected officials

Hazards Addressed: Flooding, Hurricanes

Progress Since 2014 Plan: This action was new to the 2014 Plan. The OMS project was GOSR funded and was 100% Completed in 2018.

Action 1.4.2: Install 4,000 electric smart meters in the flood zone in order to provide the customer and the utility real-time metering information

Priority/timetable: Moderate

Responsible Party: Village of Freeport Municipal Electric Utility

Estimated Cost: \$500,000

Source of Funds: Utility Capital Budget

Financial and Political Feasibility: Supported by the public as well as elected officials. but very expensive.

Hazards Addressed: Flooding, Hurricanes

Progress Since 2014 Plan: This action was new to the 2014 Plan and is an ongoing project that is still pending.

Action 1.4.3: Raise electric meter pans and service entrances five (5) feet above the base flood elevation for 4,000 customers residing in an area south of Sunrise Highway.

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Priority/timetable: High

Responsible Party: Village of Freeport Municipal Electric Utility

Estimated Cost: \$12,000,000

Source of Funds: Utility Capital Budget

Financial and Political Feasibility: Supported by the public as well as elected officials but very expensive

Hazards Addressed: Flooding, Hurricanes

Progress Since 2014 Plan: This action was new to the 2014 Plan. The raising of Meter Pans for all New construction or damaged properties with new Electrical installs in the flood areas requiring them to be raised to a height of 10ft as per our Electrical Code. Project is ongoing.

Objective 1.5: Seek cooperation between the Village of Freeport and other governments and agencies

Action 1.5.1: Coordinate activities with interested agencies or other jurisdictions, including the New York State Department of State, Nassau County Emergency Management Office, and the U.S. Army Corp. of Engineers. Expand mutual aid agreements.

Priority/timetable: Moderate

Responsible Party: Building Department and Department of Emergency Management

Estimated Cost:: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: High: Expanding agreements with additional municipalities and Nassau County can be easily accomplished with no additional funding

Hazards Addressed: All

Progress Since 2014 Plan: Completed and on-going: In 2011, Freeport entered into a Mutual Aid Agreement with the Town of Hempstead that provides for mutual aid in obtaining fuel for Village vehicles and equipment due to shortages caused by damaged fuel tanks.

Objective 1.6: Mitigate damages caused by technical and man-made hazards.

Action 1.6.1: Provide HAZMAT training to public sector (Village) employees

Priority/timetable: High

Responsible Party: Village of Freeport Emergency Management, Fire Department

Estimated Cost:: \$200,000

Source of Funds: Federal or state grant programs

Financial and Political Feasibility: Low without additional funding; with funding, would be supported by the public as well as elected officials

Hazards Addressed: Hazardous Materials in Fixed Sites and in Transit

Progress Since 2014 Plan: Completed and on-going: The Village of Freeport provides HAZMAT training to employees of the Public Works and Water departments. Members of the Fire Department also receive training from the Nassau County Fire Service Academy.

Action 1.6.2: Train emergency personnel, such as tactical rescue teams, for hazardous events such as structural collapses.

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Priority/timetable: Low

Responsible Party: Village of Freeport Emergency Management, Fire Department

Estimated Cost: \$50,000

Source of Funds: Village operating budget, fundraisers

Financial and Political Feasibility: Supported by the public as well as elected officials.

Hazards Addressed: Earthquakes, Structural collapse

Progress Since 2014 Plan: Completed and on-going annually: Village of Freeport Fire Department members receive training from the Nassau County Fire Service Academy

Action 1.6.3: Establish a point of distribution if events makes it necessary to dispense vaccines

Priority/timetable: Moderate

Responsible Party: Village of Freeport Emergency Management

Estimated Cost: No additional funds

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by the public and elected officials.

Hazards Addressed: Hazards named in the 2020 Plan Update, such as earthquakes, can cause epidemics.

Progress Since 2014 Plan: In progress; the Village of Freeport has been working with Nassau County to find a site.

Action 1.6.4: Develop and implement a Village ordinance mandating that all houses have functioning smoke alarms

Priority/timetable: Low

Responsible Party: Chief of the Village Fire Department, Village Attorney

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by Board of Trustees; low-cost project.

Hazards Addressed: Fire

Progress Since 2014 Plan: Completed; the updated 2007 New York State Building Code requires that all structures designed for habitation, including hotels, motels, apartments, and residential homes, must be equipped with functioning smoke detectors. The Village of Freeport is mandated to enforce the NYS Building Code.

Action 1.6.5: Develop a terrorism prevention and response plan

Priority/timetable: Low

Responsible Party: Chief of the Village Fire Department, Police Department, Emergency Management

Estimated Cost: Administrative costs only

Source of Funds: Village operating budget

Financial and Political Feasibility: Political feasibility is low despite low cost.

Hazards Addressed: Terrorism

Progress Since 2014 Plan: None: This action requires a local champion who has not been identified,

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Action 1.6.6: Improve data-sharing by systematically linking large amounts of data between neighboring law enforcement jurisdictions. Linking should also occur between different levels of law enforcement (local, state and federal) and between institutions (schools, hospitals, other village departments, motor vehicle division).

Priority/timetable: Moderate

Responsible Party: Village Police Department and Emergency Management

Estimated Cost: \$75,000

Source of Funds: U.S. Department of Justice, local funding

Financial and Political Feasibility: Supported by the Board of Trustees and the public and gives good value for the money spent.

Hazards Addressed: All

Progress Since 2014 Plan: In progress; funding required

Action 1.6.7: Create the position of Crime Analyst within the Village government.

Priority/timetable: Moderate priority

Responsible Party: Village Police Department

Estimated Cost: \$100,000

Source of Funds: Local funding

Financial and Political Feasibility: Support by Board of Trustees or public is unlikely.

Hazards Addressed: Terrorism, Cyber-Terrorism

Progress Since 2014 Plan: This action was new to the 2014 Plan. The position was filled in 2014. However, in December 2019 the current Crime Analyst resigned. The Freeport Police is actively seeking to fill the position.

Action 1.6.8: Establish a point of distribution if events makes it necessary to dispense PPE Facemasks and hand sanitizers.

Priority/timetable: High

Responsible Party: Village of Freeport Emergency Management

Estimated Cost: \$10,000

Source of Funds: Village operating budget

Financial and Political Feasibility: Supported by the public and elected officials.

Hazards Addressed: Epidemics and Pandemics

New to the 2020 Plan: In progress; the Village of Freeport has been purchasing/soliciting donations of facemasks and hand sanitizers for distribution to Freeport residents in need during the COVID-19 crisis. EMO is seeking to stockpile supplies for future pandemics.

Action 1.6.9: Purchase 100 Individual Scott AV3000 face pieces and 200 face piece carry bags.

Priority/timetable: High

Responsible Party: Freeport Fire Department

Estimated Cost: \$37,000.000

Source of Funds: Fire Act Grant

Financial and Political Feasibility: Supported by the public and elected officials.

Hazards Addressed: Epidemics and Pandemics

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New to the 2020 Plan: The purchase of individual face-pieces for each Class “A” Firefighter will allow the individual Firefighters to maintain and sanitize their own equipment. It will also unequivocally reduce the possibility of the transfer of germs between our Firefighters through the shared use of the current face-pieces. This will have a profound impact on our Firefighters health and safety. In particular, in stemming the spread of Covid 19.

Goal 2: Use existing programs and internal governmental systems to enhance mitigation opportunities for the Village of Freeport

Objective 2.1: Continue to participate in and promote the National Flood Insurance Program (NFIP)

Action 2.1.:1 Encourage the public to obtain flood insurance in order to reduce the economic impacts caused by flooding

Priority/timetable: Moderate

Responsible Party: Building Department

Estimated Cost: Administrative costs, perhaps costs of publicity,

Source of Funds: Village operating budget.

Financial and Political Feasibility: Reasonable financial and political feasibility, low cost, high benefits, though may be hard to measure.

Hazards Addressed: Flooding

Progress Since 2014 Plan: In progress; this action has been at least partially achieved, as numerous publicizing efforts, such as news releases, have been made. The Planning Committee is committed to NFIP activities and wants to reinforce the importance of this action by including it in the 2020plan.

Action 2.1.2: Continue to educate the public on the importance of flood insurance and how property owners benefit.

Priority/timetable: Moderate

Responsible Party: Building Department and Public Relations

Estimated Cost: Administrative costs, perhaps costs of publicity, Printing and mailing costs are already part of the annual budget.

Source of Funds: Village operating budget

Financial and Political Feasibility: High

Hazards Addressed: Flooding

Progress Since 2014: Completed and on-going; Freeport developed a Flood Mitigation Newsletter that is sent out annually to all residents and business owners located in the SFHAs. The Planning Committee includes the strategy in the 2020 Plan Update in order to ensure its continuation. In addition looking into digitizing the annual newsletter for Social Media outlets.

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Action 2.1.3: Distribute information to the public detailing the difference between standard property/rental insurance and flood insurance

Priority/timetable: Moderate
Responsible Party: Building Department
Estimated Cost: Administrative costs, including printing
Source of Funds: Village operating budget.
Financial and Political Feasibility: Can be done without additional outside funding.
Hazards Addressed: Flooding
Progress Since 2014 Plan: This activity can be easily implemented as part of the Hazard Awareness Program and by posting public information on the Village's website..

Action 2.1.4: Continue providing the public with flood zone information.

Priority/timetable: Moderate
Responsible Party: Building Department
Estimated Cost: No additional funding required
Source of Funds: Village operating budget
Financial and Political Feasibility: High; supported by the public and elected officials
Hazards Addressed: Flooding
Progress Since 2014 Plan: Completed and on-going.

Action 2.1.5: Continue to update the Village of Freeport Floodplain Management Code to keep it current.

Priority/timetable: High
Responsible Party: Building Department and Village Attorney
Estimated Cost: Administrative funds only.
Source of Funds: Village operating budget
Financial and Political Feasibility: Supported by Board of Trustees and the public.
Hazards Addressed: Flooding
Progress Since 2014 Plan: Completed and on-going; the Floodplain Management Code was updated in 2009 and then again in 2014.

Action 2.1.6: Consider at the option of the property owner buy-outs and relocations for structures located in SFHAs.

Priority/timetable: High
Responsible Party: Board of Trustees, Building Department, and Village Attorney
Estimated Cost: Cost unknown
Source of Funds: FEMA and CDBG grants
Financial and Political Feasibility: Infeasible without additional external funding
Hazards Addressed: Flooding, Hurricanes
Progress Since 2014 Plan: This was a new action in the 2014 plan. No Progress

Action 2.1.7: Continue to maintain and enhance the Class 7 Community Rating System.

Priority/timetable: High
Responsible Party: Building Department
Estimated Cost: Administrative costs

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Source of Funds: Village operating budget.

Financial and Political Feasibility: Supported by Board of Trustees and the public

Hazards Addressed: Flooding

Progress Since 2014 Plan: Completed and on-going: In 2011 the Village improved its CRS rating from Class 08 to Class 07, thereby saving homeowners an additional five percent on flood insurance premiums. The Village reviews CRS requirements annually; addresses new more stringent requirements; maintains all required documentation; and reviews and determines requirements to obtain the next CRS Class. We are presently seeking additional credit in an effort to attain a Class 06 rating.

Objective 2.2: Ensure that Village staff is trained in a wide range of public assistance programs, enabling dissemination of all information.

Action 2.2.1: Continue to send staff to FEMA-sponsored retrofitting classes, and educate building professionals on hazard mitigation activities for new construction and retrofitting

Priority/timetable: High

Responsible Party: Building Department

Estimated Cost: \$2,500

Source of Funds: Village operating budget

Financial and Political Feasibility: Low cost and moderate benefit, supported by the public and the Board of Trustees.

Hazards Addressed: Hurricanes, Winter Storms/Nor'easters, Severe Storms, Earthquakes, Tornados

Progress Since 2014 Plan: Completed and on-going. Building Department staff attend annual training classes at the National Emergency Training Center (NETC) in Emmitsburg, Maryland. Staff members also take advantage of FEMA's online Independent Study Program (ISP).

Action 2.2.2: Seek additional Building Department staff training in seismic and high wind design

Priority/timetable: Moderate

Responsible Party: Building Department

Estimated Cost: \$500 and staff time

Source of Funds: Village operating budget

Financial and Political Feasibility: Low cost and moderate benefit, supported by the public and by Board of Trustees

Hazards Addressed: Earthquakes, Hurricanes, Winter Storms/Nor'easters

Progress Since 2014 Plan: Completed and on-going; Building Department staff receive training on high wind design at the annual Hurricane Conference

Action 2.2.3: Continue to encourage staff to participate in hazard mitigation training programs sponsored by agencies other than FEMA and SEMO.

Priority/timetable: High

Responsible Party: Building Department

Estimated Cost: \$1,500

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Source of Funds: Village operating budget

Financial and Political Feasibility: Low cost, moderate benefit, moderate support from the public.

Hazards Addressed: All

Progress Since 2014 Plan: The Building Department has sought outside hazard mitigation training, however has not been successful in locating training programs other than FEMA programs. The Village of Freeport does not presently have 2 on staff Certified Floodplain Managers certified through the Association of State Floodplain Managers.

Action 2.2.4: Seek additional training for mutual aid assistance.

Priority/timetable: Low

Responsible Party: Department of Emergency Management

Estimated Cost: \$2,000

Source of Funds: Village operating budget

Financial and Political Feasibility: Low cost, moderate benefit, supported by public and Board of Trustees

Hazards Addressed: All

Progress Since 2014 Plan: In-progress

Action 2.2.5: Conduct outreach programs to local architects, engineers, and building contractors to gain better compliance with flood codes, decrease the time dedicated to plan reviews, decrease compliance problems in the field, and provide a platform for disseminating information.

Priority/timetable: High

Responsible Party: Building Department, Board of Trustees

Estimated Cost: \$250

Source of Funds: Village operating budget

Financial and Political Feasibility: Low cost, moderate benefit, support unknown

Hazards Addressed: Flooding

Progress Since 2014 Plan: Building Department staff meet with building professionals on an individual ad-hoc basis and discuss compliance with flood plain codes; a formal program has not been adopted, but it is office policy to have pre-construction meetings with all parties involved for elevation and new construction projects to ensure full compliance with all respective codes and ordinances.

Objective 2.3: Incorporate mitigation principles into building codes, land use regulations, and construction practices.

Action 2.3.1: Continue to strictly enforce building codes, occupancy requirements, sprinkler system installations, and fire codes.

Priority/timetable: Moderate.

Responsible Party: Building Department, Board of Trustees

Estimated Cost: No additional costs

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Source of Funds: Village operating budget

Financial and Political Feasibility: This goal can be easily achieved by the continued strict enforcement of building, zoning, and construction codes. Support from the public may not be universal given resentment of government intrusion.

Hazards Addressed: All

Progress Since 2014 Plan: Completed and on-going; In 2009 the Village adopted a new Floodplain Management Code. The Building Department strictly enforces all building, zoning and construction codes.

Action 2.3.2: Review hazard event issues associated with houseboats to determine if regulatory amendments could mitigate future damages.

Priority/timetable: Moderate

Responsible Party: Board of Trustees, Village Attorney

Estimated Cost: Administrative funds only

Source of Funds: Village budget only

Financial and Political Feasibility: Support by public and Trustees is unknown

Hazards Addressed: Flooding, Hurricanes, Winter Storms/Nor'easters

Progress Since 2014 Plan: No progress

Action 2.3.3: Analyze whether enacting new laws, codes, or regulations could enhance mitigation opportunities

Priority/timetable: Moderate

Responsible Party: Board of Trustees, Village Attorney

Estimated Cost: Administrative funds only

Source of Funds: Village budget only

Financial and Political Feasibility: No cost; however, enactment of more regulations is not universally supported by the public.

Hazards Addressed: Flooding, Hurricanes, Winter Storms/Nor'easters

Progress Since 2014 Plan: Completed and on-going; A new Floodplain Management Code was adopted in 2009; the NYS Building Code was updated in 2007.

Goal 3: Enhance mitigation opportunities through the use of Geospatial Information Systems (GIS) and computers

Objective 3.1: Maintain and expand upon the various Village GIS Systems

Action 3.1.1: Seek funding to network existing stand-alone GIS computers to enable providing accurate and up-to-date information to all departments.

Priority/timetable: High

Responsible Party: Village's Information Technology and Electric departments

Estimated Cost: \$50,000

Source of Funds: Future grants

Financial and Political Feasibility: This action requires additional financial resources currently not available. Politically palatable if additional funding can be found.

Hazards Addressed: All

Progress Since 2014 plan: The Village has a GIS system that is presently underutilized for hazard mitigation planning. The present system should be networked in order to

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maximize capabilities for mitigation and disaster planning. Grant applications have been submitted under various programs, but funding has not been secured.

Action 3.1.2: Expand the property information database and connect it to the Village GIS system to assist in monitoring/identifying hazard mitigation problems.

Priority/timetable: High

Responsible Party: Village Assessor's Office

Estimated Cost: Only administrative costs are needed to update property data,

Source of Funds: A funding source for upgrading the system is unknown

Financial and Political Feasibility: Politically palatable if additional funding is found.

Hazards Addressed: All

Progress Since 2014 Plan: The existing GIS system is a valuable resource in collecting and storing data, predicting risks, mapping potential evacuation routes and building a neighborhood notification system. However, the present system would need to be networked and upgraded with the use of additional resources and funding. No progress has been made.

Action 3.1.3: Use the GIS system to track flooding patterns and assist in emergency management.

Priority/timetable: High

Responsible Party: Emergency Management, Building Department

Estimated Cost: Administrative costs only

Source of Funds: See Action 3.1.2.

Financial and Political Feasibility: Politically palatable if additional funding is found.

Hazards Addressed: Flooding

Progress Since 2014 Plan: No progress; flooding patterns are tracked, but not with GIS.

Action 3.1.4: Gather additional information on critical facilities and input data to the GIS system. Information should contain current building plans, such as mechanical, electrical, plumbing, and structural information. Information on any chemical inventory and material safety data sheets should be included.

Priority/timetable: High

Responsible Party: Emergency Management, Building and Fire departments

Estimated Cost: Administrative costs only

Source of Funds: See Action 3.1.2.

Financial and Political Feasibility: Supported by public and Board of Trustees

Hazards Addressed: All

Progress Since 2014 Plan: Completed and on-going; the Freeport Fire Department maintains information on chemical inventory and the material safety data sheets in the departments Red Alert system.

Objective 3.2: Expand the computer capabilities of the Village of Freeport

Action 3.2.1: Provide laptop computers to each first responder for hazardous materials at fixed site

Priority/timetable: High

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Responsible Party: Freeport Fire Department

Estimated Cost: \$20,000

Source of Funds: Fire Department budget

Financial and Political Feasibility: Supported by the public and Board of Trustees

Hazards Addressed: Hazardous materials at fixed sites

Progress Since 2014 Plan: Completed and on-going, Each Fire Department vehicle is supplied with an iPad for dispatching and basic building information however the four Chiefs vehicles need ruggedized laptops to access the complete Red Alert database info, floorplans and hazardous material data, including any chemical inventory.

Action 3.2.2: Obtain a computer software package called HAZUS, a federally-sponsored loss estimation software package utilizing GIS systems such as ArcView. The program produces detailed maps and analytical reports describing a community's potential losses. The Village could create vulnerability assessments to determine potential damage to critical facilities, loss of utilities and damages from flooding, hurricanes, coastal surge and earthquakes.

Priority/timetable: Low

Responsible Party: Emergency Management, Building Department.

Estimated Cost: No additional funding required

Source of Funds: NA

Financial and Political Feasibility: Supported by the Board of Trustees and the public

Hazards Addressed: Earthquake, Flooding, Hurricanes/coastal surge

Progress Since 2014 Plan: In-progress; HAZUS is freely distributed by FEMA. The Village will use the program to estimate hurricane winds and coastal flooding and potential damage and losses to residential, commercial, and industrial buildings, critical facilities, transportation infrastructure, and utilities.

Action 3.2.3: Expand the Village's technological capabilities to deal effectively with the threat of domestic terrorism by managing and coordinating different sources of data and intelligence. Technologies could include in-field laptops, automated computer-aided dispatch systems (CAD), and enhanced records management systems (Impact).

Priority/timetable: High

Responsible Party: Police Department, Emergency Management, Fire Department

Estimated Cost: Unknown

Source of Funds: External grants or other sources

Financial and Political Feasibility: Coordination with other levels of governments may not be politically feasible and, the costs of acquisition could be high

Hazards Addressed: Terrorism, Civil unrest, Cyber-terrorism, Water Supply Contamination, Fire, Transportation accident

Progress Since 2014 Plan: In-progress; researching topic and working with state and other local governments to enhance capabilities. The current records management system is not capable of data sharing. During 2020 the department will be upgrading the existing system and it will then be capable of data sharing with other agencies in Nassau County.

Action 3.2.4: Expand the Village's License Plate Readers to deal effectively with the threat of domestic terrorism, civil unrest, and crime. The Freeport Police Department has installed a License Plate Readers system in 2015. This system consists of eleven sites that monitor and record the license plates of all vehicles that enter the Village of Freeport. The system is able to

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alert police officers of vehicles that are wanted or have suspended registrations. An improvement to this system would be the addition of license plate reader cameras at the current sites that record traffic exiting the Village of Freeport. This would assist in investigations when searching for vehicles that were involved in incidents that occurred inside the Village of Freeport boundaries and then fled outside of the jurisdiction.

Priority/timetable: High

Responsible Party: Police Department

Estimated Cost: \$352,780.00

Source of Funds: External grants or other sources

Financial and Political Feasibility: Supported by public and Board of Trustees

Hazards Addressed: Terrorism, Civil unrest, Criminal activity and Transportation accident

Progress Since 2014 Plan: New to the 2020 plan

6 MONITORING, EVALUATING, AND UPDATING THE PLAN

This chapter provides an overview of the overall strategy for plan maintenance and outlines the method and schedule for monitoring, evaluating, and updating the plan. The chapter also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement. The maintenance strategy is essentially the same as that which was proposed in the 2014 Plan. The 2020 maintenance strategy places responsibility for calling Planning Committee meetings on the position of Emergency Management Coordinator.

6.1 INCORPORATING MITIGATION INTO EXISTING PLANNING

The Hazard Mitigation Planning Committee is intended to be a standing committee with a regular meeting schedule. The Committee and participating departments will incorporate mitigation planning principles as set forth in the 2020 Plan into daily government operations. The Committee will work with Village officials to incorporate the new and updated hazard mitigation goals and actions into the general operations of the Village government. By doing so, the Mitigation Committee anticipates that:

- The Hazard Mitigation Plan will become a formal management tool for the Village of Freeport
- The Plan will become a mutually supportive document that will dovetail with all other plans to meet the goals and needs of Village residents
- The information provided in this Plan will be invaluable in making decisions in other planning programs

Hazard mitigation principles will be considered and incorporated into all amendments to existing planning and land development documents, as well as the development of new and updated local planning documents. Laws and regulations in the Village will be consistent with and support the goals of the Hazard Mitigation Plan and will not contribute to increased risks from hazards.

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Examples of the types of regulations and documents that can incorporate mitigation principles include the following.

- Master plans
- Ordinances regulating the development of land
- Building codes
- Emergency operations or response plans
- Capital improvement plans and budgets
- Other community plans such as water conservation plans, stormwater management plans, and parks and recreation plans

With adoption of this plan, the Hazard Mitigation Planning Committee will be tasked with plan monitoring, evaluation, and maintenance of the Plan. The Committee members, led by the Freeport Emergency Management Coordinator, agree to:

- Meet annually, and after a disaster event, to monitor and evaluate the plan's implementation
- Act as a forum for hazard mitigation issues
- Disseminate hazard mitigation ideas and activities to all participants as they become available
- Pursue the implementation of high-priority, low- or no-cost recommended actions where feasible
- Maintain vigilant monitoring of multi-objective, cost-share, and other funding opportunities to help the community implement the plan's recommended actions for which no current funding exists
- Monitor and assist in implementing and updating this plan
- Keep the concept of mitigation in the forefront of community decision-making by identifying plan recommendations when other community goals, plans, and activities overlap, influence, or directly affect increased community vulnerability to disasters
- Report on plan progress and recommended changes to the Freeport Board of Trustees
- Inform and solicit input from the public

The Committee is an advisory body and can only make recommendations to elected officials. Its primary duty is to see the plan successfully carried out and to report to the Board of Trustees and the public on the status of plan implementation. Other duties include reviewing and promoting mitigation proposals, hearing stakeholder concerns about hazard mitigation, passing those concerns on to the appropriate entities, and requesting that relevant information be posted on the Village website.

6.2 PLAN ADOPTION

The Village of Freeport Board of Trustees has the authority to adopt this Hazard Mitigation Plan. This plan was adopted by the Board of Trustees on _____ and was approved by the Federal Emergency Management Agency and the New York State Emergency Management

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Office on _____. Copies of the adopted plan are maintained by the Village Clerk and are available to the public.

6.3 UPDATING OF PLAN

The Village of Freeport establishes this Plan as a living document. It will be updated as needed. At the least the Hazard Mitigation Planning Committee will meet formally on an annual basis to determine the effectiveness of the strategies provided herein. The first formal meeting will be held within one year of FEMA's approval of this plan and annually thereafter. Other meetings may be convened after a hazard event as appropriate to monitor progress and update the mitigation strategy. The Village of Freeport Emergency Management Coordinator is responsible for initiating these annual meetings. Each party or agency named in the strategy will report to the Planning Committee on their progress and difficulties in the implementation of this plan. Strategies will be modified based on those reports. The Committee will also review the plan's goals and strategies to determine their significance in light of changing conditions. New mitigation measures will be identified through this annual review and the Plan will be adjusted as appropriate. The review will include evaluating the risk assessment of this plan to determine if it should be updated with new data. Each revision of the plan will be presented to the Board of Trustees.

The Plan is a public document and will be available to Village residents in Village Hall. The following public forums will provide opportunities for the public to express concerns and opinions on the plan and the strategies contained therein:

- The Board of Trustees holds two (2) "open meetings" a month. At these meetings, residents are encouraged to provide input to the Board on all matters
- The annual public awareness mailings update the public on mitigation goals reached. In addition, comments on these measures are requested in the mailing
- Formal public meetings will be held when deemed necessary by the Hazard Mitigation Committee

A full, formal review, evaluation and update of the plan will be initiated at a minimum of one year prior to the 2020 Plan expiration date. However, a formal review will be initiated earlier if a disaster event affects the Village prior to that date. In that event, the full update of this plan will commence within one (1) year after the disaster event. The full review and update of the plan will consist of:

- Public involvement, including opportunities for the public to participate and provide input through village-wide mailings, open public meetings, invitations to neighboring communities and other local stakeholders
- A review of the list of potential hazard events for the community (including natural, technological, and human-caused)
- A profile of hazards events and a risk reassessment utilizing information developed in this plan and new information to determine the likelihood of a hazard occurring in the Village
- A review of structural information in order to update the inventory of assets and

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critical facilities.

Upon completion of the updated risk assessment and review of information gathered to date, the Planning Committee will update the mitigation strategy. Progress on previously proposed strategies will be recorded and new strategies will be proposed. Existing policies, authorities, and programs will be reviewed. The action plan will be revisited to determine which mitigation measures are most effective. The plan will then be presented to the Village Board of Trustees, submitted to the New York State Emergency Management Office, and to the Federal Emergency Management Agency.

The following represents the schedule for the monitoring and maintenance of this plan:

- Make the plan available to the public on an on-going basis
- Send the community biannual mailings on mitigation measures
- Conduct annual progress reviews by the Hazard Mitigation Committee and make reports to the Board of Trustees
- Conduct a full review of the plan after a disaster as necessary
- Conduct a full plan update and submit the plan to authorities for approval every five years.

7 REFERENCES

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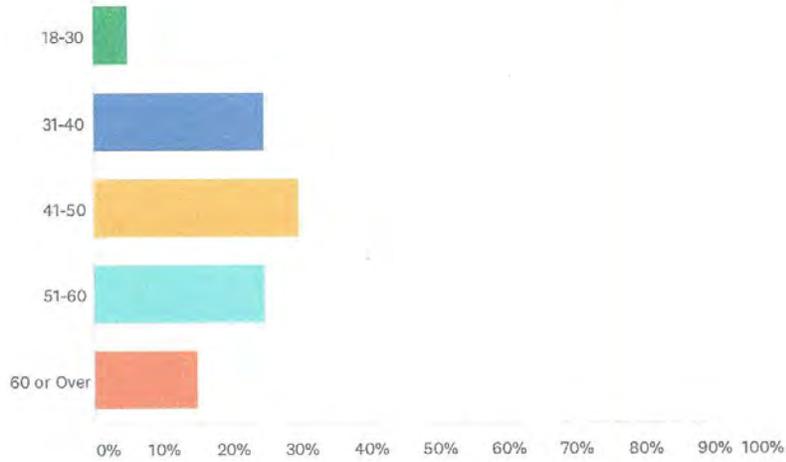
Conversion of Wind Speed from Knots to Miles per Hour

Knots	to	Miles per Hour
5 Knots		5.8 MPH
10 Knots		11.5 MPH
15 Knots		17.3 MPH
20 Knots		23.0 MPH
25 Knots		28.8 MPH
30 Knots		34.6 MPH
35 Knots		40.3 MPH
40 Knots		46.1 MPH
45 Knots		51.8 MPH
50 Knots		57.6 MPH
55 Knots		63.4 MPH
60 Knots		69.1 MPH
65 Knots		74.9 MPH
70 Knots		80.6 MPH
75 Knots		86.4 MPH
80 Knots		92.2 MPH
85 Knots		97.9 MPH
90 Knots		103.7 MPH
95 Knots		109.4 MPH
100 Knots		115.2 MPH
105 Knots		121.0 MPH
110 Knots		126.7 MPH
115 Knots		132.5 MPH
120 Knots		138.2 MPH
125 Knots		144.0 MPH
130 Knots		149.8 MPH
135 Knots		155.5 MPH
140 Knots		161.3 MPH
145 Knots		167.0 MPH
150 Knots	172.8	MPH

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Q1 Please indicate your age range:

Answered: 20 Skipped: 0

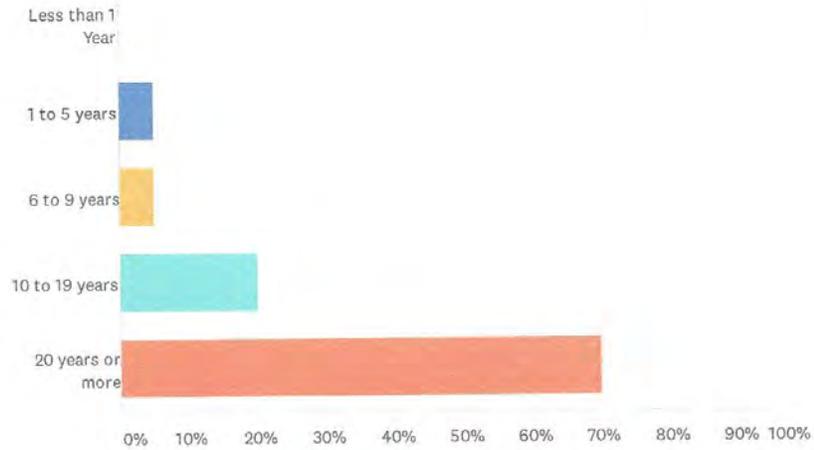


ANSWER CHOICES	RESPONSES	
18-30	5.00%	1
31-40	25.00%	5
41-50	30.00%	6
51-60	25.00%	5
60 or Over	15.00%	3
TOTAL		20

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Q2 How long have you lived in Freeport?

Answered: 20 Skipped: 0



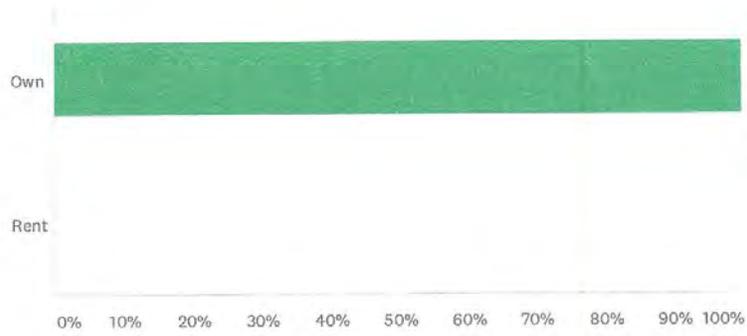
ANSWER CHOICES	RESPONSES	COUNT
Less than 1 Year	0.00%	0
1 to 5 years	5.00%	1
6 to 9 years	5.00%	1
10 to 19 years	20.00%	4
20 years or more	70.00%	14
TOTAL		20

Village of Freeport
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Q3 Do you own or rent your place of residence?

Answered: 19 Skipped: 1



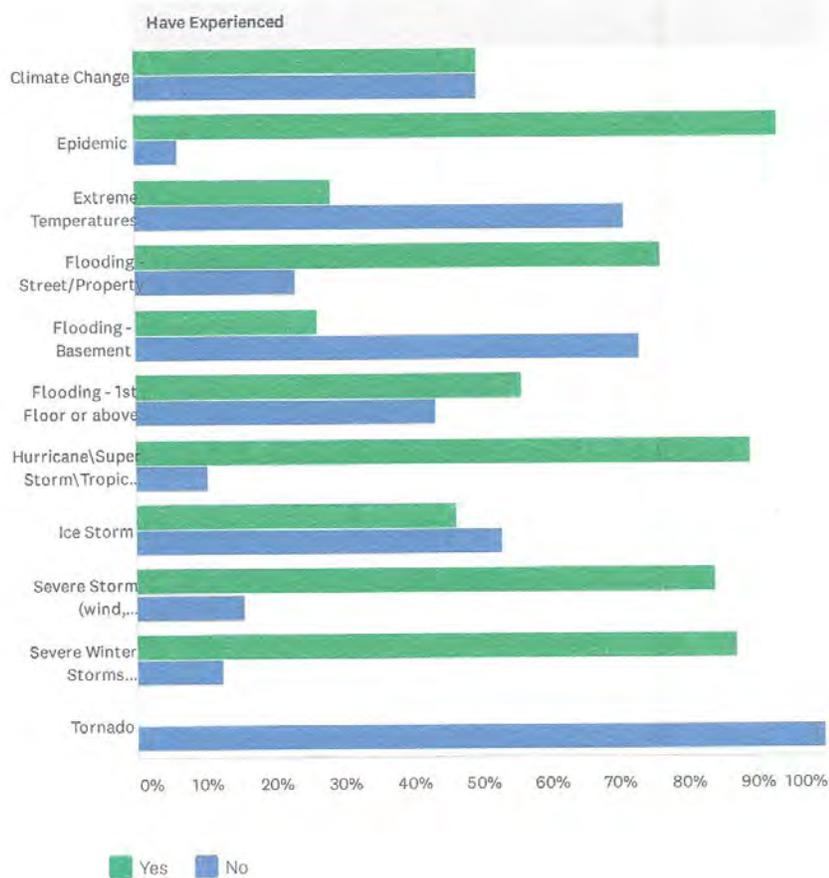
ANSWER CHOICES	RESPONSES	
Own	100.00%	19
Rent	0.00%	0
TOTAL		19

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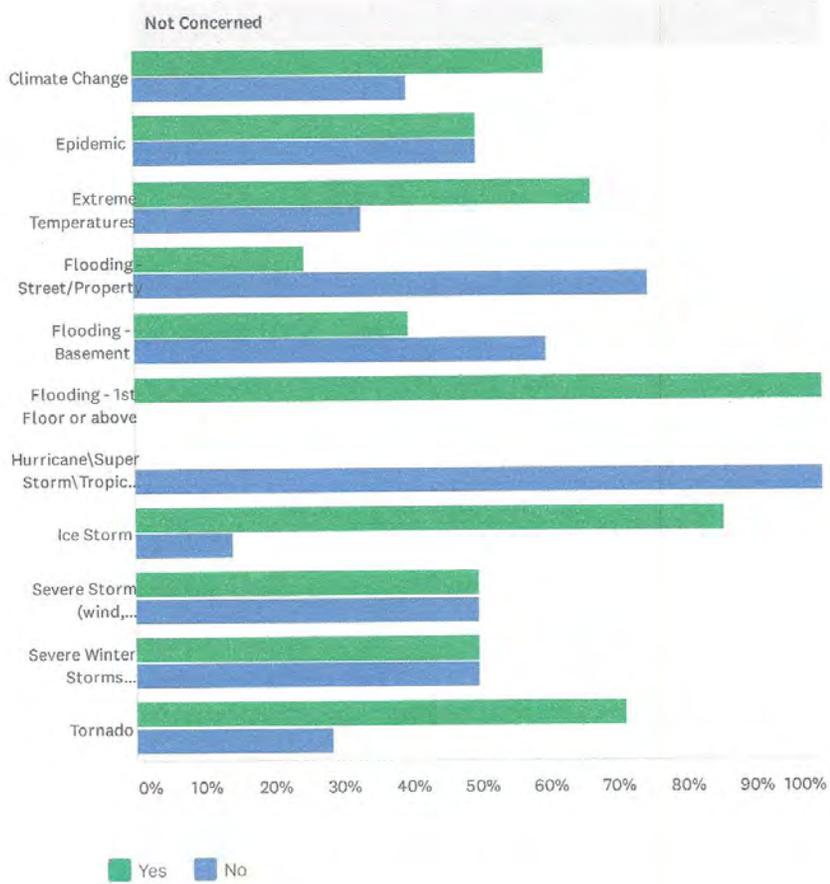
Q5 In the past 10 years, which of the following types of hazards/natural disasters have you or someone in your household experienced within the Village of Freeport, or sustained damage as a result of, and how concerned are you about the following natural hazards impacting the Village? (In the first column indicate if you have experienced the hazard, then indicate your level of concern).

Answered: 20 Skipped: 0



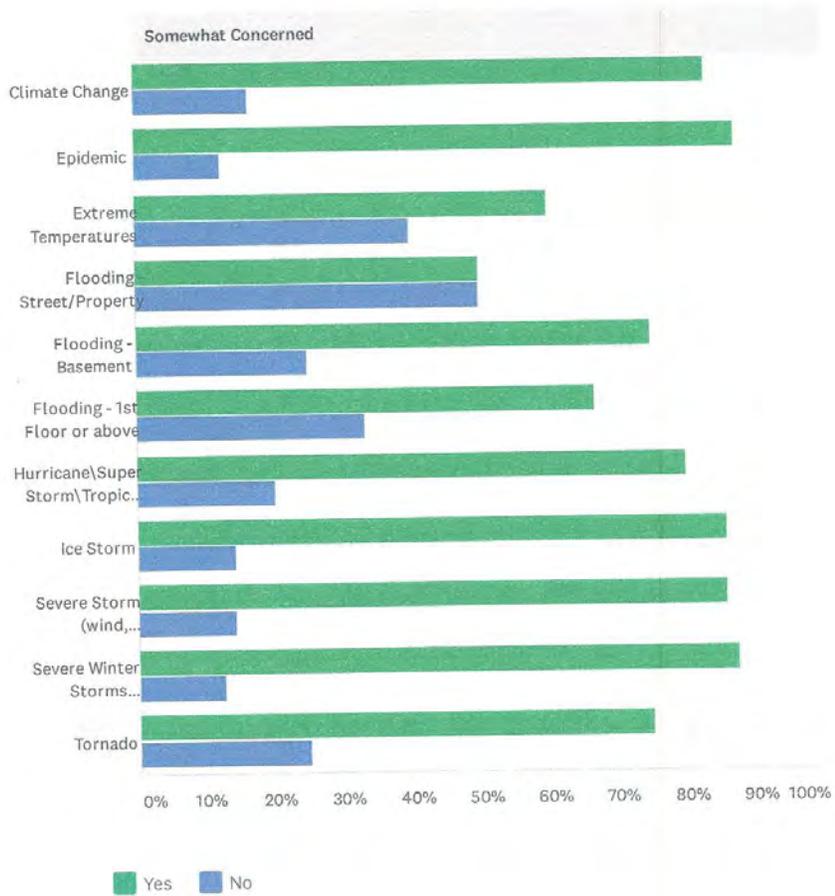
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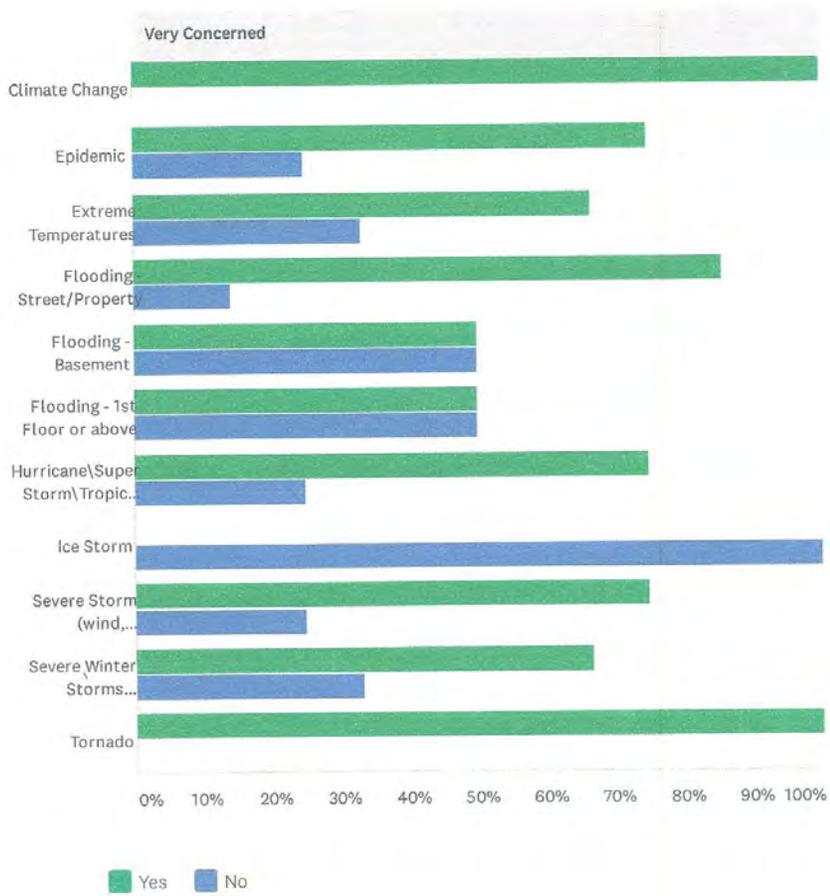
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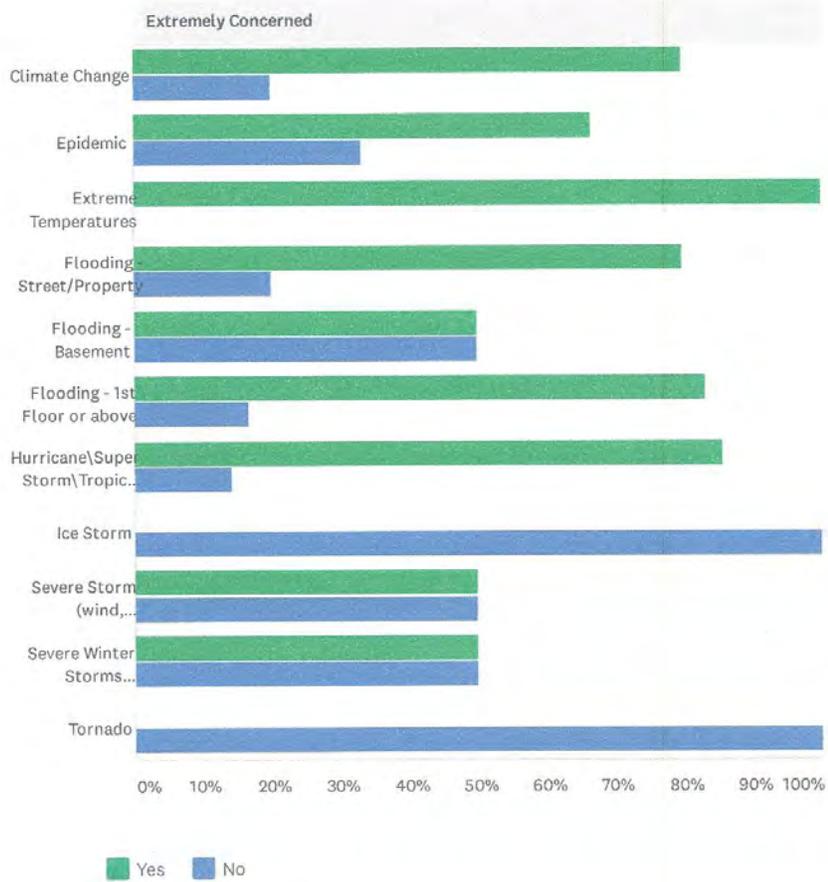
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Have Experienced	YES	NO	TOTAL
Climate Change	50.00% 8	50.00% 8	16
Epidemic	93.75% 15	6.25% 1	16
Extreme Temperatures	28.57% 4	71.43% 10	14
Flooding - Street/Property	76.47% 13	23.53% 4	17
Flooding - Basement	26.67% 4	73.33% 11	15
Flooding - 1st Floor or above	56.25% 9	43.75% 7	16
Hurricane\Super Storm\Tropical Storm	89.47% 17	10.53% 2	19
Ice Storm	46.67% 7	53.33% 8	15
Severe Storm (wind, lightning, hail)	84.21% 16	15.79% 3	19
Severe Winter Storms (Blizzard, Heavy Snow, Ice)	87.50% 14	12.50% 2	16
Tornado	0.00% 0	100.00% 13	13

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Not Concerned	YES	NO	TOTAL
Climate Change	60.00% 3	40.00% 2	5
Epidemic	50.00% 1	50.00% 1	2
Extreme Temperatures	66.67% 4	33.33% 2	6
Flooding - Street/Property	25.00% 1	75.00% 3	4
Flooding - Basement	40.00% 2	60.00% 3	5
Flooding - 1st Floor or above	100.00% 5	0.00% 0	5
Hurricane\Super Storm\Tropical Storm	0.00% 0	100.00% 1	1
Ice Storm	85.71% 6	14.29% 1	7
Severe Storm (wind, lightning, hail)	50.00% 1	50.00% 1	2
Severe Winter Storms (Blizzard, Heavy Snow, Ice)	50.00% 1	50.00% 1	2
Tornado	71.43% 5	28.57% 2	7

Village of Freeport
All Hazard Mitigation Plan

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Somewhat Concerned	YES	NO	TOTAL
Climate Change	83.33% 5	16.67% 1	6
Epidemic	87.50% 7	12.50% 1	8
Extreme Temperatures	60.00% 3	40.00% 2	5
Flooding - Street/Property	50.00% 1	50.00% 1	2
Flooding - Basement	75.00% 3	25.00% 1	4
Flooding - 1st Floor or above	66.67% 2	33.33% 1	3
Hurricane\Super Storm\Tropical Storm	80.00% 4	20.00% 1	5
Ice Storm	85.71% 6	14.29% 1	7
Severe Storm (wind, lightning, hail)	85.71% 6	14.29% 1	7
Severe Winter Storms (Blizzard, Heavy Snow, Ice)	87.50% 7	12.50% 1	8
Tornado	75.00% 3	25.00% 1	4

Village of Freeport
All Hazard Mitigation Plan

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Very Concerned	YES	NO	TOTAL
Climate Change	100.00% 4	0.00% 0	4
Epidemic	75.00% 3	25.00% 1	4
Extreme Temperatures	66.67% 2	33.33% 1	3
Flooding - Street/Property	85.71% 6	14.29% 1	7
Flooding - Basement	50.00% 1	50.00% 1	2
Flooding - 1st Floor or above	50.00% 1	50.00% 1	2
Hurricane\Super Storm\Tropical Storm	75.00% 3	25.00% 1	4
Ice Storm	0.00% 0	100.00% 1	1
Severe Storm (wind, lightning, hail)	75.00% 3	25.00% 1	4
Severe Winter Storms (Blizzard, Heavy Snow, Ice)	66.67% 2	33.33% 1	3
Tornado	100.00% 2	0.00% 0	2

Village of Freeport
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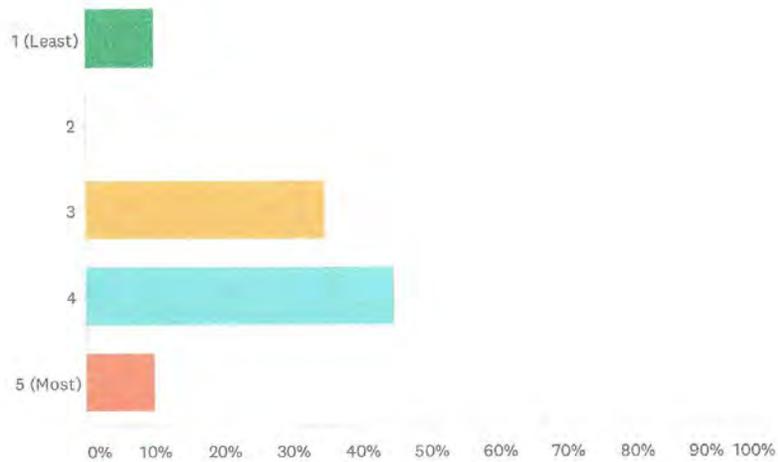
Extremely Concerned	YES	NO	TOTAL
Climate Change	80.00% 4	20.00% 1	5
Epidemic	66.67% 2	33.33% 1	3
Extreme Temperatures	100.00% 1	0.00% 0	1
Flooding - Street/Property	80.00% 4	20.00% 1	5
Flooding - Basement	50.00% 1	50.00% 1	2
Flooding - 1st Floor or above	83.33% 5	16.67% 1	6
Hurricane\Super Storm\Tropical Storm	85.71% 6	14.29% 1	7
Ice Storm	0.00% 0	100.00% 1	1
Severe Storm (wind, lightning, hail)	50.00% 1	50.00% 1	2
Severe Winter Storms (Blizzard, Heavy Snow, Ice)	50.00% 1	50.00% 1	2
Tornado	0.00% 0	100.00% 1	1

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Q6 Please rank how prepared you feel you and your household are for natural disaster events likely to occur within your municipality. Rank on a scale of 1 to 5, with 5 representing the most prepared.

Answered: 20 Skipped: 0



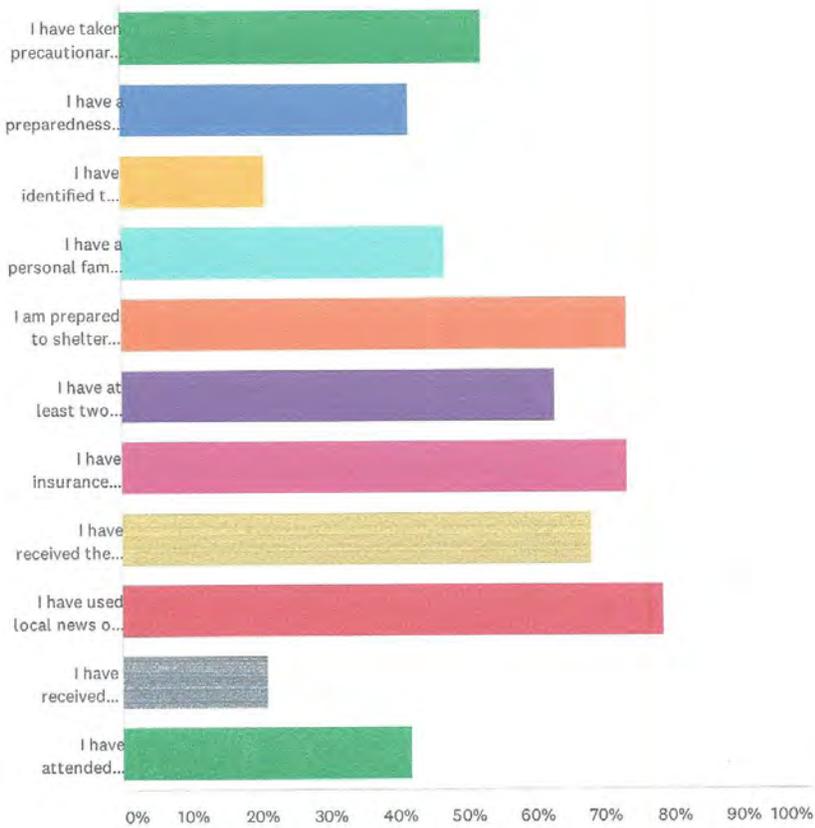
ANSWER CHOICES	RESPONSES	
1 (Least)	10.00%	2
2	0.00%	0
3	35.00%	7
4	45.00%	9
5 (Most)	10.00%	2
TOTAL		20

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Q7 In what ways do you believe you are prepared for a natural disaster that may occur within Freeport? (Please check all that apply)

Answered: 19 Skipped: 1



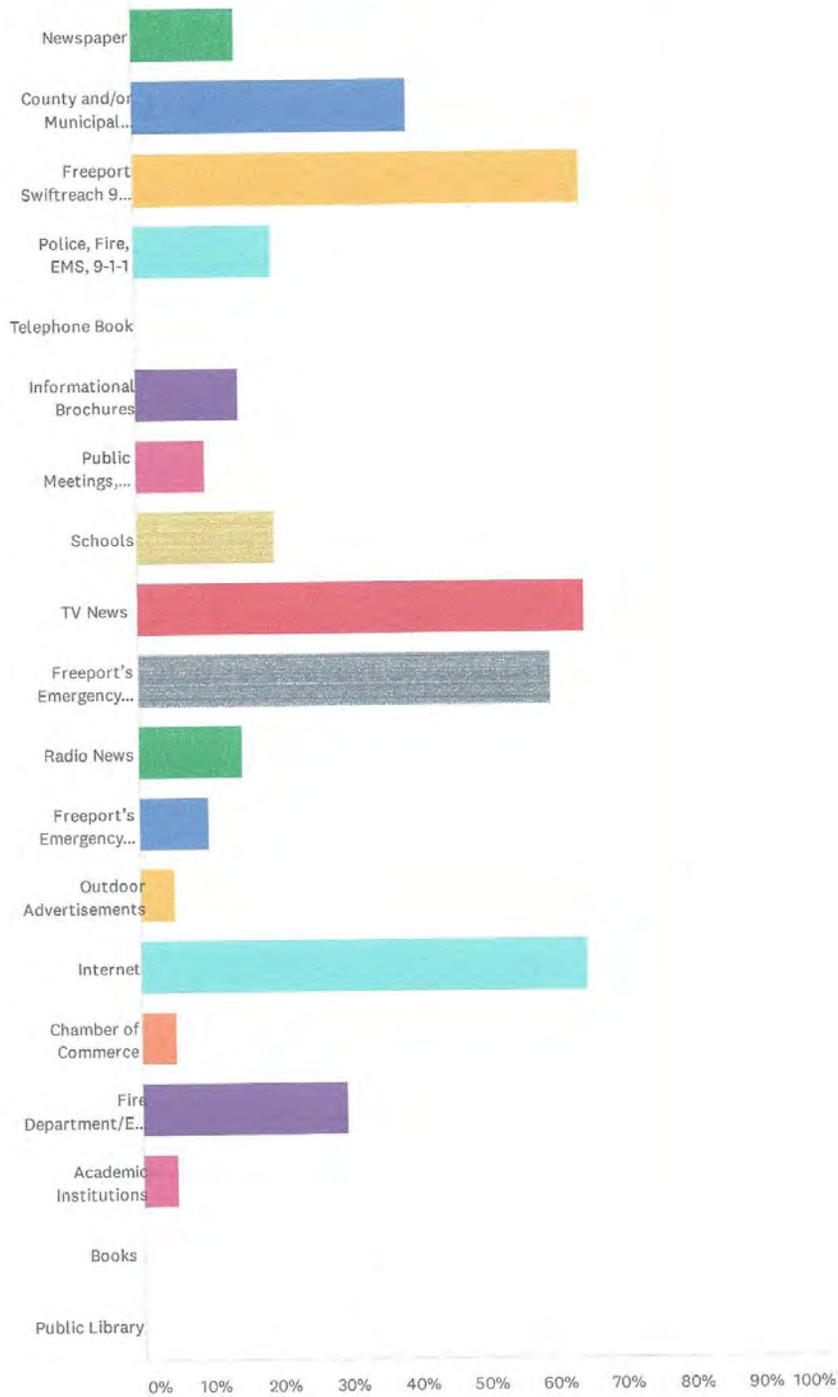
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ANSWER CHOICES	RESPONSES	
I have taken precautionary measures to protect my property though retrofits or when constructed	52.63%	10
I have a preparedness kit consisting of basic supplies and materials for my family and myself	42.11%	8
I have identified the location of the nearest severe weather shelter	21.05%	4
I have a personal family emergency preparedness plan, and have discussed it with my family and others for whom I have responsibility	47.37%	9
I am prepared to shelter in-place if that is the best available option	73.68%	14
I have at least two methods for receiving emergency notifications and for information during severe weather or other potential emergency situations	63.16%	12
I have insurance policies to cover losses from specific risks (e.g. flood insurance)	73.68%	14
I have received the annual Freeport Emergency Management Newsletter providing emergency preparedness information	68.42%	13
I have used local news or other media to obtain information	78.95%	15
I have received information from schools and other academic institutions	21.05%	4
I have attended meetings that have dealt with disaster preparedness	42.11%	8
Total Respondents: 19		

Village of Freeport
All Hazard Mitigation Plan

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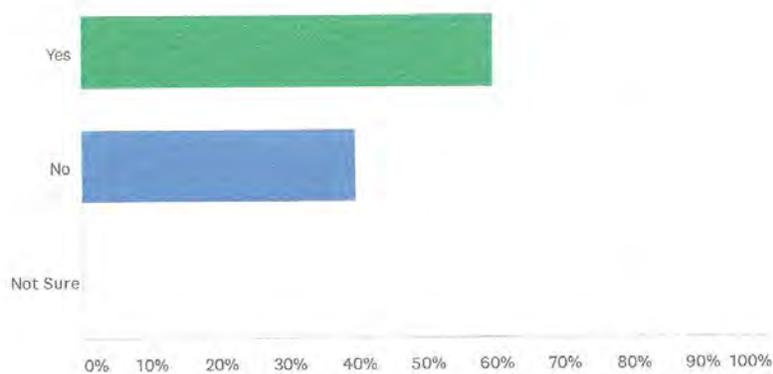
ANSWER CHOICES	RESPONSES	
Newspaper	15.00%	3
County and/or Municipal Websites	40.00%	8
Freeport Swiftreach 911 Robo calls	65.00%	13
Police, Fire, EMS, 9-1-1	20.00%	4
Telephone Book	0.00%	0
Informational Brochures	15.00%	3
Public Meetings, Workshops, or Public Awareness Events	10.00%	2
Schools	20.00%	4
TV News	65.00%	13
Freeport's Emergency Sirens	60.00%	12
Radio News	15.00%	3
Freeport's Emergency Notification Radio Station 1690 AM	10.00%	2
Outdoor Advertisements	5.00%	1
Internet	65.00%	13
Chamber of Commerce	5.00%	1
Fire Department/EMS Agency	30.00%	6
Academic Institutions	5.00%	1
Books	0.00%	0
Public Library	0.00%	0
Total Respondents: 20		

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Q9 To the best of your knowledge is your property located in a designated floodplain? If you do not know, or are not sure, please check the following website: <https://www.floodsmart.gov>. Google Earth users can install the FEMA NFIP flood delineations by going to: <https://hazards.fema.gov/femaportal/wps/portal/NFHLWMSkmzdownload>.

Answered: 20 Skipped: 0

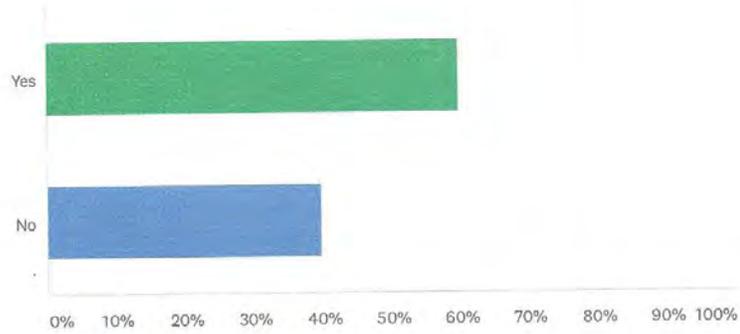


ANSWER CHOICES	RESPONSES	
Yes	60.00%	12
No	40.00%	8
Not Sure	0.00%	0
TOTAL		20

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Q10 Do you have flood insurance?

Answered: 20 Skipped: 0



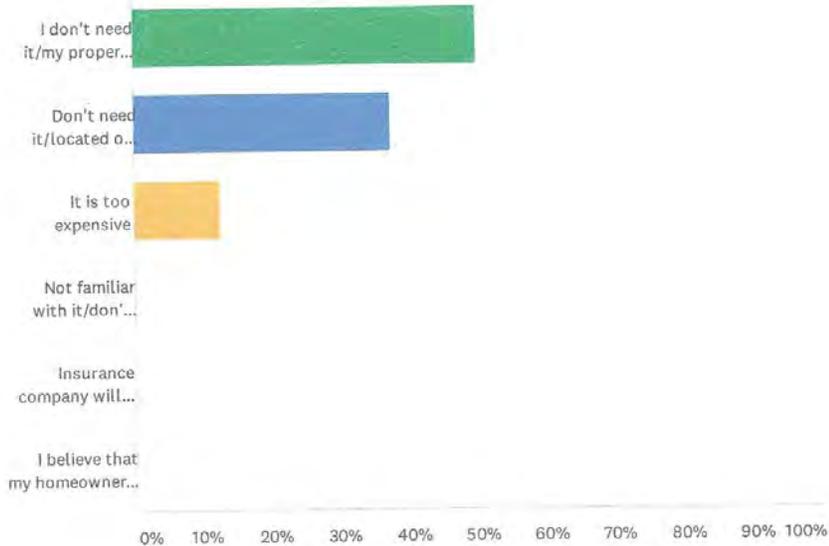
ANSWER CHOICES	RESPONSES	
Yes	60.00%	12
No	40.00%	8
TOTAL		20

Village of Freeport
All Hazard Mitigation Plan

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Q11 If you do NOT have flood insurance, what is the primary reason?

Answered: 8 Skipped: 12

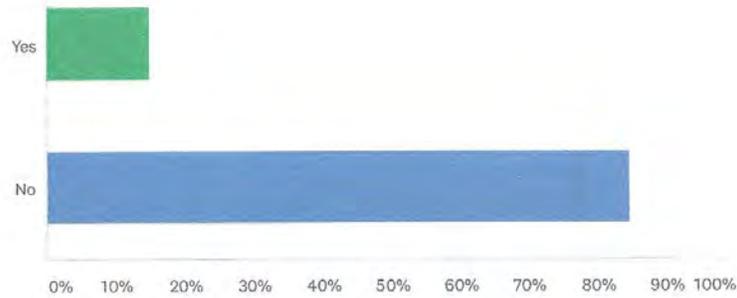


ANSWER CHOICES	RESPONSES	
I don't need it/my property has never flooded	50.00%	4
Don't need it/located on high ground	37.50%	3
It is too expensive	12.50%	1
Not familiar with it/don't know about it	0.00%	0
Insurance company will not provide	0.00%	0
I believe that my homeowners insurance will cover me	0.00%	0
TOTAL		8

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Q12 Do you or did you have problems getting homeowners/renters insurance due to risks from natural hazards?

Answered: 20 Skipped: 0



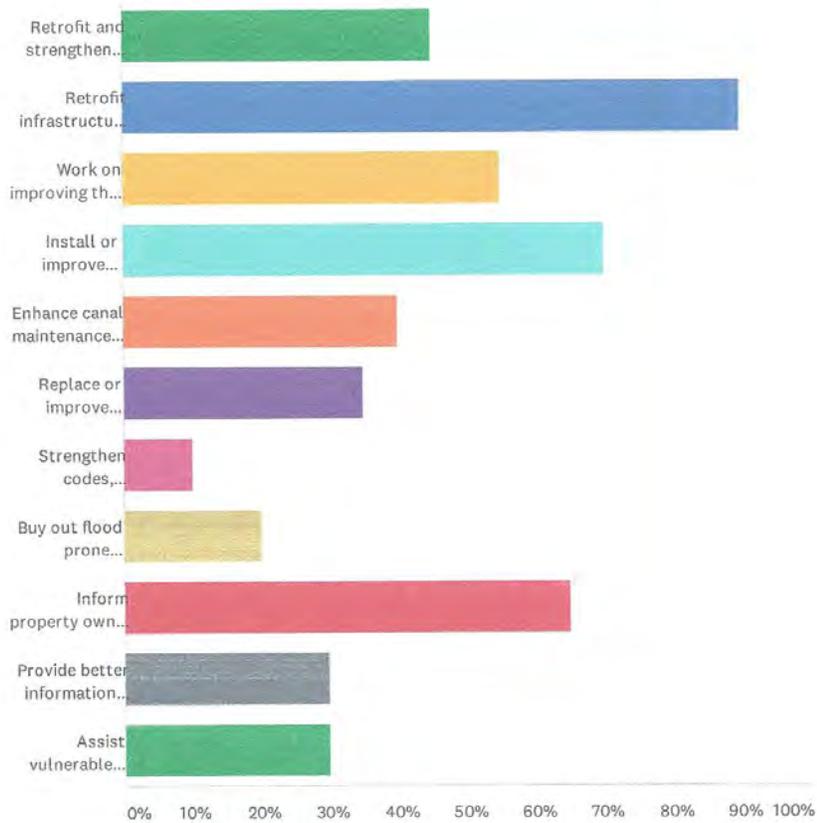
ANSWER CHOICES	RESPONSES	
Yes	15.00%	3
No	85.00%	17
TOTAL		20

Village of Freeport
All Hazard Mitigation Plan

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Q14 What types of projects do you believe the Village , county, state or federal government agencies could be doing in order to reduce the damage and disruption of natural disasters in the Village of Freeport?
Select your top three choices

Answered: 20 Skipped: 0



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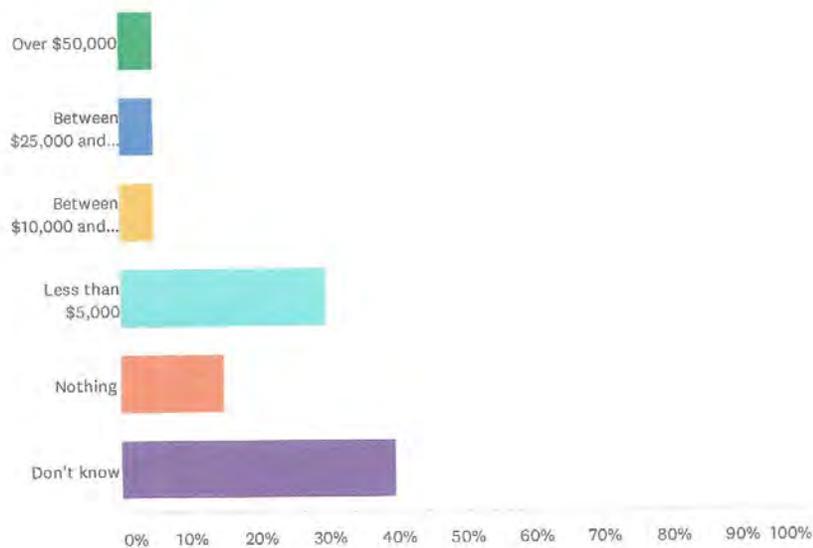
ANSWER CHOICES	RESPONSES	
Retrofit and strengthen essential facilities such as police, schools, hospitals	45.00%	9
Retrofit infrastructure, such as elevating roadways and improving drainage systems	90.00%	18
Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities etc.)	55.00%	11
Install or improve protective structures, such as floodwalls, levees, bulkheads, firebreaks	70.00%	14
Enhance canal maintenance programs/projects	40.00%	8
Replace or improve inadequate or vulnerable bridges and drainage systems	35.00%	7
Strengthen codes, ordinances and plans to require higher hazard risk management standards and/or provide greater control over development in high hazard areas	10.00%	2
Buy out flood prone properties and maintain as open-space	20.00%	4
Inform property owners of ways they can mitigate damage to their properties	65.00%	13
Provide better information about hazard risks and high-hazard areas	30.00%	6
Assist vulnerable property owners with securing funding to mitigate their properties	30.00%	6
Total Respondents: 20		

Village of Freeport
All Hazard Mitigation Plan

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Q15 How much money would you be willing to spend on your current home to help protect it from the impacts of potential future natural disasters within our community? Examples are: elevating a flood-prone home; elevating utilities in flood-prone basements; strengthening your roof, siding, doors or windows to withstand high winds; removing threatening trees or branches.

Answered: 20 Skipped: 0



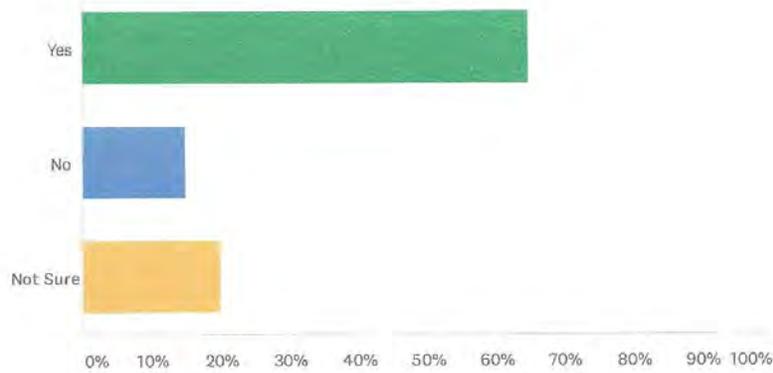
ANSWER CHOICES	RESPONSES	
Over \$50,000	5.00%	1
Between \$25,000 and \$50,000	5.00%	1
Between \$10,000 and \$24,999	5.00%	1
Less than \$5,000	30.00%	6
Nothing	15.00%	3
Don't know	40.00%	8
TOTAL		20

Village of Freeport
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Q18 If your property were located in a designated high hazard area (e.g. NFIP flood zone), or had received repeated damages from a natural disaster event, would you consider a "buyout", "elevation" of the structure, or "relocation"?

Answered: 20 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	65.00%	13
No	15.00%	3
Not Sure	20.00%	4
TOTAL		20

Village of Garden City Annex

This document presents the Village of Garden City’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Domenick Stanco Village of Garden City 351 Stewart Avenue Garden City, NY 11530 dstanco@gardencityny.ne 516-465-4017	Courtney Rosenblatt Village of Garden City 351 Stewart Avenue Garden City, NY 11530 Crosenblatt@gardencity.ny 516-465-4006

Profile

The Village of Garden City covers approximately 5.33 square miles¹ and has a total population of 22,454 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Garden City are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Garden City Demographic Information

Demographic		Demographic	
Below 5 Years Old	6.2%	Black or African American alone	1.8%
Above 65 Years Old	17.6%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	3.4%	Asian alone	3.1%
Persons in Poverty	2.5%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	5.1%	Two or More Races	1.7%
Without a High School Diploma	1.5%	White alone, not Hispanic or Latino, percent	89.1%
Without Access to Broadband Internet	8.4%	Hispanic or Latino	4.9%

¹ This is inclusive of land area only.

By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Garden City. The jurisdiction identified extreme temperatures, hurricane, severe winter weather, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact.

The hazards that most impact the Village of Garden City include:
Extreme Temperatures, Hurricane, Severe Winter Weather, and Wind.

No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

Table 2: Village of Garden City Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Extreme Temperatures	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Lightning	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Hazard	Impact Categories
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Garden City has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Garden City. The Village of Garden City maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plan, building codes, capital improvement plans, climate action plans, community development plans, comprehensive plans/master plans, economic development plans, emergency response plans, growth management plans, open space plans, post disaster recovery ordinances, post disaster recovery plans, site plan review requirements, special purpose ordinances, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Garden City Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	Yes	
Building Code	Yes	
Capital Improvement Plan	Yes	
Climate Action Plan	Yes	
Community Development Plan	Yes	
Comprehensive Plan / Master Plan	Yes	
Economic Development Plan(s)	Yes	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	Yes	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Post Disaster Recovery Ordinance(s)	Yes	
Post Disaster Recovery Plan(s)	Yes	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	Yes	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Garden City. The Village of Flower Hill has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, floodplain administration, grant writing, GIS analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Garden City Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	Yes	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	Yes	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Garden City. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Garden City should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Garden City Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Garden City. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Garden City Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

The Village is located in an area of minimal flood hazard, according to FEMA flood insurance rate maps. This section provides a summary of the floodplain management capabilities for Village of Garden City and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Garden City is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Despite being in an area of minimal flood hazards, the Village has taken steps to upgrade its storm drain systems with more capacity to mitigate the potential for flooding. The Flood Damage Prevention Ordinance was last amended 06/19/2008 and can be referenced in Chapter 111, Village Code, L.L. No. 1-2008.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Garden City. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	George Farber Center Back Up Generator	Rosemary Kennedy Center Back Up Generator	Barry Tech Back Up Generator
Risk Category	Frequent power outages	Frequent power outages	Frequent power outages
Project Status	Not started	Not started	Not started
Project Status Description	The Farber generator was approved by SED on 5/8/19. We are awaiting final pricing utilizing a Suffolk County electrical contract. A project schedule is being developed. We expect this project to be completed in FY 2020/21.	There are no active projects to install a generator at Barry Tech. Currently we do not have the funds to complete the project.	There are no active projects to replace the small generator at RKC. Currently, we do not have the funds to complete the project.
Carried Forward to 2020 Plan	Yes	No	No
Required Changes	N/A	N/A	N/A

Proposed Mitigation Actions

Project Number	VGC_1	VGC_2	VGC_3
Project Name	Catch basin drainage structure design and replacement	George Farber Center Back Up Generator	Underground Power Lines
Goal being met	1	3	3
Hazards to be mitigated	Flooding	Frequent power outages	Severe Storm, Wind, Hurricane
Priority Ranking	High	High	High
Description of the Problem	During heavy rains there is the potential for flooding on our roadway due to capacity issues with our drainage structures on our roads.	There are frequent power outages at the George Farber Center.	Remaining above-ground power line poles and fixtures falling down or ripped out of the ground during windstorms, hurricanes, and snowstorms. This can damage Village and personal properties
Description of the Solution	Design and install drainages structures to prevent or reduce future damage to roadways resulting from inadequate drainage structures.	Install a permanent backup generator.	Replace remaining above-ground power lines with below-ground (wind-resistant) lines.
Critical Facility	No	No	No
EHP Issues	N/A	N/A	N/A
Estimated Timeline	Within 6 Months	2020-2021	1 Year
Lead Agency	Engineering Department	Nassau BOCES Facilities Services Department	Engineering Department
Estimated Costs	\$500,000 - \$650,000	\$1,421,156	\$20-\$40 per linear foot, total of \$175,000 - \$250,000
Estimated Benefits	Transportation routes / public thoroughfare protected, roads are protected, access to natural and cultural resources, maintaining functionality/access to Department of Public Works.	Fewer power outages	Reduces power outages and direct damages to property
Potential Funding Sources	Village Annual Budgets	FEMA HMGP and Nassau BOCES	FEMA HMA Programs

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Garden City

NYS DHSES Action Worksheet			
Project Name:	Catch basin drainage structure design and replacement.		
Project Number:	VGC_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	During heavy rains there is the potential for flooding on our roadway due to capacity issues with our drainage structures on our roads.		
Action or Project Intended for Implementation			
Description of the Solution:	Design and install drainages structures to prevent or reduce future damage to roadways resulting from inadequate drainage structures.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100-year	Estimated Benefits (losses avoided):	Transportation routes / public thoroughfare protected, roads are protected, access to natural and cultural resources, maintaining functionality/access to Department of Public Works.
Useful Life:	50-75 years		
Estimated Cost:	\$500,000-\$650,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within six months
Estimated Time Required for Project Implementation:	Six months	Potential Funding Sources:	Village Annual Budgets
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i> No Action	<i>Estimated Cost</i> \$0	<i>Evaluation</i> Roads continue to deteriorate, and access is obstructed a couple times per year.
	Development alternative transportation routes	Multi-million-dollar project	This is cost prohibitive.
	Conduct piecemeal upgrades of drainage infrastructure	Less than \$250,000 annually	This leaves us exposed to continued flooding issues in the meantime.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Garden City

NYS DHSES Action Worksheet			
Project Name:	Underground Power Lines		
Project Number:	VGC_3		
Risk / Vulnerability			
Hazard of Concern:	High Winds causing light poles falling over, exposing live wires, and knocking out power.		
Description of the Problem:	Remaining above-ground power line poles and fixtures falling or being ripped out of the ground during windstorms, hurricanes, and snowstorms. This can damage Village and personal properties.		
Action or Project Intended for Implementation			
Description of the Solution:	Replace remaining above-ground power lines with below-ground (wind-resistant) lines.		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	Multi-hazard protection	Estimated Benefits (losses avoided):	Reduces power outages and direct damages to property
Useful Life:	100-years		
Estimated Cost:	\$20-40 per linear foot, total of \$175,000-\$250,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Zero to three years
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	FEMA HMA Programs
Responsible Organization:	Engineering Department	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Maintain with more durable light bases and poles and check on and secure the LED fixtures	<\$50,000	This is more of a temporary and incomplete solution that the preferred solution.
	Purchase portable generators to deploy to areas with power outages	\$50,000-\$100,000 per generator	This alternative wouldn't prevent direct damages from downed poles or lines
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Great Neck Estates Annex

This document presents the Village of Great Neck Estates’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
William D. Warner, Mayor 4 Gateway Drive Great Neck, NY 11021 516-482-8283 mayorwarner@vgne.com	Kathleen L. Santell, Village Administrator 4 Gateway Drive Great Neck, NY 11021 admin@vgne.com 516-482-8283

Profile

The Village of Great Neck Estates covers approximately 0.77 square miles¹ and has a total population of 2,840 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Great Neck Estates are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Great Neck Estates Demographic Information

Demographic		Demographic	
Below 5 Years Old	7.5%	Black or African American alone	0.8%
Above 65 Years Old	19.8%	American Indian and Alaska Native alone	0.1%
Individuals with Disabilities	Information not provided	Asian alone	10.2%
Persons in Poverty	6.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	8.4%	Two or More Races	1.3%
Without a High School Diploma	5.2%	White alone, not Hispanic or Latino, percent	84.6%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	2.9%

¹ This is inclusive of land area only.

There has been substantial development in the Village of Great Neck Estates. Applications have been filed for two multi-family buildings; however, the majority of development includes demolition and construction of new one-family residences. Approximately three homes were in reconstruction in the floodplain. In the future, Great Neck Estates expects continued development of privately owned property. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Great Neck Estates. The jurisdiction identified flooding, hurricane, and wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Great Neck Estates include: **Flooding, Hurricane, and Wind.**

Table 2: Village of Great Neck Estates Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Infrastructure, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Housing, Infrastructure, Natural and Cultural Resources
Hail	Community, Housing
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	Community, Housing, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Great Neck Estates has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Great Neck Estates. The Village of Great Neck Estates maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, floodplain management plans, NFIP flood damage prevention, open space plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Great Neck Estates Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	NYS Building Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Code of the Village Great Neck Estates (CVGNE) Chapter 105
Floodplain Management Plan(s)	Yes	CVGNE Chapter 126
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	CVGNE Chapter 126
Open Space Plan(s)	Yes	CVGNE Chapter 128
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	CVGNE A240

Regulatory Tool	Yes / No	Citation (if applicable)
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	CVGNE Chapter 107
Subdivision Ordinance(s)	Yes	CVGNE Chapter 194
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	CVGNE Chapter 230

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Great Neck Estates. The Village of Great Neck Estate's primary administrative and technical capabilities include an emergency manager, building and infrastructure engineers, NFIP floodplain administrator, and construction practices personnel. These capabilities provide the Village with a wide range of technical capabilities . The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards planning.

Table 4: Village of Great Neck Estates Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Emergency Preparedness Committee of the Great Neck Peninsula
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Building Inspector
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector, Code Enforcement Officer
Planner(s) with an understanding of natural hazards	No	

Staff / Personnel Resource	Yes / No	Details
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Great Neck Estates. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, levying taxes for specific purposes, utilizing user fees for utility services, and capital improvement projects funding. Village of Great Neck Estates should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Great Neck Estates Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	Yes	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Great Neck Estates. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building. This includes participating in the CRS program again.

Table 6: Village of Great Neck Estates Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No

Classification	Yes/No (or Status)
Public Protection Classification Program	No
Community Rating System (CRS)	Previously participated
Other Classifications	No

National Flood Insurance Program Summary

Properties on or close to the waterfront are the most flood-prone. This section provides a summary of the floodplain management capabilities for Village of Great Neck Estates and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Mayor is responsible for floodplain management. The Village administers the NFIP through building permit and site plan review, requiring erosion control measures during construction, onsite stormwater retention for all new construction, and periodic inspection throughout construction. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Great Neck Estates is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the Village on 05/11/2015. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village utilizes elevation certificates to enforce that the first floor elevation of new and substantially improved properties are elevated two feet above the base flood elevation. Homeowners are encouraged to install flood vents as another mitigation measure. The Village also sends letters to homeowners of properties that have experienced repetitive losses due to flooding. The Flood Damage Prevention Ordinance for the Village of Great Neck Estates meets minimum requirements. The ordinance was last amended 10/09/2020 and can be referenced in Chapter 126 of the Code of the Village of Great Neck Estates.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Great Neck Estates. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VGNE_1	VGNE_2
Project Name	Establish standards for tree maintenance on residential property	Wind Risk Awareness Outreach and Education
Goal being met	3	4
Hazards to be mitigated	High Winds	High winds
Priority Ranking	Medium	Medium
Description of the Problem	Wind regularly causes damage to existing structures due to fallen trees and tree limbs.	Wind damage occurs to residential (and other) structures annually in the Village that could be reduced or prevented through the use of wind-resistant building materials and other non-structural retrofits.
Description of the Solution	Development of a set of standards for residential tree maintenance requirements and a system for monitoring and inspecting trees on residential properties for damage and issues (i.e., broken limbs, vines, trunk rot).	Educate Homeowners on benefits of wind retrofits such as shutters and hurricane clips.
Critical Facility	No	No
EHP Issues	N/A	N/A
Estimated Timeline	36 Months	36 Months
Lead Agency	Building Department	Building Department
Estimated Costs	\$50,000	\$10,000 - \$25,000
Estimated Benefits	Reduction in wind damage to homes resulting from fallen trees and branches	Reduction in residential wind damage resulting from individual-level mitigation activities
Potential Funding Sources	HMGP and Building Department in-kind match	HMGP + Building Department staff time / in-kind match

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Great Neck Estates

NYS DHSES Action Worksheet

Project Name: Wind Risk Awareness Outreach and Education

Project Number: VGNE_2

Risk / Vulnerability

Hazard of Concern: Wind Damage

Description of the Problem: Wind damage occurs to residential (and other) structures annually in the Village that could be reduced or prevented using wind-resistant building materials and other non-structural retrofits.

Action or Project Intended for Implementation

Description of the Solution: Educate homeowners on benefits of wind retrofits such as shutters and hurricane clips.

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection: Annual wind events.

Useful Life: Long-Term

Estimated Cost: \$50,000

Estimated Benefits (losses avoided):

Reduction in residential wind damage resulting from individual-level mitigation activities.

Plan for Implementation

Prioritization: Medium

Desired Timeframe for Implementation:

Within 12 months

Estimated Time Required for Project Implementation:

36 months

Potential Funding Sources:

HMGP and Building Department in-kind match

Responsible Organization:

Building Department

Local Planning Mechanisms to be Used in Implementation, if any:

N/A

Three Alternatives Considered (including No Action)

Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	> \$10,000 to Homeowner	
	Enact mandatory retrofits	Free	Not politically viable or functionally enforceable
	Seek funding to subsidize or pay for residential retrofits.	Unknown.	Procuring and administering funding would require increasing staff capacity and would be contingent upon finding available funding.

Progress Report (for plan maintenance)

Date of Status Report:

Report of Progress:

Update Evaluation of the Problem and/or Solution:

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Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Great Neck Estates

NYS DHSES Action Worksheet			
Project Name:	Establish standards for tree maintenance on residential property		
Project Number:	VGNE_1		
Risk / Vulnerability			
Hazard of Concern:	Wind Damage		
Description of the Problem:	Wind regularly causes damage to existing structures due to fallen trees and tree limbs.		
Action or Project Intended for Implementation			
Description of the Solution:	Development of a set of standards for residential tree maintenance requirements and a system for monitoring and inspecting trees on residential properties for damage and risks (i.e., broken limbs, vines, trunk rot).		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	This would reduce impacts from annual storm and wind events.	Estimated Benefits (losses avoided):	Reduction in wind damage to homes resulting from fallen trees and branches
Useful Life:	30 years		
Estimated Cost:	\$10,000-\$25,000 for program establishment		
Plan for Implementation			
Prioritization:	Medium	Desired Timeframe for Implementation:	Within 12 months
Estimated Time Required for Project Implementation:	36 months	Potential Funding Sources:	HMGP + Building Department staff time / in-kind match
Responsible Organization:	Building Department	Local Planning Mechanisms to be Used in Implementation, if any:	N/A
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	> \$10,000 to Homeowner	
	Enact policies encouraging wind-resistant trees for residential properties.	Under \$10,000	This action would reduce future risk but would not reduce existing risk.
Establish standards for tree maintenance and provide (mandatory) maintenance for residents.	\$25,000-\$50,000 for program establishment + Annual Costs (unknown)	This would likely be cost prohibitive and would require significant resident buy-in and political will.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

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Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Great Neck Plaza Annex

This document presents the Village of Great Neck Plaza’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Jean Celender, Mayor 2 Gussack Plaza PO Box 440 Great Neck, NY 11022 Mayorjean@Greatneckplaza.Net 516-482-4500, Ext. 14	Richard Belziti, Superintendent Of Building/Commissioner Of Public Services 2 Gussack Plaza PO Box 440 Great Neck, NY 11022 Mayorjean@Greatneckplaza.Net 516-482-4500, Ext. 7

Profile

The Village of Great Neck Plaza covers approximately 0.31 square miles¹ and has a total population of 7,027 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Great Neck Plaza are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Great Neck Plaza Demographic Information

Demographic	Demographic
Below 5 Years Old	5.0%
Above 65 Years Old	30.3%
Individuals with Disabilities	3.7%
Persons in Poverty	9.2%
Renters	42.7%
Without a High School Diploma	6.1%
Without Access to Broadband Internet	17.3%
Black or African American alone	3.4%
American Indian and Alaska Native alone	0.7%
Asian alone	17.4%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	2.3%
White alone, not Hispanic or Latino, percent	66.1%
Hispanic or Latino	9.5%

¹ This is inclusive of land area only.

The Village of Great Neck Plaza was incorporated on May 3, 1930. The Plaza, centrally located within the Great Neck Peninsula, and by virtue of it being a hub with the Long Island Rail Road's Great Neck Station, contains unique, varied, upscale shops and restaurants found on its main street, "Middle Neck Road." Great Neck Plaza encompasses a busy commercial district, three parks, as well as residential sections comprised of many multiple dwellings and private homes. Although geographically the Village measures only a third of a square mile, it boasts a vibrant downtown with a railroad station (Great Neck Branch of the Long Island Rail Road), over 260 retail stores and service establishments, 90 multiple-family apartment buildings, 148 single family homes, approximately 40 office buildings, two four-star hotels, a nursing home, a senior independent living facility and one senior assisted-care living facility. No development is currently occurring near 100-year floodplain. Single story taxpayer buildings along the main business corridor in the B Business District have been allowed to increase height and provide additional affordable housing units to accommodate seniors, empty-nesters, and millennials, which allows these residents to find appropriate inclusionary housing to remain in the community. In the coming year, Great Neck Plaza will focus on Transit-Oriented Development (TOD) with the village properties commonly located within 0.5 miles of the Great Neck train Station. The mixed-use, mixed income TOD projects provide between 10-15 percent affordable housing units in these new, rental apartment buildings being constructed in the Village. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County's vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Great Neck Plaza. The jurisdiction identified coastal hazards, hurricane, and lightning as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Great Neck Plaza include:
Coastal Hazards, Hurricane, and Lightning.

Table 2: Village of Great Neck Plaza Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	Community, Economy, Natural and Cultural Resources
Extreme Temperatures	Community, Economy, Natural and Cultural Resources
Flooding	Community, Economy, Infrastructure, Natural and Cultural Resources
Ground Failure	Infrastructure, Natural and Cultural Resources
Hurricane and Tropical Storms	Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	Community, Economy, Infrastructure, Natural and Cultural Resources
Severe Winter Weather	Community, Economy, Infrastructure, Natural and Cultural Resources
Tornados	No Impact
Wind	Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Great Neck Plaza has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Great Neck Plaza. The Village of Great Neck Plaza maintains several key administrative and technical capabilities to support mitigation, including building codes, climate action plans, community development plans, emergency response plans, floodplain management plans, open space plans, stormwater management plans, transportation plans, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Great Neck Plaza Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	VGNP Building and Property Maintenance Plan

Regulatory Tool	Yes / No	Citation (if applicable)
Capital Improvement Plan	No	
Climate Action Plan	Yes	VGNP Climate Action Plan
Community Development Plan	Yes	AARP Livable Communities Plan
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	VGNP Emergency Response Plan
Floodplain Management Plan(s)	Yes	VGNP Hazard Mitigation Plan
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	VGNP Tree Management Plan
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	VGNP Annual Stormwater PPP for MS4
Subdivision Ordinance(s)	No	
Transportation Plan(s)	Yes	Complete Streets Policy
Zoning Ordinance(s)	Yes	VGNP Zoning Ordinance

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Great Neck Plaza. The Village of Great Neck Plaza has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Great Neck Plaza Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Jean Celender, Mayor, Rich Belziti, Superintendent of Building, Superintendent of DPW

Staff / Personnel Resource	Yes / No	Details
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Village Engineer, LKB Inc. of Syosset, NY
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Village Engineer, LKB Inc. of Syosset, NY
Engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer, LKB Inc. of Syosset, NY
Grant Writers	Yes	Jean Celender, Mayor
Personnel skilled or trained in Geographic Information Systems	Yes	H2M Consultant to Village
Personnel trained in construction practices related to buildings/infrastructure	Yes	Newport Engineering
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	Yes	Jean Celender, Mayor
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Great Neck Plaza. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Great Neck Plaza should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Great Neck Plaza Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	

Resources	Yes / No	Additional Details
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Great Neck Plaza. Participation in the Climate Smart Community demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Great Neck Plaza Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

The Village does not contain any flood-prone (100-Year flood) areas. This section provides a summary of the floodplain management capabilities for Village of Great Neck Plaza and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village's Superintendent of Buildings is responsible for floodplain management. The NFIP is administered by the Village's Superintendent of Building, through site plan review and permitting. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Great Neck Plaza is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 4/9/2015. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village's annual Stormwater Pollution Prevention Plan identifies steps to mitigate potential losses due to overland flow, which has caused property damage in the past. Steps taken to mitigate these losses include more frequent cleaning of silt in stormwater facilities. The Village also removes debris accumulated on catch basins in the downtown after a heavy rainfall. The Flood Damage Prevention Ordinance for the Village of Great Neck Plaza meets minimum requirements. The ordinance was last amended 06/03/2009 and can be referenced in Chapter 115, Village Code, L.L. No. 2-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Great Neck Plaza. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	The Project entails installation of a 52-kW stand-by backup generator with an automatic switch over, via a natural gas connection, to ensure continuity of power during storms and emergencies. The Project will protect the Village and make the delivery of local governmental services in an emergency situation better and more reliable in storm situations. It also enables better coordination and communications to our constituents so that emergency notifications and updates can be more easily distributed.	Replant and restock old street trees with more appropriate tree species to diversify our stock and to have more storm-resilient tree species.	Create an outreach program that helps residents and businesses prepare for and mitigate against severe storms and natural disasters.
Risk Category	Extreme weather, power failures	Extreme weather	Severe weather events and emergencies
Project Status	Not started	Not started	Not started
Project Status Description	No steps taken to implement the action since funding not available to assist the Village.	No steps taken to implement the action since funding not available to assist the Village.	No steps taken to implement the action since funding not available to assist the Village.
Carried Forward to 2020 Plan	Yes	Yes	Yes
Required Changes	N/A	N/A	N/A

Proposed Mitigation Actions

Project Number	VGNP_1	VGNP_2	VGNP_3
Project Name	52 KW Backup Generator	Outreach Program to educate residents and businesses about Hazard Mitigation Planning and building storm-resilient	Restock Village Street Trees
Goal being met	2	2, 4	2
Hazards to be mitigated	Extreme weather, power failures	All hazards	Extreme weather
Priority Ranking	High	High	High
Description of the Problem	The Project entails installation of a 52-kW stand-by backup generator with an automatic switch over, via a natural gas connection, to ensure continuity of power during storms and emergencies. The Project will protect the Village and make the delivery of local governmental services in an emergency situation better and more reliable. It also enables better coordination and communications to our constituents so that emergency notifications and updates can be more easily distributed. Department of Public Works crews are cold in Winter and when the power goes out in Village Hall, they don't have an emergency generator. A generator exists for the upstairs offices, but none exist in the basement where DPW works.	Residents and other stakeholders are not aware of all the planning that goes into being storm ready for severe weather events and emergencies. The Village needs to form a Citizens Advisory Committee (CAC) and engage the public to educate them, seek their input /suggestions for future updates of the plan.	The Village continues to lose our old trees in storms since there hasn't been a concerted effort to replant older trees before they fall down. We experience financial liability and possible loss of human life if tree limbs were to come down on and harm a person or destroy property.
Description of the Solution	Purchase and replace old gas-powered generator in DPW area that's non-functional. This project is related to critical facilities of the Village Hall to provide essential services in the Village during an emergency.	Create an Outreach Plan that helps residents and businesses prepare for and mitigate against severe storms and natural disasters.	Replant and restock old street trees with more appropriate tree species according to our Village Tree Management Plan to ensure we diversify our tree stock and replant more storm-resilient tree species.
Critical Facility	Yes	Yes	No
EHP Issues	No	No	No
Estimated Timeline	3 Months	1 Year	Start in Phases, each three to five years, working on diversifying the trees over 10% in each tree species to a lesser percentage of the total. Target streets that have lost trees over the past five years and need to be restocked.

Project Number	VGNP_1	VGNP_2	VGNP_3
Lead Agency	Village of Great Neck Plaza	Village of Great Neck Plaza	Village of Great Neck Plaza
Estimated Costs	\$50,000	\$35,000	\$350 - \$500 per tree up to a total of \$100,000
Estimated Benefits	Improve communications and retain functions of critical facilities and infrastructure.	The benefits of this project are to keep residents and businesses informed of storm events and ways to mitigate against losses. CAC would be formed and among their duties would be to prioritize projects and gain the support of residents regarding the Village's Plan to be more storm ready.	The benefits of this project are to replant to maintain our Village Street Trees in a good state of growth and beauty. Our trees are a valuable resource for shade, urban heat island effect, and they change the landscape with their beauty. Our trees are subject to storms and must be storm-resilient to ensure we don't lose trees in a storm. We have an active program of tree trimming to keep tree limbs in good shape and to clear out dead branches.
Potential Funding Sources	HMG, PDM funds	HMG, PDM funds	DEC Grant, and HMG, PDM funds

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Great Neck Plaza

NYS DHSES Action Worksheet

Project Name: Backup Generator for Department of Public Works

Project Number: VGNP_1

Risk / Vulnerability

Hazard of Concern: Extreme weather, power failures

Description of the Problem: The Department of Public Works has an old, outdated diesel backup generator that needs to be replaced. The Project entails installation of a 52kW stand-by generator with an automatic switch over, via a natural gas connection to ensure continuity of power during storms and emergencies. The Project will protect the Village and make the delivery of local governmental services in an emergency better and more reliable. It also enables better coordination and communications to our constituents so that emergency notifications and updates can be more easily distributed.

Action or Project Intended for Implementation

Description of the Solution: Install a new 52 kW stand-by backup generator with an automatic switch over via a natural gas connection.

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection: 100-year flood

Useful Life: 20 years

Estimated Cost: \$50,000

Estimated Benefits (losses avoided):

Department of Public Works crews can work in their space during an electrical outage. Improve communications and retain functions of critical facilities and infrastructure.

Plan for Implementation

Prioritization: High

Desired Timeframe for Implementation:

2020 to 2021

Estimated Time Required for Project Implementation:

Three months

Potential Funding Sources:

HMG, PDM and Village funds

Responsible Organization:

Village of Great Neck Plaza, Department of Public Works (DPW)

Local Planning Mechanisms to be Used in Implementation, if any:

None

Three Alternatives Considered (including No Action)

Alternatives:

Action

Estimated Cost

Evaluation

No Action

\$0

DPW currently uses cords attached to an upstairs outlet during an outage for light. No action available for heat.

Alternative 1 - Add additional power to existing backup generator servicing the upstairs office space.

N/A

This may not be a feasible alternative and could be quite costly to rewire to connect to the downstairs DPW areas. The Village has a two-zone heating and cooling system.

Alternative 2 - Purchase more individual heating units for DPW workers.

\$ 1,000

This alternative isn't safe compared to string cords and space heaters rather than address the problem with installing an appropriately size generator for warmth of DPW crew.

Progress Report (for plan maintenance)

Date of Status Report: June 19, 2020

Report of Progress:	No progress has been made on the Project. There is no budget to be able to undertake such a solution absent a grant to help in the costs.
Update Evaluation of the Problem and/or Solution:	Nothing has happened since initial consideration/development. It was a Project that came out of Superstorm Sandy and the subsequent storms and hurricanes have not been as difficult as that one to maintain the downstairs DPW offices.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Great Neck Plaza

NYS DHSES Action Worksheet			
Project Name:	Replant and restock street trees		
Project Number:	VGNP_3		
Risk / Vulnerability			
Hazard of Concern:	Extreme weather		
Description of the Problem:	The Village needs to replant and restock old street trees with more appropriate tree species that are disease resistant and wire friendly. It will provide more storm resilient trees to diversify our stock and to have more storm-resilient species.		
Action or Project Intended for Implementation			
Description of the Solution:	Follow our Tree Management and Implementation Plan that provides a list of species to diversify our stock and plant appropriate street trees that will survive and thrive in the urban setting. Extreme weather, including storms and excessive heat, make it hard for street trees to thrive. This resource is extremely important to the Village and we have taken steps to ensure an improved stock over the years.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	100 year flood	Estimated Benefits (losses avoided):	Loss of storm damaged trees that lose limbs. Additional trees mean more shade and a cooling effect.
Useful Life:	40 years		
Estimated Cost:	\$350-\$500 per tree up to a total of \$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021-2022
Estimated Time Required for Project Implementation:	Three to five years	Potential Funding Sources:	DEC Grant, and HMG, PDM funds
Responsible Organization:	Village Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	Urban Forestry Grant, NYS DEC
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Not a likely action since it maintains trees in their current state
	Alternative 1 - Replant trees as they age and die	\$500/ea.	Doesn't address a Tree Mgt. Plan for making our urban street trees stock more hardy and storm-resilient. Trees are an important resource that requires a plan and steps taken to ensure trees grow and thrive for 30-40 years.
	Alternative 2 - Replant 10 to 15 trees per year by roadway in Village to maintain tree stock.	\$15,000	Doesn't address Tree Mgt. Plan and desire to forge a Plan with the existing street trees in mind and for replacement of new trees to diversify stock and add to the beauty of the Village's street trees.
Progress Report (for plan maintenance)			
Date of Status Report:	June 19, 2020		

Report of Progress:	No progress has been made on this Project. It needs Village and outside grant funding. Trees are an important resource and the Village desires this stock to remain healthy and thriving.
Update Evaluation of the Problem and/or Solution:	No update to the Project since initially conceived for the Program.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Great Neck Plaza

NYS DHSES Action Worksheet			
Project Name:	Outreach Program to help residents and businesses prepare for and mitigate against severe storms and natural disasters.		
Project Number:	VGNP_2		
Risk / Vulnerability			
Hazard of Concern:	Severe weather events and emergencies		
Description of the Problem:	Create an outreach program to help residents and businesses prepare for and mitigate against severe storms and natural disasters.		
Action or Project Intended for Implementation			
Description of the Solution:	Prepare and implement an Outreach Program to educate residents and businesses on storms, severe weather events, and natural disasters. Create a resident Citizens Advisory Committee (CAC) to help guide the process and utilize social media to garner public input into the process.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	N/A	Estimated Benefits (losses avoided):	N/A
Useful Life:	N/A		
Estimated Cost:	\$35,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021-2020
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	HMG, PDM
Responsible Organization:	Village of Great Neck Plaza	Local Planning Mechanisms to be Used in Implementation, if any:	Public meetings and hearings, surveys, online interaction
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Not acceptable since the public not informed.
	Alternative 1 - Create 3 flyers	\$5,000	Not desired since alternative is a bare minimum.
Alternative 2 - Create PR campaign	\$15,000	Not desired because minimal involvement of the public.	
Progress Report (for plan maintenance)			
Date of Status Report:	June 19, 2020		
Report of Progress:	No progress has been made on this Project. The Village will pursue implementation if some funding is provided from grant sources to assist.		
Update Evaluation of the Problem and/or Solution:	No changes to the solution have happened since initial considered development.		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Hempstead Annex

This document presents the Village of Hempstead’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Charlene J. Thompson, Commissioner Incorporated Village of Hempstead 99 James A. Garner Way Hempstead, NY 11550 516-489-3400	None Provided

Profile

The Village of Hempstead covers approximately 3.68 square miles¹ and has a total population of 55,113 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Hempstead are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Hempstead Demographic Information

Demographic		Demographic	
Below 5 Years Old	9.3%	Black or African American alone	46.8%
Above 65 Years Old	10.7%	American Indian and Alaska Native alone	0.6%
Individuals with Disabilities	4.1%	Asian alone	1.6%
Persons in Poverty	19.3%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	56.2%	Two or More Races	4.1%
Without a High School Diploma	28.6%	White alone, not Hispanic or Latino, percent	5.0%
Without Access to Broadband Internet	21.8%	Hispanic or Latino	46.9%

¹ This is inclusive of land area only.

The Village of Hempstead has experienced an influx of new residential construction, development of existing park areas, and new small businesses. The Village does not lay within the 100-year flood plain. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Hempstead. The jurisdiction identified Extreme Temperatures, Hurricane, Lightning, Severe Winter Weather, Wind as the hazards impacting the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Hempstead include:
Extreme Temperatures, Hurricane, Lightning, Severe Winter Weather, and Wind.

Table 2: Village of Hempstead Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	Community, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources

Hazard	Impact Categories
Tornados	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Hempstead has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Hempstead. The Village of Hempstead maintains several key administrative and technical capabilities to support mitigation, including building codes, community development plans, site plan review requirements, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Hempstead Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Https://www.villageofhempsteadcda.org
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	Yes	Https://www.villageofhempsteadcda.org
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Https://www.villageofhempsteadcda.org
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Https://www.villageofhempsteadcda.org

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Hempstead. Increasing capacity and expertise in mitigation related administrative and technical capabilities of the Village will support mitigation planning and implementation.

Table 4: Village of Hempstead Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)		
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices		
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems		
Personnel trained in construction practices related to buildings/infrastructure		
Planner(s) with an understanding of natural hazards		
Planner(s) with knowledge of land development and land management practices		
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Hempstead. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by CDBG programs and state mitigation grant programs. Village of Hempstead should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Hempstead Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	CDBG grants have previously been used in the Village for public facilities improvements including building remediation, building improvements, infrastructure upgrades and safety improvements and matching funds for state and federal grants.
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	Brownfields Opportunity Area Designation.

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Hempstead. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Hempstead Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Hempstead and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village is located in an area of minimal flood hazard, according to FEMA flood insurance rate maps. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction. The Village does not currently have a designated floodplain manager. No barriers to running a successful NFIP program were noted by the Village of Hempstead.

The Village of Hempstead is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village mitigates flooding by leveraging State and Federal resources with Community Development Block Grant funding to facilitate infrastructure upgrades. The Flood Damage Prevention Ordinance was last amended 12/04/2007 and can be referenced in L.L. No. 17-2007.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Hempstead. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VOH_1	VOH_2	VOH_3	VOH_4	VOH_5	VOH_6	VOH_7	VOH_8	VOH_9
Project Name	Generator Installation - East End Fire House	Generator Installation - Kennedy Memorial Park	Generator Installation - Victory Fire House	Generator Installation - Weir Street Fire Facility	Generator Installation - West End Fire House	Generator Replacement - Jerusalem Ave. Fire House	Generator Replacement - Headquarters Fire House	Generator Replacement - Southside Fire House	Preventative Tree Trimming Program
Goal being met	2	2	2	2	2	2	2	2	3
Hazards to be mitigated	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters
Priority Ranking	High								
Description of the Problem	No backup electricity in the event of power failure	No backup electricity in the event of power failure	No backup electricity in the event of power failure	No backup electricity in the event of power failure	No backup electricity in the event of power failure	Replace old diesel generator with gas powered generator	Replace old diesel generator with gas powered generator	Replace old diesel generator with gas powered generator	High-wind events and severe ice storms cause tree limbs and branches to fall and block roadways or damage power lines and property.
Description of the Solution	Provide backup electricity in	Provide backup electricity in the event of a power failure	Provide backup electricity in the event of a power failure	Provide backup electricity in the event of a power failure	Design and implement a program to identify dangerous tree limbs and				

Project Number	VOH_1	VOH_2	VOH_3	VOH_4	VOH_5	VOH_6	VOH_7	VOH_8	VOH_9
	the event of a power failure				branches that might come in contact with power transmission lines or break and fall causing damage to life and or property of village residents in the event of a severe storm.				
Critical Facility	Yes	No							
EHP Issues	No								
Estimated Timeline	2021	2021	2021	2021	2021	2021	2021	2021	1 to 2 years
Lead Agency	Village of Hempstead	Department of Public Works							
Estimated Costs	\$100,000	\$180,000	\$120,000	\$70,000	\$95,000	\$155,000	\$155,000	\$130,000	To be determined
Estimated Benefits	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Provide both fire protection and an evacuation center to the village residents.	Prevent property damage, power loss, and injury or loss of life.
Potential Funding Sources	Village Budget								

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Hempstead

NYS DHSES Action Worksheet			
Project Name:	Emergency Generator Installation		
Project Number:	VOH_1, VOH_2, VOH_3, VOH_4, VOH_5, VOH_6, VOH_7, VOH_8		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes, Straight-line winds, Severe Winter Storms, Tornados, Nor'easters		
Description of the Problem:	Facilities responsible for public safety are not available in the event of a Village-wide power outage. There are currently five buildings that are used in an emergency that have no backup electricity should there be a power failure. They include three Village fire houses (Jackson Street, East End & West End), the Village evacuation center located at Kennedy Memorial Park, and the Fire Department SCBA recharging station on Weir Street. There are also three fire stations that need a replacement of their diesel generators with natural gas generators (Headquarters, Jerusalem Avenue and Southside Fire Stations).		
Action or Project Intended for Implementation			
Description of the Solution:	Install natural gas powered generators to all the locations mentioned above to afford the protection and services needed by the residents of the Inc. Village of Hempstead should there be a Village-wide power outage caused by a natural hazard such as hurricanes, nor'easters, straight-line winds associated with thunderstorms, severe winter weather, or tornados.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	All high-wind and severe storm events that cause power outages	Estimated Benefits (losses avoided):	Provide both fire protection and an evacuation center to the village residents.
Useful Life:	50+ years		
Estimated Cost:	\$1,005,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	One year.	Potential Funding Sources:	Municipal fiscal budget
Responsible Organization:	Inc. Village of Hempstead	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Five sites will not be available in the event of a loss of power.
	Rent temporary generators.	\$5,000-\$10,000 per generator/week	Temporary generators may not provide enough power and renting these generators may be unreliable in the event of an emergency.
Install diesel generators	> \$1,000,000	Pros: Require less maintenance, smaller in size, long life span. Cons: diesel fuel prices are variable and the generator costs more than gas generators.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Hempstead

NYS DHSES Action Worksheet			
Project Name:	Preventative Tree Trimming Program		
Project Number:	VOH_9		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes, Tropical Storms, Tornados, Straight-line Winds, Severe Winter Weather, Nor'easters		
Description of the Problem:	High-wind events and severe ice storms cause tree limbs and branches to fall and block roadways and damage power lines and property.		
Action or Project Intended for Implementation			
Description of the Solution:	This program is designed to identify dangerous tree limbs and branches that might come into contact with power transmission lines or break and fall causing damage to life and/or property of village residents in the event of a severe storm. The village will be divided into five sections. A supervisor from the Department of Public Works (DPW) will take two weeks to perform an inspection of each section. Based on his findings, the supervisor will compile a list. This list will be given to the tree department. Trimming will be performed on a priority basis with the trees posing the highest risk being cut first. This trimming will be coordinated and performed in conjunction with a PSE&G representative.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	All severe storms	Estimated Benefits (losses avoided):	Prevent property damage, power loss, and injury or loss of life.
Useful Life:	Five years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediate.
Estimated Time Required for Project Implementation:	One to two years	Potential Funding Sources:	Village Fiscal Budget
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Hire an outside tree contractor	\$100,000.00+	High cost to taxpayers.
	Wait for PSE&G to perform the work	\$0	No guarantee this would be performed.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Island Park Annex

This document presents the Village of Island Park’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Michael McGinty, Mayor Village of Island Park 127 Long Beach Road Island Park, NY 11558 micjean@aol.com 516-815-5326	John Isola, Deputy Village Treasurer Village of Island Park 127 Long Beach Road Island Park, NY 11558 jisola@villageofislandpark.com 516-815-5326

Profile

The Village of Island Park covers approximately 0.37 square miles¹ and has a total population of 4,765 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Island Park are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Island Park Demographic Information

Demographic		Demographic	
Below 5 Years Old	7.9%	Black or African American alone	0.3%
Above 65 Years Old	17.7%	American Indian and Alaska Native alone	0.4%
Individuals with Disabilities	Information not provided	Asian alone	2.1%
Persons in Poverty	8.9%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	33.3%	Two or More Races	2.8%
Without a High School	8.7%	White alone, not Hispanic or Latino,	65.7%

¹ This is inclusive of land area only.

Demographic		Demographic	
Diploma		percent	
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

The Village of Island Park continues to rebuild post-Super Storm Sandy. To-date, 186 residential buildings have been raised on monolithic foundations. Due to the geographical location of this jurisdiction, all efforts and projects have been occurring in the 100-year floodplain. The Village is currently carving out three areas for potential develop: Long Beach Road, Quebec Road, and Business District. The jurisdiction is currently engaged in a planning study to assess future zoning and development. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Island Park. The jurisdiction identified Coastal Hazards, Flooding, Ground Failure as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most

The hazards that most impact the Village of Island Park include: **Coastal Hazards, Flooding, and Ground Failure.**

likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

Table 2: Village of Island Park Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	Housing, Infrastructure, Natural and Cultural Resources

Hazard	Impact Categories
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	Housing
Lightning	No Impact
Severe Winter Weather	Community, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	No Impact
Wind	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Island Park has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Island Park. The Village of Island Park maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plan, building codes, climate action plans, community development plans, comprehensive plans/master plans, emergency response plans, growth management plans, NFIP flood damage prevention ordinances, open space plans, post disaster recovery ordinances, post disaster recovery plans, resilience plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Island Park Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	Yes	Village of Island Park
Building Code	Yes	Village Municipal Code
Capital Improvement Plan	No	
Climate Action Plan	Yes	HMGP Grant Program
Community Development Plan	Yes	Village Building and Zoning Codes
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Village / IPFD / NCOEM
Floodplain Management Plan(s)	Yes	Village / HMGP / NCOEM
Growth Management Plan(s)	Yes	Building and Zoning Codes
NFIP Flood Damage Prevention Ordinance(s)	Yes	All Property Retains Flood Insurance
Open Space Plan(s)	Yes	Municipal Code
Post Disaster Recovery Ordinance(s)	Yes	Municipal Code
Post Disaster Recovery Plan(s)	Yes	Village/ IPFD/NCOEM
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	Yes	Village / Homeland Security /NCOEM
Site Plan Review Requirement(s)	Yes	Village / Building Codes, Zoning
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Village, NCOEM, HMGP
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Municipal Code - Ordinance # 51

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Island Park. The Village of Island Park has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, GIS analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Island Park Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Mayor Michael McGinty
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	John Rocco
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Walden Environmental Engineering
Engineer(s) with knowledge of land development and land management practices	Yes	Cameron Engineering
Grant Writers	Yes	Michael McGinty
Personnel skilled or trained in Geographic Information Systems	Yes	Walden Engineering
Personnel trained in construction practices related to buildings/infrastructure	Yes	John Rocco
Planner(s) with an understanding of natural hazards	Yes	Cameron Engineering
Planner(s) with knowledge of land development and land management practices	Yes	Michael McGinty
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Island Park. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, levying taxes for specific purposes, capital improvements project funding, CDBG programs, and state mitigation grant programs. Village of Island Park should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Island Park Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	Yes	46th Year of CDBG Funding
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	NYS DEC

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Island Park. Participation in the CRS program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Island Park Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	In progress
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Island Park and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). The entire Village is flood-prone and is located in the 100-Year floodplain, which has a 1% chance of flooding in any given year.

The Village designated Walden Engineering to be responsible for floodplain management. The engineering firm has a certified floodplain manager on staff. Additional FEMA and Community Rating System training will support the growth of the Village's floodplain management program. The Village administers the NFIP through education, site plan review, and building and zoning permit review. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made through in-person site inspections. No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Island Park is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 12/01/2012 and its last Community Assistance Visit on 04/20/2019. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To reduce future losses due to flood, 186 residences on monolithic foundations have been elevated. The Flood Damage Prevention Ordinance for the Village of Island Park exceeds minimum requirements. The ordinance was last amended 2019 and can be referenced in Local Law 2019; specifics to follow.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Island Park. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Bulkhead replacement at "Little Beach"	Emergency generator installation at Village Hall	Bulkhead replacement at Redfield Rd, Norfolk Rd and Rizkin Pl.	Emergency generator installation at DPW facilities	Rebuild existing infrastructure, including drainage, bulkhead outfalls and roadway elevations
Risk Category	Flooding	Extreme weather	Flooding	Extreme weather	Flooding
Project Status	In Progress	Completed	Temporarily Completed	Completed	Phase 1 Completed Phase 2 Continuing
Project Status Description	The initial design phase is in process. The required permits have been requested from the NYS-DEC. The Capital funding is in place. At this time the project is not reimbursable. The estimated cost approaches one million dollars.	The original Village Hall has been demolished. The present Village Hall resides at the former Bank of America location (147 Long Beach Road, Island Park). The emergency generator has been installed on the roof of the current Village Hall.	The bulkheads at Norfolk Road / Rizkin Pl and at Redfield / Marion Road have been raised approximately two feet in height	The installation of the emergency generator at DPW included the removal and replacement of the fuel tanks at the DPW location. The estimated cost was \$4000,000	Phase 1 included the hydraulic cleaning of approximately 39,000 linear feet of lateral storm drain. The cleaning of approximately three hundred and twenty-five storm drain boxes. It included CTVV Mapping and a modeling study. Phase 2 includes the design and engineering of the entire project, now at thirty percent completion. Funding is approximately \$6,000,000
Carried Forward to 2020 Plan	Yes	No	No	No	Yes
Required Changes	No	N/A (Completed)	No	N/A (Completed)	No

Proposed Mitigation Actions

Project Number	VIP_1	VIP_2	VIP_3
Project Name	Rebuild existing infrastructure, including drainage, bulkhead outfalls, and roadway elevations	Bulkhead replacement at "Little Beach"	Resiliency and Hardening Emergency Management Center at Island Park Fire Department (IPFD)
Goal being met	1, 2, 3		1, 2, 3
Hazards to be mitigated	Severe Storms, Tidal Flooding	Flooding	Severe Storms, Tidal Flooding
Priority Ranking	High	High	High
Description of the Problem	The storm surge of Super Storm Sandy dealt an incredible amount of damage to the Village of Island Park. In some places, the storm surge was as high as 65 inches. Around Eleven thousand and thirty of the Village's Eleven thousand and forty-four residents experienced substantial flooding, and the Village's critical infrastructure, including the fire department Public Works garage and Village Hall, were affected as well. In the aftermath of Sandy, the Village also started to experience increasingly higher tides than before.	The current bulkhead at Little Beach provides insufficient protection to area residents, property, and infrastructure	There are severe tidal and flooding issues due to insufficient lateral storm drains and drain boxes. The tidal flex valves installed in 1995 are failing.
Description of the Solution	Reconstruction of the lateral drain system, installation of tidal flex valves, and installation of a pump station. A cost-benefit analysis for this project resulted in a score of 1.67, showing that the benefits of the solution would be well worth the cost of the project.	A complete replacement of the current bulkhead	Resiliency and hardening of the Emergency Management Center located at the island park fire department. This includes dry floodproofing of the perimeter of the island park fire department to 500-Year flood level
Critical Facility	Yes	No	Yes
EHP Issues	Unknown	Unknown	Unknown
Estimated Timeline	3 Years	Target Date: 2014 Status: In Progress	Phase 1 is complete, Phase 2 is ongoing 6 Months

Project Number	VIP_1	VIP_2	VIP_3
		Estimated Timeline: 2 Years	
Lead Agency	DHSES / FEMA	Village of Island Park	Incorporated Village of Island Park
Estimated Costs	\$40,000,000	To be determined	\$1,950,000
Estimated Benefits	BCA = 1.67	Prevention of flooding	Benefits exceed \$2,000,000
Potential Funding Sources	FEMA HMGP	HMG funds	GOSR; Village Capital Bond issue (if additional money is required)

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Island Park

NYS DHSES Action Worksheet			
Project Name:	Resiliency and Hardening Emergency Management Center at Island Park Fire Department (IPFD)		
Project Number:	VIP_3		
Risk / Vulnerability			
Hazard of Concern:	Severe Storm and Tidal Flooding		
Description of the Problem:	There are severe tidal and flooding issues due to insufficient lateral storm drains and drain boxes. The tidal flex valves installed in 1995 are failing.		
Action or Project Intended for Implementation			
Description of the Solution:	Resiliency and hardening of the Emergency Management Center located at the island park fire department. This includes dry floodproofing of the perimeter of the island park fire department to 500-Year flood level.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	500-Year Flood Event	Estimated Benefits (losses avoided):	Benefits exceed \$2,000,000
Useful Life:	Excess of 50 Years		
Estimated Cost:	\$1,950,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	GOSR; Village Capital Bond issue (if additional money is required)
Responsible Organization:	Incorporated Village of Island Park	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Resiliency and hardening sans dry floodproofing	\$1,500,000	Insufficient Solution
	Resiliency and hardening to include dry floodproofing	\$1,950,000	Mitigation of flooding to weather and tidal conditions
Progress Report (for plan maintenance)			
Date of Status Report:	July 24, 2020		
Report of Progress:	July 24, 2020		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Island Park

NYS DHSES Action Worksheet			
Project Name:	Rebuild existing infrastructure, including drainage, bulkhead outfalls, and roadway elevations		
Project Number:	VIP_1		
Risk / Vulnerability			
Hazard of Concern:	Severe Storm and Tidal Flood		
Description of the Problem:	The storm surge of Super Storm Sandy dealt an incredible amount of damage to the Village of Island Park. In some places, the storm surge was as high as 65 inches. Around Eleven thousand and thirty of the Village's Eleven thousand and forty-four residents experienced substantial flooding, and the Village's critical infrastructure, including the fire department Public Works garage and Village Hall, were affected as well. In the aftermath of Sandy, the Village also started to experience increasingly higher tides than before.		
Action or Project Intended for Implementation			
Description of the Solution:	Reconstruction of the lateral drain system, installation of tidal flex valves, and installation of a pump station. A cost-benefit analysis for this project resulted in a score of 1.67, showing that the benefits of the solution would be well worth the cost of the project.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	500-Year Flood Event	Estimated Benefits (losses avoided):	BCA = 1.67
Useful Life:	50 Years		
Estimated Cost:	\$40,000,000		
Plan for Implementation			
Prioritization:	High		
Estimated Time Required for Project Implementation:	3 years	Potential Funding Sources:	FEMA HMGP
Responsible Organization:	DHSES / FEMA	Local Planning Mechanisms to be Used in Implementation, if any:	N / A
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Not Acceptable
	Installation of a new bulkhead	\$250,000	Insufficient
	Installation of Gabions	\$500,000	Does not directly address the problem
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Lake Success Annex

This document presents the Village of Lake Success’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Patrick Farrell, Administrator & Treasurer Village Of Lake Success 318 Lakeville Road Great Neck, NY 11020 vlsadmin@optonline.net 516-482-4411	Pat McDermott, Superintendent Public Works Village Of Lake Success 318 Lakeville Road Great Neck, NY 11020 vlsadmin@optonline.net 516-482-4411

Profile

The Village of Lake Success covers approximately 1.88 square miles¹ and has a total population of 3,112 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Lake Success are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Lake Success Demographic Information

Demographic		Demographic	
Below 5 Years Old	2.6%	Black or African American alone	7.5%
Above 65 Years Old	31.0%	American Indian and Alaska Native alone	0.6%
Individuals with Disabilities	Information not provided	Asian alone	39.7%
Persons in Poverty	5.0%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	3.2%	Two or More Races	15.4%
Without a High School Diploma	9.7%	White alone, not Hispanic or Latino, percent	48.4%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.5%

¹ This is inclusive of land area only.

Lake Success has expanded medical and healthcare facility development, including existing office space. In the past few years, Northwell Hospital expanded the current infrastructure (i.e., helicopter landing pad, new lab facilities, cancer center, training center and HQ building). The Village will look to continue to expand existing office space. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Lake Success. The jurisdiction identified Flooding, Hurricane, Severe Winter Weather, and Wind as the hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Lake Success include:

Flooding, Hurricane, Severe Winter Weather, and Wind.

Table 2: Village of Lake Success Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	Natural and Cultural Resources
Flooding	Community
Ground Failure	Infrastructure
Hurricane and Tropical Storms	Community
Hail	Community
Lightning	No Impact
Severe Winter Weather	Community
Tornados	No Impact
Wind	Community, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Lake Success has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Lake Success. The Village of Lake Success maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, site plan review requirements, stormwater management plans, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Lake Success Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village Code Book
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Not provided
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code Book
Small Area Development Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Not provided
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Code Book

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Lake Success. The Village of Lake Success has a high level of primary administrative and technical capabilities to support mitigation. This includes engineering and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village. Diversifying expertise to be inclusive of management and analyst skills will also support mitigation practice.

Table 4: Village of Lake Success Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Patrick Farrell - Administrator Treasurer
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	FPM Engineering
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	FPM Engineering
Engineer(s) with knowledge of land development and land management practices	Yes	FPM Engineering
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Supt. Buildings
Planner(s) with an understanding of natural hazards	Yes	FPM Engineering
Planner(s) with knowledge of land development and land management practices	Yes	FDT Law
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Lake Success. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds and capital improvements project funding. Village of Lake Success should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Lake Success Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Village of Lake Success GO Bond
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	Village of Lake Success Deficiency Bond
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Lake Success. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Lake Success Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Lake Success and how the jurisdiction is meeting the requirements of the National Flood Insurance

Program (NFIP). Flood-prone areas in the Village include areas of lower elevation located near Tanners Road and Great Neck South High School.

The Village's Superintendent of Public Works is responsible for floodplain management. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Lake Success is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village installs new drainage and dry wells to mitigate flooding. The Flood Damage Prevention Ordinance was last amended 12/08/2008 and can be referenced in Chapter 57, Village Code, L.L. No. 3-2008.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Lake Success. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Install Natural Gas Generator to power entire Village Hall Office and Community Building facilities. Public Bathrooms and Multi-Purpose Rooms
Risk Category	Power outages due to extreme weather
Project Status	In Progress
Project Status Description	Portions of this project have been implemented. The Village updated the bathrooms, added a workout facility, and added multi-purpose rooms. However, the generator itself has not yet been replaced.
Carried Forward to 2020 Plan	Yes
Required Changes	Yes, this mitigation action should be revised to focus on the generator upgrade exclusively.

Proposed Mitigation Actions

Project Number	VLS_1	VLS_2
Project Name	Canal Restoration Improvement	Natural Gas Generator
Goal being met	1, 3	1, 2, 3
Hazards to be mitigated	Drought	Loss of power
Priority Ranking	Low	High
Description of the Problem	During drought filtered water must be pumped from plumed aquifer	There is no generator for electricity for the Village Hall and Community Building during blackouts
Description of the Solution	Restoring and improving the depth of the canal connecting Lake Surprise and Lake Success will reduce the need to pump water from the plumed aquifer.	Install a Natural Gas Generator so there will be no interruption of power due to no fuel delivery.
Critical Facility	No	No
EHP Issues	Unknown	Unknown
Estimated Timeline	Two years	Two Years
Lead Agency	Village	Village
Estimated Costs	\$600000	80000 - 120,000
Estimated Benefits	Loss of \$3,000,000 golf course and Village facilities	The installation of the generator would provide wide ranging benefits, including sustained operations of the Village Hall and continued ability to provide emergency services using the facility as needed.
Potential Funding Sources	HMGP	HMGP

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Lake Success

NYS DHSES Action Worksheet

Project Name:	Emergency Natural Gas Generator
Project Number:	VLS_2

Risk / Vulnerability

Hazard of Concern:	Loss of Power
Description of the Problem:	During long extended blackouts, Village Hall will be shut and there will be no emergency shelter to assist emergency services with shelter or medical supply distribution because there is no backup power.

Action or Project Intended for Implementation

Description of the Solution:	Install a Natural Gas Generator so there will be no interruption of power due to no fuel delivery.
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Is this project related to a Critical Facility? Yes No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	This protects against multiple hazards - would provide emergency power protection in the event of outages caused by high winds, winter storms, etc.	Estimated Benefits (losses avoided):	The installation of the generator would provide wide ranging benefits, including sustained operations of the Village Hall and continued ability to provide emergency services using the facility as needed.
Useful Life:	25-30 years		
Estimated Cost:	\$80,000-\$120,000		

Plan for Implementation

Prioritization:	High	Desired Timeframe for Implementation:	Two years
Estimated Time Required for Project Implementation:	Two weeks to install gas line and generator	Potential Funding Sources:	HMGP Funds
Responsible Organization:	Village of Lake Success	Local Planning Mechanisms to be Used in Implementation, if any:	N/A

Three Alternatives Considered (including No Action)

Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Install a large generator (over 85kW)	\$350,000+	Cost prohibitive; not necessary
	Purchase remote generator	\$250,000	Cost prohibitive / no clear justifications for mobile generator over fixed-location generator.

Progress Report (for plan maintenance)

Date of Status Report:	July 7, 2020
Report of Progress:	Estimates were received to install a 80kW generator. Anything larger increases cost significantly.
Update Evaluation of the Problem and/or Solution:	

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Lake Success

NYS DHSES Action Worksheet			
Project Name:	Canal Restoration Improvement Project		
Project Number:	VLS_1		
Risk / Vulnerability			
Hazard of Concern:	Drought		
Description of the Problem:	During droughts, Lake Surprise cannot sustain enough water to irrigate the golf course and Village facilities. During drought times, temporary filters are brought in to filter the water that is pumped from the aquifer (a site of groundwater contamination) in the Village to sustain the golf course and Village facilities. The filters have been funded by Lockheed Martin who is responsible for the aquifer cleanup. The DEC approved this plan to improve the connection between Lake Success and Lake Surprise to eliminate pumping water from the aquifer.		
Action or Project Intended for Implementation			
Description of the Solution:	Restoring and improving the depth of the canal connecting Lake Surprise and Lake Success will reduce the need to pump water from the plumed aquifer.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	5 Year Drought	Estimated Benefits (losses avoided):	\$3,000,000
Useful Life:	50-75 Years		
Estimated Cost:	\$600,000		
Plan for Implementation			
Prioritization:	Low	Desired Timeframe for Implementation:	One to two years
Estimated Time Required for Project Implementation:	One year	Potential Funding Sources:	HMF
Responsible Organization:	Village	Local Planning Mechanisms to be Used in Implementation, if any:	Village
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Install a pump from Lake Success to Lake Surprise	\$300,000	Estimated cost and available funds proved insufficient through bid process.
	Study alternatives not yet identified.	TBD	This alternative will help identify potential solutions not currently understood.
Progress Report (for plan maintenance)			
Date of Status Report:	July 7, 2020		
Report of Progress:	NYS DEC has approved this project. Bids were sent out in 2018 and came in around \$600,000 which was above engineers estimates of \$350,000. The Village currently has \$200,000 left from a Lockheed Martin Environmental projects Grant available to help fund part of this project.		
Update Evaluation of the Problem and/or Solution:	Cheaper alternative fixes are being investigated.		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Lattingtown Annex

This document presents the Village of Lattingtown’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Dawn Gresalfi, Clerk Treasurer Village of Lattingtown 299 Lattingtown Road PO Box 488 Locust Valley, NY 11560 lattvill@optonline.net 516-676-6920	Enrico Lucidi, Street Commissioner Village of Lattingtown 299 Lattingtown Road PO Box 488 Locust Valley, NY 11560 lattvill@optonline.net 516-676-6920

Profile

The Village of Lattingtown covers approximately 3.78 square miles¹ and has a total population of 1,830 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Lattingtown are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Lattingtown Demographic Information

Demographic	Demographic
Below 5 Years Old	3.0%
Above 65 Years Old	25.8%
Individuals with Disabilities	Not available
Persons in Poverty	4.2%
Renters	16.4%
Without a High School Diploma	8.3%
Without Access to Broadband Internet	0.0%
Black or African American alone	1.2%
American Indian and Alaska Native alone	0.0%
Asian alone	2.7%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	0.2%
White alone, not Hispanic or Latino, percent	90.3%
Hispanic or Latino	0.0%

¹ This is inclusive of land area only.

There are no business or industrial areas within the Village of Lattingtown. Currently and in the last five years, one new house was built on previously vacant land. Because vacant land is the only land permitted for development, the Village plans for the construction of three new houses. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Lattingtown. The jurisdiction identified Flooding, Severe Winter Weather, and Wind as the hazards with the most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Lattingtown include:

Flooding, Severe Winter Weather, and Wind.

Table 2: Village of Lattingtown Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Community, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Lattingtown has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Lattingtown. The Village of Lattingtown maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Lattingtown Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village of Lattingtown Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Emergency Preparedness Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Stormwater Management Plan(s)	Yes	General Code 250:1
Subdivision Ordinance(s)	Yes	General Code 263-1
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	General code 315:1

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Lattingtown. Increasing capacity and expertise in mitigation related administrative and technical capabilities of the Village will support mitigation planning and implementation.

Table 4: Village of Lattingtown Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	Enrico Lucidi, Street Commissioner
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Lattingtown. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Lattingtown should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Lattingtown Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Lattingtown. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Lattingtown Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Lattingtown and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village include properties along Great Meadow Road and areas abutting Long Island Sound.

The Village's Building Supervisor is responsible for floodplain management. The Village administers the NFIP through tracking any updates on any changes in development or

construction. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction. After flood events, substantial damage determinations are made by referring to and performing the steps outlined in the FEMA Substantial Improvement/Substantial Damage Desk Reference.

The Village of Lattintown is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 12/06/2012 and its last Community Assistance Visit on 09/14/2017. There are no NFIP compliance violations that need to be addressed in this jurisdiction. The Flood Damage Prevention Ordinance for the Village of Lattintown meets minimum requirements. The ordinance was last amended 2009 and can be referenced in Article XIV of the Village Code.

Mitigation Strategy

This jurisdiction did not participate in the 2014 hazard mitigation plan. The following section provides an overview of the mitigation strategy for the Village of Lattingtown. It provides an overview of proposed actions and the NYS mitigation worksheets.

Proposed Mitigation Actions

Project Number	VLN_1	VLN_2
Project Name	Frost Creek Inlet Restoration	Village Hall renovation
Goal being met	1, 3, 6	2, 3
Hazards to be mitigated	Flooding	All hazards
Priority Ranking	High	High
Description of the Problem	There is erosion along the bank of the Frost Creek inlet.	The Village Hall needs to be renovated to support its usage as an emergency shelter.
Description of the Solution	Bring in rocks to secure the water edge and do plantings to preserve the existing earth (i.e., to reduce sediment erosion).	Village Hall needs to be renovated to make space for it to function as a shelter including a bathroom with a shower and a new generator.
Critical Facility	No	No
EHP Issues	Yes	Unknown
Estimated Timeline	6 Weeks	2 Years
Lead Agency	Village of Lattingtown	Village of Lattingtown
Estimated Costs	\$9,000	\$100,000
Estimated Benefits	Avoids any flood damage and displacement of residents.	Providing a service to the residents for a safe place in an emergency.
Potential Funding Sources	Nassau County, Village of Lattingtown	State grant

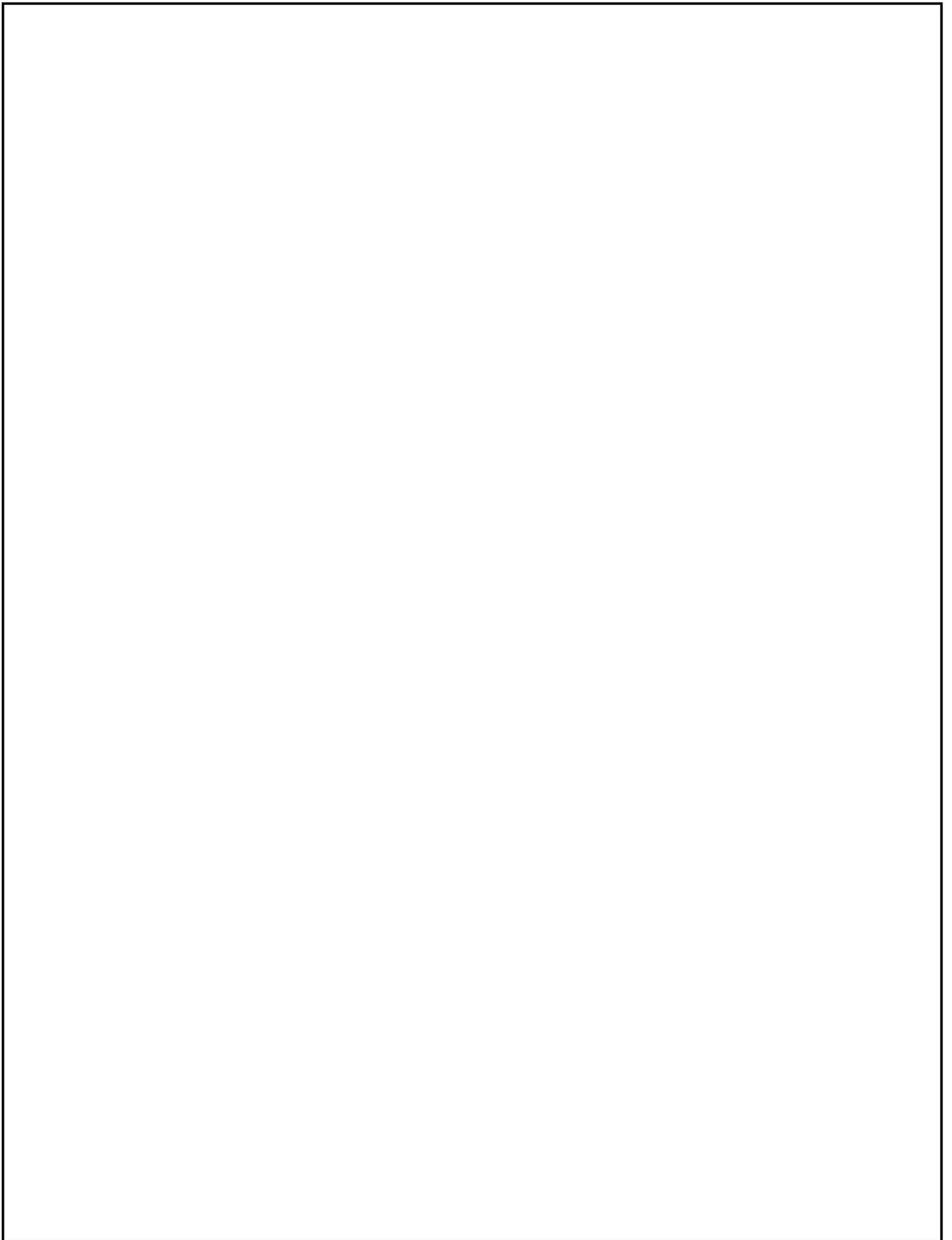
Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Lattingtown

NYS DHSES Action Worksheet			
Project Name:	Village Hall renovation		
Project Number:	VLN_2		
Risk / Vulnerability			
Hazard of Concern:	Place for residents to convene in an emergency		
Description of the Problem:	The Village Hall needs to be renovated to support its usage as an emergency shelter. The address is 299 Lattingtown Road. The Village Hall currently has an old diesel generator, so people have come during previous storms to charge their devices. The generator smells terrible and should be replaced. A bathroom with a shower also needs to be added to the Hall.		
Action or Project Intended for Implementation			
Description of the Solution:	Village Hall needs to be renovated to make space for it to function as a shelter including a bathroom with a shower and a new generator. There is space in the back of Village Hall that can be reconfigured to allow for bathroom facilities and the generator needs to be replaced. This would require wiring by an electrician		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100-year flood.	Estimated Benefits (losses avoided):	Providing a service to the residents for a safe place in an emergency. Residents will be able to charge their phones, stay in a heated environment, and use the facilities.
Useful Life:	30 years		
Estimated Cost:	\$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within the next two years.
Estimated Time Required for Project Implementation:	Two Years	Potential Funding Sources:	State grants
Responsible Organization:	Village of Lattingtown	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	No additional services to residents in an emergency.
	Just a generator	\$20,000	Provide heat and electricity to residents in an emergency.
	Make a place for residents to come for maintenance (i.e., charging stations), but not shelter	\$5,000	Residents might be displaced and have nowhere to go.
Progress Report (for plan maintenance)			
Date of Status Report:	Has not been started.		
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Lattingtown

NYS DHSES Action Worksheet			
Project Name:	Frost Creek Inlet Restoration		
Project Number:	VLN_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	There is erosion along the bank of the Frost Creek inlet. If a storm comes and there is flooding, the embankment can erode further and cause flooding of the houses along Great Meadow Road.		
Action or Project Intended for Implementation			
Description of the Solution:	Bring in rocks to secure the water edge and do plantings to preserve the existing earth (i.e., to reduce sediment erosion).		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	20 Year Flood	Estimated Benefits (losses avoided):	Loss to many homes along Great Meadow Road. Residents would be displaced and have nowhere to go.
Useful Life:	20 Years		
Estimated Cost:	\$9,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 Year
Estimated Time Required for Project Implementation:	6 Weeks	Potential Funding Sources:	Village, Nassau County
Responsible Organization:	Village of Lattingtown	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Potential for flooding
	Just replant, no stones	\$2,000	Will not hold as well without some stonework.
	Stonework only	\$7,000	Existing soil will erode during any storm.
Progress Report (for plan maintenance)			
Date of Status Report:	Not Started.		
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Laurel Hollow Annex

This document presents the Village of Laurel Hollow’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Elizabeth Kaye, Clerk & Treasurer Village of Laurel Hollow 1492 Laurel Hollow Road Syosset, NY 11791 clerktreasurer@laurelhollow.org 516-692-8826	Jeffrey Nemshin, Deputy Mayor Village of Laurel Hollow 1492 Laurel Hollow Road Syosset, NY 11791 clerktreasurer@laurelhollow.org 516-692-8826

Profile

The Village of Laurel Hollow covers approximately 2.92 square miles¹ and has a total population of 1,982 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Laurel Hollow are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Laurel Hollow Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.2%	Black or African American alone	1.3%
Above 65 Years Old	15.2%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	6.6%
Persons in Poverty	6.3%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	4.4%	Two or More Races	0.8%
Without a High School Diploma	98.2%	White alone, not Hispanic or Latino, percent	84.3%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

¹ This is inclusive of land area only.

The Village of Laurel Hollow has seen recent growth in residential renovations and/or new home construction, which has been continuous for the past five years. Currently, permitted land includes additional residential renovations and/or new home construction. A portion of a deck associated with a cabana was constructed in the 100-year floodplain. Permits for development extend to residential subdivisions greater than 2 acres outside of the floodplain. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Laurel Hollow. The jurisdiction identified Coastal Hazards, Severe Winter Weather, and Wind as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Laurel Hollow include:

**Coastal Hazards,
Severe Winter Weather,
and Wind.**

Table 2: Village of Laurel Hollow Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Infrastructure
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Infrastructure, Natural and Cultural Resources
Tornados	No Impact
Wind	Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Laurel Hollow has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Laurel Hollow. The Village of Laurel Hollow maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, floodplain management plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Laurel Hollow Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	NYS Building Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Nassau County Plan
Floodplain Management Plan(s)	Yes	57-12
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Building Inspector and Village Engineer
Small Area Development Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Chapter 42 of Code
Subdivision Ordinance(s)	Yes	Chapter 114 of Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Chapter 145 of the Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Laurel Hollow. The Village of Laurel Hollow has a high level of primary administrative and technical capabilities to support mitigation. This includes engineering, administration, and construction. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village. Diversifying expertise to be inclusive of planning and analyst skills will also support mitigation practice.

Table 4: Village of Laurel Hollow Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Emergency Management, Appointee
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Village Engineer
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Village Engineer
Engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Laurel Hollow. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by capital improvements project funding and state mitigation grant programs. Village of Laurel Hollow should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Laurel Hollow Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	NYS Senator State Grant

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Laurel Hollow. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Laurel Hollow Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Laurel Hollow and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village include shoreline areas along Cold Spring Harbor.

The Village's Building Inspector and the Village Engineer are responsible for floodplain management. The Village administers the NFIP through reviewing and issuing building permits. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Laurel Hollow is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 01/30/2020 and its last Community Assistance Visit on 08/03/2010. There are no NFIP compliance violations that need to be addressed in this jurisdiction. The Flood Damage Prevention Ordinance for the Village of Laurel Hollow meets minimum requirements. The ordinance was last amended 2009 and can be referenced in Chapter 57 of the Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Laurel Hollow. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Initiate a community hazard awareness program. Through various forms of community outreach, residents will be informed of critical steps to take to prepare for an unexpected emergency, and actions to take during and following a local emergency.
Risk Category	Severe weather emergencies
Project Status	Completed
Project Status Description	Ongoing Swiftreach communication as needed
Carried Forward to 2020 Plan	No
Required Changes	No

Proposed Mitigation Actions

Project Number	VLH_1	VLH_2	VLH_3
Project Name	Community Hazard Awareness Program	Flood Study on Laurel Hollow Rd.	Replace/refurbish seawall
Goal being met	4	4	1, 2, 3
Hazards to be mitigated	Severe weather emergencies	Erosion, Flooding, Sea Level Rise, Severe Winter Weather, Storm Surge	Flooding
Priority Ranking	High	High	High
Description of the Problem	In an effort to promote community resiliency, and enhance the ability of residents to immediately respond to and recover from disasters and emergencies Laurel Hollow implemented a Community Hazard Awareness Program	There is a history of flooding on the main road in the Village, within a 200-acre watershed adjoining Cold Spring Harbor	Historic damage to two existing stone seawalls due to severe storms, including wind storms, nor'easters, tropical storms, and hurricanes which caused a storm surge. The walls protect the Village Hall property, including the parking areas for Village Hall and the Village beach and boat ramp.
Description of the Solution	Inform residents of critical steps to take to prepare for an unexpected emergency, and actions to take during and following a local emergency through various community outreach forms..	Conducting a study of the watershed, including hydrologic and hydraulic analyses, and an evaluation of the feasibility of potential solutions to handle stormwater runoff.	Structural embellishments and/or repairs, and/or replacement of the walls, to include shoreline stabilization to help protect Village facilities.
Critical Facility	No	No	Yes
EHP Issues	Unknown	Unknown	Unknown
Estimated Timeline	Ongoing from: 2014 - 2015	1 Year	1 - 2 Years
Lead Agency	Village of Laurel Hollow	Village of Laurel Hollow	Village of Laurel Hollow
Estimated Costs	To be determined	\$10,000 - \$20,000	\$100,000- \$200,000
Estimated Benefits	Residents will become knowledgeable of critical steps to take to prepare for an unexpected emergency which will increase the resiliency of the whole community; and become aware of actions to take during and following a local emergency to which will improve response and recovery capabilities	Finding a solution to damage of public and private properties and the protection of Laurel Hollow Village Hall and its' facilities.	Finding a solution to damage of public and private properties and the protection of Laurel Hollow Village Hall and its' facilities.
Potential Funding Sources	FEMA Grants and Municipal Budgets	NY State or Federal Grants	NY State or Federal grants or funding

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Laurel Hollow

NYS DHSES Action Worksheet			
Project Name:	Replace/refurbish Seawall		
Project Number:	VLH_3		
Risk / Vulnerability			
Hazard of Concern:	Erosion, Flooding, Sea Level Rise, Severe Winter Weather, Storm Surge		
Description of the Problem:	Historic damage to two existing stone seawalls due to severe storms, including windstorms, nor'easters, tropical storms, and hurricanes which caused a storm surge. The walls protect the Village Hall property, including the parking areas for Village Hall and the Village beach and boat ramp.		
Action or Project Intended for Implementation			
Description of the Solution:	Structural embellishments and/or repairs, and/or replacement of the walls, to include shoreline stabilization to help protect Village facilities.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	500 years	Estimated Benefits (losses avoided):	Finding a solution to damage of public and private properties and the protection of Laurel Hollow Village Hall and its' facilities.
Useful Life:	100 years		
Estimated Cost:	\$100,000 - \$200,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2025
Estimated Time Required for Project Implementation:	1-2 Years	Potential Funding Sources:	NYS or Federal grants or funding
Responsible Organization:	Village of Laurel Hollow	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Potential damage to Laurel Hollow Village Hall and Village facilities
	Boulder armoring	\$75,000	Structural protection from wave action
	Replacement of seawall	\$200,000	Total protection from a 500-Year flood
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Laurel Hollow

NYS DHSES Action Worksheet			
Project Name:	Flood Study on Laurel Hollow Rd.		
Project Number:	VLH_2		
Risk / Vulnerability			
Hazard of Concern:	flooding		
Description of the Problem:	There is a history of flooding on the main road in the Village, within a 200-acre watershed adjoining Cold Spring Harbor		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct a study of the watershed, including hydrologic and hydraulic analyses, and an evaluation of the feasibility of potential solutions to handle stormwater runoff.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100-Year Flood	Estimated Benefits (losses avoided):	Finding a solution to damage of public and private properties and the protection of Laurel Hollow Village Hall and its' facilities.
Useful Life:	100 Years		
Estimated Cost:	\$10,000 - \$20,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2025
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	NYS or Federal Grants
Responsible Organization:	Village of Laurel Hollow	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Continued flooding
	Installation of drains	\$20,000 to \$40,000	Ineffective and not comprehensive
	Requirement for on-site stormwater storage on properties	\$100,000	Not comprehensive, already required for new construction
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Lawrence Annex

This document presents the Village of Lawrence’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Ronald Goldman, Village Administrator Village of Lawrence 196 Central Avenue Lawrence, NY 11559 rgoldman@villageoflawrence.org 516-239-4600 Ext. 1010	Geraldo Castro, Deputy Village Administrator Village of Lawrence 196 Central Avenue Lawrence, NY 11559 gcastro@villageoflawrence.org 516-239-4600 Ext. 1031

Profile

The Village of Lawrence covers approximately 3.72 square miles¹ and has a total population of 6,556 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Lawrence are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Lawrence Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.3%	Black or African American alone	0.4%
Above 65 Years Old	23.1%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	2.0%	Asian alone	2.1%
Persons in Poverty	3.8%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	13.7%	Two or More Races	0.0%
Without a High School Diploma	1.1%	White alone, not Hispanic or Latino, percent	96.3%
Without Access to Broadband Internet	7.4%	Hispanic or Latino	1.3%

¹ This is inclusive of land area only.

The Village of Lawrence has become an attractive community and thus people are purchasing properties so that they can be near other close members of their family. Because of this, the Village sees an increase in population as well as a rise in residential development. In the last five years, Lawrence has seen residential development as well as population growth. Development in the 100-Year floodplain includes homes are being built and renovated to comply with federal, state, and local regulations. Most property in Lawrence is already developed, with the majority of its permitted land being residential. The jurisdiction continues to maintain zoning and a planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Lawrence. The jurisdiction identified Coastal Hazards, Flooding, and Hurricane as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Lawrence include:
**Coastal Hazards,
 Flooding, and
 Hurricane.**

Table 2: Village of Lawrence Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Drought	Health and Social Services, Natural and Cultural Resources
Extreme Temperatures	Health and Social Services, Infrastructure, Natural and Cultural Resources
Flooding	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community, Health and Social Services

Hazard	Impact Categories
Tornados	No Impact
Wind	Housing, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Lawrence has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Lawrence. The Village of Lawrence maintains several key administrative and technical capabilities to support mitigation, including building codes, floodplain management plans, NFIP flood damage prevention ordinances, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Lawrence Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	2020 NYS Building Codes, Village Code chapter 70
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	Yes	Village Code chapter 94
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Village Code chapter 94
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	NYS 19 CRR-NY 1203.3, Village Code section 70-12
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Village Code chapter 177
Subdivision Ordinance(s)	Yes	Village Code chapter 182
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village code chapter 212

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Lawrence. The Village of Lawrence has a high level of primary administrative and technical capabilities to support mitigation. This includes management, administration, construction, analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village. Diversifying expertise to be inclusive of engineering skills will also support mitigation practice.

Table 4: Village of Lawrence Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Marc Sicklick - OEM
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Gerry Castro, Leo Romanelli
Personnel trained in construction practices related to buildings/infrastructure	Yes	Gerry Castro - Dep Admin, Dan Vacchio - Superintendent, James Elliot - Inspector, Leo Romanelli - Inspector

Staff / Personnel Resource	Yes / No	Details
Planner(s) with an understanding of natural hazards	Yes	Gerry Castro - Dep Admin, Dan Vacchio - Superintendent
Planner(s) with knowledge of land development and land management practices	Yes	Gerry Castro
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Lawrence. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Lawrence should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Lawrence Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Lawrence. Participation in the BCEGS program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Lawrence Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes
Public Protection Classification Program	No
Community Rating System (CRS)	Yes
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Lawrence and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). The low lying coastal areas in the Village are susceptible to rising tidal water that causes flooding.

The Village's Deputy Administrator and Building Department Superintendent are responsible for floodplain management. The current Village Administrator is also a Certified Floodplain Manager. In service training describing the processes of identifying structures that fall within the flood zone and require compliance and construction regulations in flood zones will support the Village's floodplain management program in the future. The Village administers the NFIP through in office pre-construction meetings with property owners, building permit applications, site plan review, and inspections. One barrier to running a successful NFIP program in the Village of Lawrence is the lack of proper tools to assist in floodplain determinations (e.g., GIS maps and software). The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by obtaining certified construction cost estimates and Nassau County property card evaluations to determine whether the 50% threshold has been exceeded. The Village reported that 5 properties were substantially damaged as a result of recent flood events. The Village of Lawrence is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 11/28/2012 and its last Community Assistance Visit on 06/12/2014. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

All new construction, substantially improved, or substantially damaged structures are required to comply with flood ordinances and regulations that require different levels of structural mitigation to reduce future damage due to flooding. This mitigation is enforced through the Building Department. The Flood Damage Prevention Ordinance for the Village of Lawrence meets minimum requirements. The ordinance was last amended 09/10/2009 and can be referenced in Local Law 6-2009, Village of Lawrence Code Chapter 94 entitled "Flood Damage Prevention".

Other steps that the Village takes to support the floodplain management program and meet NFIP requirements include adhering to and enforcing the following regulations: Code of Federal Regulations (44 CFR), 2020 NYS Residential Code (R322 - Flood Resistant Construction), 2020

NYS Building Code (Appendix G - Flood Resistant Construction), and Village of Lawrence Code (Chapter 94 - Flood Damage Prevention).

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Lawrence. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	A permanent generator will be installed at the Lawrence Cedarhurst Fire Department. It will have sufficient capacity to allow the Fire Station to quickly respond to the community's needs.
Risk Category	Frequent power outages
Project Status	Completed
Project Status Description	
Carried Forward to 2020 Plan	No
Required Changes	

Proposed Mitigation Actions

Project Number	VLE_1	VLE_2	VLE_3
Project Name	Lawrence Coastal Marsh Restoration	Lawrence Existing Storm Water Infrastructure Upgrades: Collectors	Stormwater Infrastructure Improvements
Goal being met	5	1, 3	1, 2
Hazards to be mitigated	Coastal Flooding	Localized Flooding	Flooding
Priority Ranking	High	High	High
Description of the Problem	Coastal marshes have become eroded from storm events over the course of many years. Due to the erosion, current and future storms pose a greater flood risk to the low-lying adjacent areas.	Insufficiently sized stormwater catch basins and older in-efficient dry wells in unique areas that experience collection of debris often result in localized flooding.	Hurricanes Sandy revealed improvements in the Village's stormwater and wastewater drainage infrastructure.
Description of the Solution	The Village is currently in a study phase that is coordinated with the Town of Hempstead due to jurisdictional overlap.	Smaller catch basins are being upgraded with larger collectors which allow for more time before becoming clogged with debris and rendered ineffective. Older dry wells are being replaced with new ones.	After Hurricane Sandy the Village developed a large-scale plan for storm water infrastructure upgrades. Those plans have since been modified and refined and are at 100% completion. The project is split into four phases and will be bid as such. The bidding process will begin the end of 2020 and it is expected that work will commence winter of 2020/2021.
Critical Facility	No	No	No
EHP Issues	No	No	No
Estimated Timeline	5 Years	3 Years	Target Date: 2014 - 2015 Status: In Progress
Lead Agency	Town of Hempstead	Village of Lawrence	Village of Lawrence Building Department
Estimated Costs	\$20,000,000 - \$50,000,000	\$40,000	\$8,000,000
Estimated Benefits	Prevent large scale flooding during storm events which are characterized by storm surge, high coastal winds, and rain	This action would prevent localized flooding due to debris build-up especially during specific times of the year.	Upgrades to the stormwater and wastewater drainage infrastructure would decrease the risk of flooding in the Village of Lawrence and increase the Village's capability to handle major storm events.
Potential Funding Sources	Federal or State Grant Funding	Village General Funds	The maximum work will be performed under the limitations of the grant funds.

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Lawrence

NYS DHSES Action Worksheet			
Project Name:	Lawrence Storm Water Infrastructure Upgrades: Collectors		
Project Number:	VLE_2		
Risk / Vulnerability			
Hazard of Concern:	Localized Flooding		
Description of the Problem:	Insufficiently sized stormwater catch basins and older in-efficient dry wells in unique areas that experience collection of debris often result in localized flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	Smaller catch basins are being upgraded with larger collectors which allow for more time before becoming clogged with debris and rendered ineffective. Older dry wells are being replaced with new ones.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	0.2%	Estimated Benefits (losses avoided):	This action would prevent localized flooding due to debris build-up especially during specific times of the year.
Useful Life:	40 years		
Estimated Cost:	\$40,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	3 Years
Estimated Time Required for Project Implementation:	3 Years	Potential Funding Sources:	Village General Funds
Responsible Organization:	Village of Lawrence	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	This is a reactive approach which will lead to consistent floods
	Employee Overtime	\$100,000	Not 100% effective as personnel cannot tend to each and every location during storm events
	Resident Complaint Application	\$3,000	This is a reactive approach which will lead to consistent floods
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:	New Project		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	— <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Lawrence

NYS DHSES Action Worksheet			
Project Name:	Lawrence Coastal Marsh Restoration		
Project Number:	VLE_1		
Risk / Vulnerability			
Hazard of Concern:	Costal Flooding		
Description of the Problem:	Coastal marshes have become eroded from storm events over the course of many years. Due to the erosion, current and future storms pose a greater flood risk to the low lying adjacent areas.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village is currently in a study phase that is coordinated with the Town of Hempstead due to jurisdictional overlap.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	1% (100 Years)	Estimated Benefits (losses avoided):	Prevent large scale flooding during storm events which are characterized by storm surge, high coastal winds, and rain
Useful Life:	50 years		
Estimated Cost:	\$10,000,000 - \$20,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5 years
Estimated Time Required for Project Implementation:	5 years	Potential Funding Sources:	Federal or State Grant Funding
Responsible Organization:	Village of Lawrence	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Coastal developed areas will experience more frequent floods due to lack of protection from the natural salt marshes
	Structural Barriers (Jetty)	\$11,000,000	There are new structures which would have to be located around the existing ineffective salt marsh
	Eminent Domain	\$106,750,000	The amount required to purchase the properties and structures is not feasible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:	New Project - Study Phase		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	— <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Lynbrook Annex

This document presents the Village of Lynbrook’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Rob Cribbin, Emergency Manager Village of Lynbrook One Columbus Drive Lynbrook, NY 11563 rcribbin@lynbrookvillage.com 516-805-5440	Alan C. Beach, Mayor Village of Lynbrook One Columbus Drive Lynbrook, NY 11563 abeach@lynbrookvillage.com 516.599.8300

Profile

The Village of Lynbrook covers approximately 2.01 square miles¹ and has a total population of 19,448 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Lynbrook are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Lynbrook Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.0%	Black or African American alone	4.0%
Above 65 Years Old	18.8%	American Indian and Alaska Native alone	0.8%
Individuals with Disabilities	4.5%	Asian alone	2.7%
Persons in Poverty	3.6%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	26.3%	Two or More Races	2.8%
Without a High School Diploma	6.3%	White alone, not Hispanic or Latino, percent	69.4%
Without Access to Broadband Internet	13.5%	Hispanic or Latino	22.4%

¹ This is inclusive of land area only.

There is no vacant and developable property in the Village. By understanding development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Lynbrook. The jurisdiction identified Lightning, Severe Winter Weather, and Wind as the hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Lynbrook include:

Lightning, Severe Winter Weather, and Wind.

Table 2: Village of Lynbrook Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	Infrastructure
Severe Winter Weather	Community
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Lynbrook has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and

development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Lynbrook. The Village of Lynbrook maintains several key administrative and technical capabilities to support mitigation, including access and functional needs plans, building codes, capital improvement plans, community development plans, NFIP flood damage prevention ordinances, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that it currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Lynbrook Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	Yes	ADA Guide
Building Code	Yes	NYS Building and Fire Prevention Code
Capital Improvement Plan	Yes	20/21 Village Budget
Climate Action Plan	No	
Community Development Plan	Yes	5 Year Plan-NCOHCD
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Lynbrook Building Code
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Chapter 252 Village Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	NYSDEC
Subdivision Ordinance(s)	Yes	Village Code Chapter 209

Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Chapter 252 Village Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Lynbrook. The Village of Lynbrook has a high level of primary administrative and technical capabilities to support mitigation. This includes management, administration, grant writing, engineering, construction, analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the City.

Table 4: Village of Lynbrook Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Emergency Management Officer and Deputy
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Village Engineer
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Village Engineer
Engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer
Grant Writers	Yes	Village Administrator
Personnel skilled or trained in Geographic Information Systems	Yes	DPW Superintendent
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Superintendent
Planner(s) with an understanding of natural hazards	Yes	Building Superintendent
Planner(s) with knowledge of land development and land management practices	Yes	Building Superintendent
Scientist(s) familiar with natural hazards	No	
Surveyors	Yes	Village Engineer

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Lynbrook. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, levying taxes for specific purposes, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. Village of Lynbrook should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Lynbrook Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Infrastructure Impts.
Ability to incur debt through private activity bonds	Yes	Have ability but not exercised
Ability to incur dept through special tax bonds	Yes	Have ability but not exercised
Authority to levy taxes for specific purposes	Yes	All Operations
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	2020/2021 Village Budget
Community Development Block Grants (CDBG)	Yes	44th Year
Impact fees for home buyers and/or developers	Yes	Have ability but not exercised
State mitigation grant programs	Yes	GOSR Mill River

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Lynbrook. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Lynbrook Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Lynbrook and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Any special flood hazard areas that have a 1% annual chance of flooding, as depicted on FEMA's flood insurance rate maps, are considered flood-prone. There are also a couple other areas in the Village that flood due to inadequate street drainage.

The Village's Building Superintendent is responsible for floodplain management. The Village administers the NFIP through site inspections. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made through in-person site inspections. No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Lynbrook is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the Village on 07/26/2006. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village has utilized a grant available through the Governor's Office of Storm Recovery to perform some flood mitigation in the past. The Flood Damage Prevention Ordinance was last amended 2009 and can be referenced in Section 130 Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Lynbrook. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	<p>Install permanent generators at the following locations: 189 Earle Avenue, Lynbrook, NY 11563 216 Denton Avenue, Lynbrook, NY 11563 34 Carpenter Avenue, Lynbrook, NY 11563 35 Blake Avenue, Lynbrook, NY 11563 160 Vincent Avenue, Lynbrook, NY 11563 87 Horton Avenue, Lynbrook, NY 11563</p> <p>These generators will have sufficient capacity to allow the Fire Stations to quickly respond to the Community's needs.</p>	Emergency generator power for critical village facilities
Risk Category	Extreme weather events causing loss of power	Extreme weather events causing loss of power
Project Status	Partially in progress	In progress
Project Status Description	87 Horton Ave has been completed and the other installations are in progress.	
Carried Forward to 2020 Plan	yes	yes
Required Changes	Cost estimate should be set at \$200,000 (privately owned firehouses).	Updated cost Estimate is \$150,000. This will replace a 50-year-old unit.

Proposed Mitigation Actions

Project Number	VLK_1	VLK_2	VLK_3	VLK_4
Project Name	Fire Station Emergency Generator	Police Station Emergency Generator	Develop tree maintenance standards for residential property	Harden and Upgrade Cable Towers N53 and N54 to be Disaster-Resistant
Goal being met	1, 2, 3	1, 2, 3	3	1
Hazards to be mitigated	Power failure	Power failure	Straight-line winds and other events that bring high winds such as hurricanes, tropical storms and nor'easters	High Wind, Hurricanes, Ice Storms
Priority Ranking	High	High	High	High
Description of the Problem	The Village Fire Station lacks back-up power and loses significant functionality during power outages - even something as simple as raising the garage doors can become a significant burden.	The risk of flooding or other disaster causing an electrical blackout or brownout at the Lynbrook police station. The existing standby generator is fifty-years-old and does not activate all electrical circuits in the building at 1 Columbus Drive, Lynbrook. Electric failure can impact law enforcement functions.	High wind events cause downed limbs and trees throughout the Village of Lynbrook, including on residential properties. This causes damage to residential structures that can be expensive for residents to fix and also puts the lives of families and individuals at risk	There are two major overhead electric transmission cable towers which provide 138 kv in Greis Park that do not meet present day standards. They therefore need to be hardened and upgraded. The wires are a direct feed to the Valley Stream sub-station, which is a quarter mile away and provides electricity to southwest Nassau County. These towers were installed over 80 years ago and are in poor condition. This is a high risk for power outages during storms and high wind conditions.
Description of the Solution	Installation of a back-up generator with automatic switch to provide power when power outages regardless of the cause of occurrence.	Replacement of the existing standby generator with an upgraded unit to prevent power outages at the Village Hall, Village Offices, and Police Station.	Establish standards for tree maintenance on residential properties, alongside a system to monitor and inspect trees for damage or other issues, such as trunk rot and broken limbs. Create an outreach program to educate residents on these standards and make them aware of best practices for tree maintenance.	The Village will work with PSE&G to build conceptual Plans to address the matter of hardening and upgrading Towers N53 and N54.
Critical Facility	Yes	Yes	No	Yes
EHP Issues	N/A	N/A	No	No

Project Number	VLK_1	VLK_2	VLK_3	VLK_4
Estimated Timeline	6 Months	6 Months	36 Months	Ongoing
Lead Agency	Village of Lynbrook	Village of Lynbrook	Building Department	Village of Lynbrook
Estimated Costs	\$150,000	\$150,000	\$50,000	\$200 Million
Estimated Benefits	This project would decrease the amount of property and social service loss which is projected to be \$100,000 per annum in property losses; in addition to \$1,000,000 in health and safety due to potential lack of or delay in police responses	This project would decrease the amount of property and social service loss which is projected to be \$100,000 per annum in property losses; in addition to \$1,000,000 in health and safety due to potential lack of or delay in police responses	Life safety, as well as a reduction of wind damage to residential properties as a result of downed trees and branches	Protection of life safety
Potential Funding Sources	FEMA HMA Funding	Village Administrator, FEMA HMA Funding	HMGP, DPW Staff Time	FEMA HMA Funding

Project Number	VLK_5	VLK_6
Project Name	Install permanent generators at the following locations: 189 Earle Avenue, Lynbrook, NY 11563 216 Denton Avenue, Lynbrook, NY 11563 34 Carpenter Avenue, Lynbrook, NY 11563 35 Blake Avenue, Lynbrook, NY 11563 160 Vincent Avenue, Lynbrook, NY 11563 87 Horton Avenue, Lynbrook, NY 11563	Emergency generator power for critical village facilities
Goal being met	1, 2, 3	1, 2, 3
Hazards to be mitigated	Extreme weather events causing loss of power	Extreme weather events causing loss of power
Priority Ranking	High	High
Description of the Problem	Fire stations lack adequate backup power.	Lack of backup power at critical village facilities.
Description of the Solution	Installation of permanent generators.	Installation of an emergency power generator.

Project Number	VLK_5	VLK_6
Critical Facility	Yes	Yes
EHP Issues	N/A	N/A
Estimated Timeline		
Lead Agency	Village of Lynbrook	Village of Lynbrook
Estimated Costs	\$200,000	\$150,000
Estimated Benefits	Sustained firefighting capabilities.	Sustained government service functionality.
Potential Funding Sources	FEMA HMA Funding	Village Administrator, FEMA HMA Funding

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Lynbrook

NYS DHSES Action Worksheet			
Project Name:	Fire Station Emergency Generator		
Project Number:	VLK_1		
Risk / Vulnerability			
Hazard of Concern:	Power failure		
Description of the Problem:	The Village Fire Station lacks back-up power and loses significant functionality during power outages - even something as simple as raising the garage doors can become a significant burden.		
Action or Project Intended for Implementation			
Description of the Solution:	Installation of a back-up generator with automatic switch to provide power when power outages regardless of the cause of occurrence.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Protects against multiple hazards that can cause power outages	Estimated Benefits (losses avoided):	This project would decrease the amount of property and social service loss which is projected to be \$100,000 per annum in property losses; in addition to \$1,000,000 in health and safety due to potential lack/delay in police responses
Useful Life:	50 years		
Estimated Cost:	\$150,000.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediate / within 1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	Village Administrator and FEMA HMA Funding
Responsible Organization:	Village of Lynbrook	Local Planning Mechanisms to be Used in Implementation, if any:	Design is completed by locality; planning and design
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Solar panels	\$900,000	This action would not be effective due to a lack of battery storage
	Windmills	\$5,000,000	This action is not feasible due to cost and lack of space for windmills and battery storage
Progress Report (for plan maintenance)			
Date of Status Report:	July 7, 2020		
Report of Progress:	In progress; Design completed		
Update Evaluation of the Problem and/or Solution:	Same as described; no change		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Lynbrook

NYS DHSES Action Worksheet			
Project Name:	Police Station Emergency Generator		
Project Number:	VLK_2		
Risk / Vulnerability			
Hazard of Concern:	Power failure		
Description of the Problem:	The risk of flooding or other disaster causing an electrical blackout or brownout at the Lynbrook police station. The existing standby generator is fifty years old and does not activate all electrical circuits in the building at 1 Columbus Drive, Lynbrook. Electric failure can impact law enforcement functions.		
Action or Project Intended for Implementation			
Description of the Solution:	Replacement of the existing standby generator with an upgraded unit to prevent power outages at the Village Hall, Village Offices, and Police Station.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Protects against multiple hazards that can cause power outages.	Estimated Benefits (losses avoided):	This project would decrease the amount of property and social service loss which is projected to be \$100,000 per annum in property losses; in addition to \$1,000,000 in health and safety due to potential lack of or delay in police responses
Useful Life:	50 years		
Estimated Cost:	\$150,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediate / within 1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	Village Administrator, FEMA HMA Funding
Responsible Organization:	Village of Lynbrook	Local Planning Mechanisms to be Used in Implementation, if any:	Design is completed by locality; planning and design
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Solar panels	\$900,000	This action would not be effective due to the lack of battery storage
	Windmills	\$5,000,000	This action is not feasible due to cost and lack of space for windmills and battery storage
Progress Report (for plan maintenance)			
Date of Status Report:	July 7, 2020		
Report of Progress:	In progress; The design has been completed		

Update Evaluation of
the Problem and/or
Solution:

Same as described; no change

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Malverne Annex

This document presents the Village of Malverne’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Keith Corbett, Mayor Village of Malverne 99 Church Street, Malverne, NY 11565 kcorbett@malvernevillage.org	Anthony Marino, Director Office of Emergency Management 99 Church Street Malverne, NY 11565 lihueguy@optonline.net 516-376-9304

Profile

The Village of Malverne covers approximately 1.06 square miles¹ and has a total population of 8,485 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Malverne are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Malverne Demographic Information

Demographic		Demographic	
Below 5 Years Old	6.1%	Black or African American alone	7.0%
Above 65 Years Old	21.9%	American Indian and Alaska Native alone	0.1%
Individuals with Disabilities	5.5%	Asian alone	3.9%
Persons in Poverty	2.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	3.2%	Two or More Races	4.8%
Without a High School Diploma	4.6%	White alone, not Hispanic or Latino, percent	76.4%
Without Access to Broadband Internet	10.3%	Hispanic or Latino	7.4%

¹ This is inclusive of land area only.

Much of the development in Malverne in the past five years has been new residential construction, expansion of existing park areas, and new small businesses, which encompasses the broader spectrum of development. The jurisdiction maintains its zoning maps and planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Malverne. The jurisdiction identified Extreme Temperatures, Flooding, Lightning, Severe Winter Weather, and Wind as the hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Malverne include:
Extreme Temperatures, Flooding, Lightning, Severe Winter Weather, and Wind.

Table 2: Village of Malverne Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Natural and Cultural Resources
Drought	No Impact
Extreme Temperatures	Community
Flooding	Housing
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Natural and Cultural Resources
Hail	No Impact
Lightning	Community
Severe Winter Weather	Community, Economy, Natural and Cultural Resources
Tornados	No Impact
Wind	Community, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Malverne has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Malverne. The Village of Malverne maintains several key administrative and technical capabilities to support mitigation, including building codes, community development plans, emergency response plans, post disaster recovery plans, site plan review requirements, small area development plans, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Malverne Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	Yes	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	Yes	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Malverne. The Village of Malverne's primary administrative and technical capabilities include an emergency manager, a building and infrastructure engineer, and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Malverne Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Director, Deputy Director, members
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	George Lappin, Lou Santoro
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	George Lappin, Lou Santoro
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Malverne. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds and CDBG programs. Village of Malverne should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Malverne Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Malverne. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Malverne Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Malverne and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The southwest area of the Village is the most flood-prone. The Village does not currently have a designated floodplain manager. Currently, the Village administers the NFIP through building permit and site plan review. The Village noted that training was a current barrier to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Malverne is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the Village on 06/15/2010. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village repaves roads to control storm flow. The Flood Damage Prevention Ordinance was last amended 08/05/2009 and can be referenced in Chapter 313, Village Code, L.L. No. 2-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Malverne. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	A permanent generator will be installed at the OEM facility. It will have sufficient capacity to allow the OEM to provide continuous service to the community’s needs during a power outage.	The purpose of this project is to completely rebuild the entire paved surface area of the Department of Public Works Facility. The project will include engineering design, removal of the existing pavement, installation of a new storm water management system including new drywells and drainage structures, re-grading of the subsurface to obtain proper water runoff and the repaving of the entire 32,000 square foot area. The completed project will mitigate the problems of storm water flooding, ponding and dangerous ice formation in this busy and critical facility. It will protect workers and volunteers from injuries and provide for improved services and response times to the residents, especially during storm events and emergencies.
Risk Category	Power failure from extreme weather events and emergencies	Flooding and extreme weather events
Project Status	Completed	75% Complete
Project Status Description		75% complete, continuation has been delayed by the Covid-19.
Carried Forward to 2020 Plan	No	No
Required Changes	No	No

Proposed Mitigation Actions

Project Number	VME_1	VME_2	VME_3
Project Name	Tree Maintenance Program	Flood Reduction	Snow Removal Program
Goal being met	3, 5	1, 2, 3	4, 5
Hazards to be mitigated	Straight-line wind, Hurricane	Flooding	Snow
Priority Ranking	High	High	Medium
Description of the Problem	Downed limbs and trees have been a regular problem in the Village of Malverne during high wind events. The Village is a member of the Tree City USA program. Due to the constant loss of trees, the Village is committed to restocking trees in the area on a regular basis. At the same time larger, older trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Super Storm Sandy and Tropical Storm Isaias caused several downed trees and limbs which caused many power lines to go down and damage to properties. Catching issues before trees and branches are downed in high wind events through a program that tracks trees and maintains them to reduce risk to lives and properties would be very helpful for the Village.	Five sites in the Village of Malverne experience localized flooding caused by a lack of or undersized storm infrastructure. The affected areas are near the intersection of Kenilworth St. and Nottingham Rd.; Eimer Ave. and Alnwick Rd.; Cornwell Ave and N. King St.; and Sydney Ave. and Burton St.	Heavy snow on the ground in the Village of Malverne can prevent the residents from traveling safely to work, school and critical medical appointments.
Description of the Solution	The Village of Malverne will develop a tree maintenance program that includes the to assessment of trees on a regular basis and suggest mitigation measures to limit future damage caused by high wind that brings down limbs and trees.	Increased underground storage and percolation of stormwater runoff through subgrade storage and percolation	The Village of Malverne will establish a program through which DPW workers, contingency staff and volunteers could be made available for snow removal following major snow events. This program would include teaching any identified additional personnel how to handle Village trucks and snow removal procedures and protocols.
Critical Facility	No	No	No
EHP Issues	No	Unknown	No
Estimated Timeline	1 Year	5 Years	1 Year

Project Number	VME_1	VME_2	VME_3
Lead Agency	Village of Malverne	Department of Public Works	Village of Malverne
Estimated Costs	\$15,000 - \$25,000	\$1,500,000	To be determined
Estimated Benefits	Property, building, infrastructure, and vehicle damage, as well as life safety.	Flooding relief for homeowners, reduction of hazardous conditions for traffic and pedestrians.	Safe roads for emergency and residential vehicles.
Potential Funding Sources	Municipal budget, HMA Grants, NYS Grant	Village of Malverne, Capital improvement funds, Community improvement funds	Village Funding

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Malverne

NYS DHSES Action Worksheet			
Project Name:	Flood Reduction		
Project Number:	VME_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Five sites in the Village of Malverne experience localized flooding caused by a lack of or undersized storm infrastructure. The affected areas are near the intersection of Kenilworth St. and Nottingham Rd.; Eimer Ave. and Alnwick Rd.; Cornwell Ave and N. King St.; and Sydney Ave. and Burton St.		
Action or Project Intended for Implementation			
Description of the Solution:	Increased underground storage and percolation of stormwater runoff through subgrade storage and percolation.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	100-Year storm	Estimated Benefits (losses avoided):	Flooding relief for homeowners, reduction of hazardous conditions for traffic and pedestrians.
Useful Life:	50 Years		
Estimated Cost:	\$1,500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5 years
Estimated Time Required for Project Implementation:	5 Years	Potential Funding Sources:	Village of Malverne, Capital improvement funds, Community improvement funds
Responsible Organization:	Village of Malverne Building Department	Local Planning Mechanisms to be Used in Implementation, if any:	Village designated/hired Engineering firm
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Add new storm sewer lines at various locations	,\$5,000,000	Not cost effective
	Leave it as it is.	\$0	Continued damage to private and public facilities, possible future sinkholes
	Relocate homes	Expensive	Not desirable by the community
Progress Report (for plan maintenance)			
Date of Status Report:	July 2020		
Report of Progress:	Not started		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Malverne

NYS DHSES Action Worksheet			
Project Name:	Tree Maintenance Program		
Project Number:	VME_1		
Risk / Vulnerability			
Hazard of Concern:	Straight-line wind, hurricane		
Description of the Problem:	Downed limbs and trees have been a regular problem in the Village of Malverne during high wind events. The Village is a member of the Tree City USA program. Due to the constant loss of trees, the Village is committed to restocking trees in the area on a regular basis. At the same time larger, older trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Super Storm Sandy and Tropical Storm Isaias caused several downed trees and limbs which caused many power lines to go down and damage to properties. Catching issues before trees and branches are downed in high wind events through a program that tracks trees and maintains them to reduce risk to lives and properties would be very helpful for the Village.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village of Malverne will develop a tree maintenance program that includes the to assessment of trees on a regular basis and suggest mitigation measures to limit future damage caused by high wind that brings down limbs and trees.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Protects against property loss and damage power lines during severe storm events which take place multiple times throughout the year	Estimated Benefits (losses avoided):	Property, building, infrastructure, and vehicle damage, as well as life safety.
Useful Life:	10 Years		
Estimated Cost:	\$15,000 - \$25,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	Municipal budget, HMA Grants, NYS Grant
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Wait until they fall / die; remove downed branches and trees as needed.	\$5,000 annually	Not stable option for all storm events
	Remove sick or dangerous specimens	\$25,000	This may be feasible and able to be done over a period of a few years
	No Action	\$0	Challenge remains with removing and managing downed trees.
Progress Report (for plan maintenance)			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Manorhaven Annex

This document presents the Village of Manorhaven’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Sharon Abramski, Village Clerk & Treasurer Village of Manorhaven 33 Manorhaven Boulevard Port Washington, NY 11050 villageclerksharon@manorhaven.org 516-883-7000 x110	Jim Avena, Mayor Village of Manorhaven 33 Manorhaven Boulevard Port Washington, NY 11050 mayoravena@manorhaven.org

Profile

The Village of Manorhaven covers approximately 0.47 square miles¹ and has a total population of 6,627 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Manorhaven are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Manorhaven Demographic Information

Demographic		Demographic	
Below 5 Years Old	8.7%	Black or African American alone	0.7%
Above 65 Years Old	11.3%	American Indian and Alaska Native alone	0.9%
Individuals with Disabilities	3.6%	Asian alone	20.5%
Persons in Poverty	16.3%	Native Hawaiian and other Pacific Islander alone	0.2%
Renters	64.4%	Two or More Races	2.5%
Without a High School Diploma	6.3%	White alone, not Hispanic or Latino, percent	51.0%
Without Access to Broadband Internet	13.6%	Hispanic or Latino	24.8%

¹ This is inclusive of land area only.

Within the Village, with regard to residential expansion, there has been many conversions from single to two family homes; and a 18 family unit apartment building was recently approved. The Village currently has a population of approximately 6,650 residents and one of the most densely populated villages on Long Island. Business and commercial growth has been slow, but recently approximately 4 businesses opened their doors. Ongoing growth is expected for residential and commercial properties, which have been permitted for construction. The jurisdiction maintains its zoning maps and planning team. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Manorhaven. The jurisdiction identified Coastal Hazards, Flooding, and Hurricane as the natural hazards that most impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Manorhaven include:
**Coastal Hazards,
 Flooding, and
 Hurricane.**

Table 2: Village of Manorhaven Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Infrastructure
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Community, Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Infrastructure
Hail	No Impact
Lightning	Infrastructure
Severe Winter Weather	Infrastructure
Tornados	No Impact
Wind	Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Manorhaven has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Manorhaven. The Village of Manorhaven maintains several key administrative and technical capabilities to support mitigation, including capital improvement plans, emergency response plans, and stormwater management plans. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Manorhaven Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	No	
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Manorhaven. The Village of Manorhaven has a high level of primary administrative and technical capabilities to support mitigation. This includes management, administration, engineering, construction, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the City. Additionally, focusing on analysis and grant writing will support advancing mitigation practice.

Table 4: Village of Manorhaven Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Village Clerk-Treasurer, Trustee and Mayor
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Outside Engineering Firm
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Outside Engineering Firm
Engineer(s) with knowledge of land development and land management practices	Yes	Outside Engineering Firm
Grant Writers	No	As needed
Personnel skilled or trained in Geographic Information Systems	Yes	Outside Engineering Firm
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Superintendent and Outside Engineering Firm
Planner(s) with an understanding of natural hazards	Yes	Outside Engineering Firm
Planner(s) with knowledge of land development and land management practices	Yes	Outside Engineering Firm and Village Attorney
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Manorhaven. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by capital improvements project funding and impact fees for home buyers and/or developers. Village of Manorhaven should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Manorhaven Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Manorhaven. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Manorhaven Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Manorhaven and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village is a waterfront community and many homes and businesses are within a flood zone and prone to flooding. The Village's Building Superintendent is responsible for floodplain management. The Village administers the NFIP through various activities, including items that come up through the MS4 Annual reports. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by the Village Engineers. The Village of Manorhaven is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 12/05/2012 and its last Community Assistance Visit on 01/22/2020. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance for the Village of Manorhaven meets minimum requirements. The ordinance was last amended Annually and can be referenced in Village Code Chapter 72 - Flood Damage Prevention.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Manorhaven. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	An elevated permanent generator will be installed at the Manorhaven Sewer Collection and Pump Facility. The new emergency generator will have sufficient capacity to back up the entire Village Sewer facility in an outage and will have the ability to continue collect, processing and dispense Village sewage waste preventing in home back-ups. Emergency alarm systems, gas detection systems, access stairs to the wet well, structural repairs to the pump station and safety measures are also desperately needed at this very old facility.
Risk Category	Loss of Electrical Power
Project Status	Not Started
Project Status Description	The sewer pump station restoration and emergency generator replacement have not been addressed due to a lack of sufficient funding. A new 200KW diesel fuel generator, to be placed outside the building on an elevated platform to be above the 100-Year floodplain has been recommended by our Village Engineering firm. The design will detail mechanical, civil, structural and electrical aspects suitable for bidding purposes. A sub-surface investigation would be made to determine soil conditions for the generator platform and a survey performed to determine the grade and elevations. An emergency eyewash station and heating unit would be installed as well as emergency lighting. The second half of the proposed items would be addressed in Phase I-B which would include replacement access steps to the wet well with railings, structural repairs a gas detection system and high wet well alarm system. Manorhaven is seeking funding for Phase I-A and Phase I-B in the amount of \$602,625.
Carried Forward to 2020 Plan	Yes
Required Changes	Yes – Updated description.

Proposed Mitigation Actions

Project Number	VMA_1	VMA_2	VMA_3	VMA_4
Project Name	Force Main Replacement - Phase II - A & Phase II - B	Manorhaven Sewer Restoration Project - Phase I-A and Phase I-B	Manorhaven Sewer Restoration Project - Phase I-C	Sewer Force Main Replacement Study - Phase I
Goal being met	3	3	3	3
Hazards to be mitigated	Sink holes, ground failure, and flooding	Flooding, Hurricanes, High Wind, Severe Winter Weather	Flooding, Hurricanes, High Wind, Severe Winter Weather	Sink holes, ground failure, and flooding
Priority Ranking	High	High	High	High
Description of the Problem	Environmental hazard from possible flooding and	The sewer pump station is vulnerable to power outages and flooding caused by hurricanes, severe winter weather, and	Environmental hazard from possible flooding and deteriorating conditions	Environmental hazard from possible flooding and deteriorating conditions

Project Number	VMA_1	VMA_2	VMA_3	VMA_4
	deteriorating conditions and increased development	flooding. There station does not currently have a permanent generator that is protected from the 100-year flood. The pump station also requires a number of upgrades and improvements to the building to ensure safety and structural integrity in the time of disaster.		
Description of the Solution	Upgrading Manorhaven's existing sewer force main to provide increased capacity and disaster-resistant design standards (in addition to performing recommended repairs per sewer assessment plan).	Install a permanent generator elevated above the 100-year floodplain. Replace and upgrade building components, to include emergency alarm systems, gas detection systems, access stairs to the wet well, structural repairs to the pump station, and other safety measures.	Perform recommended repairs per sewer assessment plan.	A full replacement of the force main is not only needed but critical. A study will be conducted to contribute to information with regard to underground infrastructure, sinkholes, and ground failure as well as the effects of flooding. These hazards make the sanitary sewer system more vulnerable and environmental risks to the community even greater.
Critical Facility	Yes	Yes	Yes	Yes
EHP Issues	Yes	Yes	Yes	Yes
Estimated Timeline	TBD	Original Target Date: 2014-2015 New Target Date: Before the end of 2021	TBD	18 to 24 Months
Lead Agency	Village of Manorhaven	Village of Manorhaven	Village of Manorhaven	Village of Manorhaven
Estimated Costs	To be determined	\$602,625	\$450,000	<\$1,000,000.00
Estimated Benefits	Ability to transport sewage from the Village to the Port Washington Waste Facility with reduced risk of flooding.	Continuous sewer function within the Village in times of severe weather that may interrupt power, which otherwise could result in a loss of millions of dollars	Continuous Sewer Function within the Village in times of severe weather that may interrupt power.	Continuous Sewer Function within the Village in times of severe weather that may interrupt power.
Potential Funding Sources	Municipal budget, bonds, Nassau County, New York State	Municipal budget, Bonds, FEMA Hazard Mitigation Grant Program, BRIC	Municipal budget, bonds, FEMA Hazard Mitigation Grant Program, BRIC	Municipal budget, bonds, Nassau County, New York State

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Manorhaven

NYS DHSES Action Worksheet

Project Name:	Manorhaven Sewer Restoration Project - Phase I-A and Phase I-B
Project Number:	VMA_2

Risk / Vulnerability

Hazard of Concern:	Flooding, Hurricanes, High Wind, Severe Winter Weather
Description of the Problem:	The sewer pump station restoration and emergency generator replacement have not been addressed due to a lack of sufficient funding, putting the village at significant risk if power were to fail in the event of various severe weather events. A new 200KW diesel fuel generator, to be placed outside the building on an elevated platform to be above the one-hundred-year floodplain, has been recommended by our Village Engineering firm. The design will detail the mechanical, civil, structural, and electrical aspects suitable for bidding purposes. A sub-surface investigation would be made to determine soil conditions for the generator platform and a survey performed to determine the grade and elevations. An emergency eyewash station and heating unit would be installed as well as emergency lighting. The second half of the proposed items would be addressed in Phase I-B and would include replacement access steps to the wet well with railings, structural repairs to a gas detection system, and a high wet well alarm system. Manorhaven is seeking funding for Phase I-A and Phase I-B in the amount of \$602,625.

Action or Project Intended for Implementation

Description of the Solution:	An elevated permanent generator will be installed at the Manorhaven Sewer Collection and Pump Facility. The new emergency generator will have sufficient capacity to back up the entire Village Sewer facility in an outage and will have the ability to continue to collect, process, and dispense Village sewage waste, preventing in-home back-ups. Emergency alarm systems, gas detection systems, access stairs to the wet well, structural repairs to the pump station, and safety measures are also desperately needed at this very old facility.
------------------------------	--

Is this project related to a Critical Facility? Yes No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	100 Year	Estimated Benefits (losses avoided):	Continuous sewer function within the Village in times of severe weather that may interrupt power, which otherwise could result in a loss of millions of dollars.
Useful Life:	30		
Estimated Cost:	602,625		

Plan for Implementation

Prioritization:	High	Desired Timeframe for Implementation:	Fall 2020
Estimated Time Required for Project Implementation:	3 to 5 Months	Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, BRIC
Responsible Organization:	Inc. Village of Manorhaven	Local Planning Mechanisms to be Used in Implementation, if any:	Capital Improvement Plan

Three Alternatives Considered (including No Action)

Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Install a temporary generator at the Manorhaven Sewer Collection and Pump Facilities	\$90,000	Pro: Provides immediate backup power supply Con: May not provide enough power generation; useful life of a temporary generator may be shorter than desired
	Relocate the Manorhaven Sewer Collection and Pump Facility outside of the 100-year floodplain.	Millions of dollars	Pro: generators will not need to be elevated at the new facility Con: It is very cost-prohibitive and no open space to relocate the facility to.

Progress Report (for plan maintenance)

Date of Status Report:

Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Manorhaven

NYS DHSES Action Worksheet			
Project Name:	Manorhaven Sewer Force Main Replacement Study - Full Replacement		
Project Number:	VMA_4		
Risk / Vulnerability			
Hazard of Concern:	Sinkholes, ground failure, and flooding		
Description of the Problem:	<p>HISTORY: Over the past two years, Manorhaven has undertaken the task of assessing the condition of its sewer lines, roadways, and sanitary sewer pump station in preparation for repairs and the replacement of its over sixty-year-old sewer force main. In January 2020, the Village began Phase I-A of a sewer main restoration project, an undertaking to line damaged lines and repair cracks and existing damage along Manorhaven Blvd. This was completed in April 2020, with Phase I-B on hold as soon as work is permitted after the pandemic. As the lining and repair work continues over the next several years, Manorhaven will begin a Sewer Pump Station Restoration Project known as Phase I-A, to address critical repairs that need immediate attention and funding.</p> <p>OVERVIEW: Manorhaven owns a sewer collection system and pump station. The station consists of a wet well, with three centrifugal pumps housed in a separate brick building. The pump station transfers sewage from the Village through its force main to the Port Washington Sewer District Water Pollution Control Plant. After the pump station is fully restored, the Village must replace its ancient sixty-year-old force main which transports sewage to the main processing plant; this is a ticking time bomb for breakages and environmental concerns.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	A full replacement of the force main is not only needed but critical. A study will be conducted to contribute to information with regard to underground infrastructure, sinkholes, and ground failure as well as the effects of flooding. These hazards make the sanitary sewer system more vulnerable and environmental risks to the community even greater.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Sinkholes, ground failure, and flooding	Estimated Benefits (losses avoided):	Continuous Sewer Function within the Village in times of severe weather that may interrupt power.
Useful Life:	30 - 40+ Years		
Estimated Cost:	Several million dollars		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Spring 2023
Estimated Time Required for Project Implementation:	18 to 24 months	Potential Funding Sources:	Municipal budget, bonds, Nassau County, New York State
Responsible Organization:	Inc. Village of Manorhaven	Local Planning Mechanisms to be Used in Implementation, if any:	Capital Improvement Plan
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Partial replacement of force main	Hundreds of thousands of dollars	This project is less costly than a full replacement but does not fix the whole problem
	Sure-up and harden the existing force main	Hundreds of thousands of dollars	This project may be less expensive than conducting the full study but will not provide the full protection needed.
Progress Report (for plan maintenance)			
Date of Status Report:			

Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Manorhaven

NYS DHSES Action Worksheet			
Project Name:	Force Main Replacement - Phase II - A & Phase II - B		
Project Number:	VMA_1		
Risk / Vulnerability			
Hazard of Concern:	Sink holes, ground failure, and flooding		
Description of the Problem:	Environmental hazard from possible flooding and deteriorating conditions and increased development		
Action or Project Intended for Implementation			
Description of the Solution:	Upgrading Manorhaven's existing sewer force main to provide increased capacity and disaster-resistant design standards (in addition to performing recommended repairs per sewer assessment plan).		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Multi-Hazard / 500 Year Flood	Estimated Benefits (losses avoided):	Ability to transport sewage from the Village to the Port Washington Waste Facility with reduced risk of flooding.
Useful Life:	~30-50 years		
Estimated Cost:	TBD		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within five years
Estimated Time Required for Project Implementation:	TBD	Potential Funding Sources:	Municipal budget, bonds, Nassau County, New York State
Responsible Organization:	Village of Manorhaven	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Plan for replacement upon next minor failure.	Minimal up-front costs.	This would help prepare the Village for a rapid replacement in the future but would not immediately reduce risk.
	Establish environmental monitoring program.	Unknown	This would help identify significant deterioration but would not immediately reduce risk.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Massapequa Park Annex

This document presents the Village of Massapequa Park’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Linda Tuminello, Village Administrator Village of Massapequa Park 151 Front Street Massapequa Park, NY 11762 villadmin@masspk.com 516-798-0244 X133	Robert Macri, Superintendent at Department of Public Works Village of Massapequa Park 151 Front Street Massapequa, NY 11762 superintendent@masspk.com 516-798-0244 X138

Profile

The Village of Massapequa Park covers approximately 2.16 square miles¹ and has a total population of 17,223 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Massapequa Park are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Massapequa Park Demographic Information

Demographic	Demographic
Below 5 Years Old	5.2%
Above 65 Years Old	17.1%
Individuals with Disabilities	Not available
Persons in Poverty	1.5%
Renters	2.6%
Without a High School Diploma	3.8%
Without Access to Broadband Internet	0.0%
Black or African American alone	0.3%
American Indian and Alaska Native alone	0.0%
Asian alone	1.7%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	0.2%
White alone, not Hispanic or Latino, percent	90.6%
Hispanic or Latino	0.8%

¹ This is inclusive of land area only.

The Village of Massapequa has seen residential upgrades and renovations but very little new construction. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Massapequa Park. The jurisdiction identified Flooding as the hazard that impacts the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazard that impacts the Village of Massapequa Park most is **Flooding**.

Table 2: Village of Massapequa Park Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Housing
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	No Impact

Capability Assessment

This section summarizes the capabilities that the Village of Massapequa Park has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Massapequa Park. The Village of Massapequa Park maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, community development plans, comprehensive/master plans, emergency response plans, floodplain management plans, open space plans, post-disaster recovery ordinances, post disaster recovery plans, real estate disclosure requirements, site plan review requirements, small area development plans, special purpose ordinances, stormwater management plans, subdivision ordinances, transportation plans, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Massapequa Park Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	Yes	
Comprehensive Plan / Master Plan	Yes	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	Yes	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	
Post Disaster Recovery Ordinance(s)	Yes	
Post Disaster Recovery Plan(s)	Yes	
Real Estate Disclosure Requirements	Yes	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	Yes	
Special Purpose Ordinance(s)	Yes	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Transportation Plan(s)	Yes	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Massapequa Park. The Village of Massapequa Park's primary administrative and technical capabilities include engineers, a GIS analyst, and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Massapequa Park Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Robert Macri
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Garet Lamb
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	Yes	Garet Lamb
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Linda Tuminello
Personnel trained in construction practices related to buildings/infrastructure	Yes	Garet Lamb
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Massapequa Park. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, capital improvements project funding, and CDBG programs. Village of Massapequa Park should

consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Massapequa Park Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Massapequa Park. Participation in the BCEGS program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Massapequa Park Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Massapequa Park and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Massapequa Park is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 11/27/2012 and its last Community Assistance Visit on 01/09/2019. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Massapequa Park. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Install Bulkhead along Colleran Park Shoreline
Risk Category	Flooding
Project Status	Completed
Project Status Description	Completed
Carried Forward to 2020 Plan	No
Required Changes	No

Proposed Mitigation Actions

Project Number	VMP_1	VMP_2
Project Name	Massapequa Park Flood Diversion	Park Lane Housing Development
Goal being met	3	3
Hazards to be mitigated	Flooding	Flooding
Priority Ranking	High	High
Description of the Problem	Flooding occurs on Front Street, as well as Ocean Avenue and Philadelphia Avenue, during times of heavy rain. This causes damage to streets, infrastructure, and homes.	New homes are being built in a "Low Area" that is prone to flooding and will need additional storm drains being installed.
Description of the Solution	To alleviate street flooding, raise Philadelphia Avenue, add additional piping, add/or alter storm drains, scrape stumps, and divert water elsewhere.	Build homes higher up with additional on-site storm drains and enhanced piping.
Critical Facility	No	No
EHP Issues	Yes	Yes
Estimated Timeline	1 Year	1 Year
Lead Agency	Town of Oyster Bay and Village Massapequa Park	Village Massapequa Park
Estimated Costs	\$500,000	\$250,000
Estimated Benefits	The proposed solution will avoid property damage to several homes, road deterioration, and sump deterioration.	This project will prevent flooding to new homes and divert storm water
Potential Funding Sources	New York State	Capital Project Funding and NYS Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Massapequa Park ("Village")

NYS DHSES Action Worksheet			
Project Name:	Massapequa Park Flood Diversion		
Project Number:	VMP_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding occurs on Front Street, as well as Ocean Avenue and Philadelphia Avenue during times of heavy rain. This causes damage to streets, infrastructure, and homes.		
Action or Project Intended for Implementation			
Description of the Solution:	To alleviate street flooding, raise Philadelphia Avenue, add additional piping, add/or alter storm drains, scrape stumps, and divert water elsewhere.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	High	Estimated Benefits (losses avoided):	The proposed solution will avoid property damage to several homes, road deterioration, and sump deterioration.
Useful Life:	20+ Years		
Estimated Cost:	\$500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 Year
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	NY State
Responsible Organization:	Town of Oyster Bay and Village Massapequa Park	Local Planning Mechanisms to be Used in Implementation, if any:	NYS Review, Town of Oyster Bay and Village Site Plan Review
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	[]
	Install a Secondary Piping System	\$5,000,000	The install would be too expensive, create railroad/highway issues and some areas can only be accessed through private property.
	Divert water with an additional storm drain piping system.	\$2,000,000	Additional systems would be too expensive and other evaluation concerns were identified.
Progress Report (for plan maintenance)			
Date of Status Report:	August 2016		
Report of Progress:	NY State Has approved the project and funding has been secured. The project is out to bid as of July 28, 2020.		

Update Evaluation of the Problem and/or Solution:

The project has been approved and the village is awaiting successful bidder and for construction to begin. The village has secured a vacuum trailer as a temporary remedy to the flooding until the project commences. |

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: INC Village of Massapequa Park

NYS DHSES Action Worksheet			
Project Name:	Park Lane Housing Development		
Project Number:	VMP_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	New homes are being built in a "Low Area" that is prone to flooding and will need additional storm drains being installed.		
Action or Project Intended for Implementation			
Description of the Solution:	Build homes higher up with additional on-site storm drains and enhanced piping.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	High	Estimated Benefits (losses avoided):	This project will prevent flooding to new homes and divert stormwater
Useful Life:	20 Years		
Estimated Cost:	\$250,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	6 Months
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	Capital Project Funding and NYS Grants
Responsible Organization:	INC Village of Massapequa Park	Local Planning Mechanisms to be Used in Implementation, if any:	Site Plan Review, and Design and Development
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Additional Storm Drainage	\$100,000	This is not desired by the community and would increase the need for additional on-site water storage.
	Diverted Storm Water Piping	\$100,000	Stormwater would be diverted into an underutilized sump.
Progress Report (for plan maintenance)			
Date of Status Report:	January 2020		
Report of Progress:	As of January 2020, The Village was in the planning and design state with heavy involvement from site plan review.		
Update Evaluation of the Problem and/or Solution:	There have been changes/alterations to the initial plans including reducing the number of homes being built on the property.		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Matinecock Annex

This document presents the Village of Matinecock’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Dr. Kenneth Goodman, Mayor Village of Matinecock 15 Wellington Road Locust Valley, NY 11560 mayorgoodman@matinecockvillage.org 516-671-7790	William H. Simonds, Village Clerk Village of Matinecock P.O. Box 706 Locust Valley, NY 11560 516-676-7790

Profile

The Village of Matinecock covers approximately 2.65 square miles¹ and has a total population of 855 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Matinecock are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Matinecock Demographic Information

Demographic		Demographic	
Below 5 Years Old	2.5%	Black or African American alone	0.0%
Above 65 Years Old	19.7%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	1.2%
Persons in Poverty	4.1%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	18.1%	Two or More Races	0.8%
Without a High School Diploma	2.2%	White alone, not Hispanic or Latino, percent	93.1%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

¹ This is inclusive of land area only.

The Village of Matinecock has seen construction of new single family houses in recent years. Matinecock is a residential community with only two commercial properties: one small shopping center and one small service business. In the last five years, there has been an increase in single-family homes. There is currently no development planned in the 100-year floodplain. The jurisdiction does maintain zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Matinecock. The jurisdiction identified flooding as the hazard that impacts the community most, as flooding on public and private roadways hinder emergency response vehicles. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impacts the Village of Matinecock is **Flooding**.

Table 2: Village of Matinecock Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Community, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Matinecock has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Matinecock. The Village of Matinecock maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, climate action plans, emergency response plans, real estate disclosure requirements, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Matinecock Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	New York State Building Code, Village Zoning & Building Codes
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	Yes	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Contractors or Authorities
Floodplain Management Plan(s)	Yes	National Federal Flood Plain
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Planning Board

Regulatory Tool	Yes / No	Citation (if applicable)
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Annual Report (prepared annually)
Subdivision Ordinance(s)	Yes	Village Code Section 162
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Code Section 195

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Matinecock. The Village of Matinecock's primary administrative and technical capabilities include an emergency managers, engineers, a construction practices personnel, and natural hazards planners. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and GIS.

Table 4: Village of Matinecock Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Roger L. Cocchi, P.E., D&B Engineers & Architects
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	No
Engineer(s) with knowledge of land development and land management practices	Yes	Roger L. Cocchi, P.E., D&B Engineers & Architects
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Karl Bicknese, Building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Matinecock. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Matinecock should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Matinecock Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	Capital Improvement Reserve Fund
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	
State mitigation grant programs	No	Surplus Fund

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Matinecock. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Matinecock Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Matinecock and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). No properties in the jurisdiction have been substantially damaged as a result of

recent flood events. However, areas in the Village along Thorne Lane and Kaintuck Lane drainage way are prone to flooding.

The Village's floodplain manager is Karl Bicknese, the Village Building Inspector. Additional funding could support the employment of a Certified Floodplain Manager in the future. Building permit review training will support the floodplain management program. The Village administers the NFIP through visual inspections of property performed by the Village Engineer. Public and private roadway flooding are missing from the existing flood maps for the Village. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Matinecock is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

To mitigate future losses, the Village has commenced with Village flood studies. Flood Damage Prevention Ordinance for the Village of Matinecock meets minimum requirements. The ordinance was last amended Freshwater Wetlands - Village Code Chapter 71.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Matinecock. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the previous mitigation plan.

Proposed Mitigation Actions

Project Number	VMK_1	VMK_2
Project Name	Beaver Brook Drainage Improvements	Thorne Lane Drainage Improvements
Goal being met	1, 5	1, 2
Hazards to be mitigated	Streambank flooding as well as the erosion of both the streambed and its banks	Stormwater Roadway Flooding
Priority Ranking	High	High
Description of the Problem	<p>Based upon a significantly larger quantity of stormwater runoff reaching Beaver Brook due to the installation of the proposed drainage piping system along Thorne Lane, from the intersection of Thorne Lane and Wolver Hollow Road down to the old estate roadway at the headwaters of Beaver Brook, the carrying capacity of the existing stream will be exceeded and erosion will occur.</p> <p>Based upon a 100-year storm, the peak rate of stormwater discharge into the headwaters of Beaver Brook is 402 CFS with a total volume of runoff for the entire storm of approximately 2.2 million cubic feet. A 500-year storm will have a peak discharge rate of 559 CFS with a total runoff volume of approximately 3.2 million cubic feet of water. The 100-year and 500-year stormwater discharge rates are equivalent to the flow rates of a small river and, as such, have considerable potential to cause a significant amount of erosion along the stream, washing all of the eroded material down into the pond system below</p>	<p>The existing Nassau County drainage system that is located immediately upstream of Thorne Lane, collects and discharges stormwater runoff from approximately 2,300 acres into Thorne Lane. The stormwater exiting the County's drainage piping system flows into an open ditch that runs a short distance before ending alongside the edge of Thorne Lane. The channeling of stormwater runoff from the extremely large tributary area, down to the edge of Thorne Lane, magnifies the impact of the storm event occurring exponentially, i.e., a 10-year rainfall impacts Thorne Lane nearly on the same level as a 100-year event. Water flowing out of the ditch travels approximately 1,400 feet along Thorne Lane to its terminus where it then runs down a private driveway and across another property before nearly reaching Beaver Brook, approximately 1,200' from Thorne Lane. During exceptionally heavy rains the water running along Thorne Lane covers the entire width of the pavement and extends into adjacent properties along both sides of the road. The flooding of road and the depth of the water makes it difficult, and at times impossible, for some of the residents along Thorne Lane to get in or out of their properties.</p> <p>Based upon a 100-year storm, the peak rate of stormwater discharge into Thorne Lane is 380 CFS with a total volume of runoff for the entire storm of approximately 2 million cubic feet. A 500-year storm will have a peak discharge rate of 559 CFS with a total runoff volume of approximately 3 million cubic feet</p>

Project Number	VMK_1	VMK_2
		of water. The 100-year and 500-year stormwater discharge rates are equivalent to the flow rates of a small river and, as such, have considerable potential to do significant damage should a storm of either magnitude occur.
Description of the Solution	To improve approximately 3,100' of this natural drainage way in order to connect and then tie into the existing Nassau County drainage system at Upper Francis Pond that is located along Oyster Bay Road. This improvement will enable the stream to have the conveyance capacity needed to handle the additional stormwater flows draining down from Thorne Lane while also providing the proper protection against the erosion of the streambed and its banks.	To construct a new drainage piping system from the southerly end of the County's existing drainage system, at the intersection of Thorne Lane and Wolver Hollow Road, down to and through the private properties at the northerly end of the Throne Lane. The proposed drainage system would also include the installation of a culvert beneath an old estate road that currently prevents the stormwater flows that run down Thorne Lane from draining into Beaver Brook that is located within Cushman Woods Preserve, owned by The Nature Conservancy.
Critical Facility	No	No
EHP Issues	Erosion and sediment being washed down into Upper Francis Pond and then into the Nassau County stream and pond system further downstream.	Erosion and sediment being washed down into Beaver Brook and the downstream receiving waters.
Estimated Timeline	6 Months	8 Months
Lead Agency	Village of Matinecock	Village of Matinecock
Estimated Costs	\$935,000	\$1,500,000
Estimated Benefits	The project will improve conditions along Beaver Brook to accommodate the increase in stormwater flows and protect it from erosion. Projected to prevent a loss of \$200,0000	The project will enable property owners along Thorne Lane safe access to and from their homes and restore some of the nature flow of water to Beaver Brook. Projected to prevent a loss of \$3,000,000
Potential Funding Sources	NYS Environmental Facilities Corp Grant Program, BRIDGE NY Funding Program, EPA Funding & Grant Programs, and FEMA	NYS Environmental Facilities Corp Grant Program, BRIDGE NY Funding Program, EPA Funding & Grant Programs, and FEMA

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Matinecock

NYS DHSES Action Worksheet			
Project Name:	Thorne Lane Drainage Improvements		
Project Number:	VMK_2		
Risk / Vulnerability			
Hazard of Concern:	Stormwater roadway flooding		
Description of the Problem:	<p>The existing Nassau County drainage system that is located immediately upstream of Thorne Lane, collects and discharges stormwater runoff from approximately 2,300 acres into Thorne Lane. The stormwater exiting the County's drainage piping system flows into an open ditch that runs a short distance before ending alongside the edge of Thorne Lane. The channeling of stormwater runoff from the extremely large tributary area, down to the edge of Thorne Lane, magnifies the impact of the storm event occurring exponentially, i.e., a 10-year rainfall impacts Thorne Lane nearly on the same level as a 100-year event. Water flowing out of the ditch travels approximately 1,400 feet along Thorne Lane to its terminus where it then runs down a private driveway and across another property before nearly reaching Beaver Brook, approximately 1,200' from Thorne Lane. During exceptionally heavy rains the water running along Thorne Lane covers the entire width of the pavement and extends into adjacent properties along both sides of the road. The flooding of road and the depth of the water makes it difficult, and at times impossible, for some of the residents along Thorne Lane to get in or out of their properties.</p> <p>Based upon a 100-year storm, the peak rate of stormwater discharge into Thorne Lane is 380 CFS with a total volume of runoff for the entire storm of approximately 2 million cubic feet. A 500-year storm will have a peak discharge rate of 559 CFS with a total runoff volume of approximately 3 million cubic feet of water. The 100-year and 500-year stormwater discharge rates are equivalent to the flow rates of a small river and, as such, have considerable potential to do significant damage should a storm of either magnitude occur.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	To construct a new drainage piping system from the southerly end of the County's existing drainage system, at the intersection of Thorne Lane and Wolver Hollow Road, down to and through the private properties at the northerly end of the Throne Lane. The proposed drainage system would also include the installation of a culvert beneath an old estate road that currently prevents the stormwater flows that run down Thorne Lane from draining into Beaver Brook that is located within Cushman Woods Preserve, owned by The Nature Conservancy.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	All major rainfall events	Estimated Benefits (losses avoided):	The project will enable property owners along Thorne Lane safe access to and from their homes and restore some of the nature flow of water to Beaver Brook.
Useful Life:	50 to 100 years		
Estimated Cost:	\$1,500,000 Construction Costs. [Excludes engineering, legal and any property related costs.]		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 1 year
Estimated Time Required for Project Implementation:	8 months	Potential Funding Sources:	NYS Environmental Facilities Corp Grant Program, BRIDGE NY Funding Program, EPA Funding & Grant Programs, and FEMA
Responsible Organization:	Village of Matinecock	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Continued flooding of road
	Install 2,500 - 10' diameter x 20' deep Dry Wells	\$18,000,000	Insufficient land area to support their installation
	Breakup project into phases	\$2,500,000	Flooding will continue to severely impact a portion of the road where drainage improvements have not been done.

Progress Report (for plan maintenance)

Date of Status Report:	
Report of Progress:	Completed engineering investigation and reports Initial report prepared Nov/Dec 2014 and follow up prepared March 2019.
Update Evaluation of the Problem and/or Solution:	None of the alternative solutions are feasible. Construction of the proposed piping system along the length of the road and down through the private properties can be completed within the area of the roadway and limited impacts to 2 properties at the system's downstream end. From a cost standpoint, this is the cheapest solution to pursue.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Matinecock

NYS DHSES Action Worksheet			
Project Name:	Beaver Brook Drainage Improvements		
Project Number:	VMK_1		
Risk / Vulnerability			
Hazard of Concern:	Streambank flooding as well as the erosion of both the streambed and its banks.		
Description of the Problem:	<p>Based upon a significantly larger quantity of stormwater runoff reaching Beaver Brook due to the installation of the proposed drainage piping system along Thorne Lane, from the intersection of Thorne Lane and Wolver Hollow Road down to the old estate roadway at the headwaters of Beaver Brook, the carrying capacity of the existing stream will be exceeded and erosion will occur.</p> <p>Based upon a 100-year storm, the peak rate of stormwater discharge into the headwaters of Beaver Brook is 402 CFS with a total volume of runoff for the entire storm of approximately 2.2 million cubic feet. A 500-year storm will have a peak discharge rate of 559 CFS with a total runoff volume of approximately 3.2 million cubic feet of water. The 100-year and 500-year stormwater discharge rates are equivalent to the flow rates of a small river and, as such, have considerable potential to cause a significant amount of erosion along the stream, washing all of the eroded material down into the pond system below.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	To improve approximately 3,100' of this natural drainage way in order to connect and then tie into the existing Nassau County drainage system at Upper Francis Pond that is located along Oyster Bay Road. This improvement will enable the stream to have the conveyance capacity needed to handle the additional stormwater flows draining down from Thorne Lane while also providing the proper protection against the erosion of the streambed and its banks.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	All major rainfall events	Estimated Benefits (losses avoided):	The project will improve conditions along Beaver Brook to accommodate the increase in stormwater flows and protect it from erosion.
Useful Life:	50 to 100 years		
Estimated Cost:	\$935,000 Construction Costs. [Excludes engineering, legal, and any property related costs.]		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	NYS Environmental Facilities Corp Grant Program, BRIDGE NY Funding Program, EPA Funding & Grant Programs, and FEMA
Responsible Organization:	Village of Matinecock	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Continued erosion of the stream.
	None are proposed		
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:	Completed visual examination of both the streambed and bank conditions.		

Update Evaluation of
the Problem and/or
Solution:

No alternatives were considered to be practical since without protecting the entire length of the stream from further erosion, and also the additional upstream stormwater runoff, the conveyance of the eroded materials into the downstream ponds was not deemed to be environmentally acceptable.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Mill Neck Annex

This document presents the Village of Mill Neck’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Donna Harris, Village Clerk & Treasurer Village of Mill Neck 32 Frostmill Road Mill Neck NY, 11765 millneckvillage@optonline.net 516-922-6722	Joshua Kugler, Commissioner Of Emergency Management Village of Mill Neck 32 Frostmill Road Mill Neck NY, 11765 jkugler@snch.org 516-336-2941

Profile

The Village of Mill Neck covers approximately 2.57 square miles¹ and has a total population of 1,011 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Mill Neck are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Mill Neck Demographic Information

Demographic	Demographic
Below 5 Years Old	1.3%
Above 65 Years Old	20.5%
Individuals with Disabilities	Information not provided
Persons in Poverty	5.8%
Renters	10.3%
Without a High School Diploma	1.8%
Black or African American alone	0.0%
American Indian and Alaska Native alone	0.0%
Asian alone	8.2%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	1.3%
White alone, not Hispanic or Latino, percent	85.4%

¹ This is inclusive of land area only.

Demographic		Demographic	
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

Mill Neck is purely a residential village with minimal development. Most construction includes residential renovations, with little to no subdivisions or influx in homes or population. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Mill Neck. The jurisdiction identified Hurricane, Severe Winter Weather, and Wind as the hazards that impact the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Mill Neck include: **Hurricane, Severe Winter Weather, and Wind.**

Table 2: Village of Mill Neck Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Housing
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Housing, Infrastructure
Tornados	No Impact
Wind	Housing

Capability Assessment

This section summarizes the capabilities that the Village of Mill Neck has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment existing legal and regulatory tools for the Village of Mill Neck. The Village of Mill Neck maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, site plan review requirements, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Mill Neck Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village of Mill Neck Ordinances
Capital Improvement Plan	Yes	Village Budgets
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Of Mill Neck Ordinances
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	Yes	Village of Mill Neck Ordinances
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village of Mill Neck Ordinances

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Mill Neck. The Village of Mill Neck's primary administrative and technical capabilities include an engineers, grant writers, and natural hazards planners and scientists. The Village can bolster their capabilities in this category by identifying individuals with expertise in emergency management and GIS.

Table 4: Village of Mill Neck Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Commissioner of Public Safety and Emergency Management (Appointed position)
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	LIRO Engineers Consultant
Engineer(s) with knowledge of land development and land management practices	Yes	
Grant Writers	Yes	LIRO Engineers-Consultant
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	Yes	
Scientist(s) familiar with natural hazards	Yes	Building Inspector
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Mill Neck. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Mill Neck should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Mill Neck Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	Village Budgets
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Mill Neck. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Mill Neck Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Mill Neck and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

There are several different flood-prone areas in the Village, including areas along West Shore Road and at a small bridge type roadway over Beaverbrook and Mill Neck Creek. During severe

storms at high tide, flooding can also occur along Oyster Bay Harbor and at the Rober DeGraff causeway.

The Village's Building Superintendent is responsible for floodplain management. The Village administers the NFIP through building permit and site plan review. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Mill Neck is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the village on 04/14/2016. There are no NFIP compliance violations that need to be addressed in this jurisdiction. The Flood Damage Prevention Ordinance was last amended 06/09/2009 and can be referenced in Chapter 61, L.L. No. 2-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Mill Neck. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Install Permanent Generator
Risk Category	Frequent power outages
Project Status	Not Started
Project Status Description	Mill Neck Manor w own budget and HVA team
Carried Forward to 2020 Plan	No
Required Changes	N/A

Proposed Mitigation Actions

Project Number	VMN_1	VMN_2	VMN_3	VMN_4
Project Name	Cleft Road Electrical Utility Underground	Power Generator for sustainment to Village Garage/Town Hall	Stormwater Pump Causeway	Wetlands Perseveration
Goal being met	3, 5	1, 2, 3, 5	1	1
Hazards to be mitigated	Any Hazards Causing Power Outages	Any Hazards Causing Power Outages	Flooding	Flooding
Priority Ranking	High	High	High	High
Description of the Problem	Along Cleft Road there are many low hanging damage-prone electrical and other infrastructure wires. Often	Village Garage and Town Hall are closely located and could use a single power generator backup for both	The low-lying Causeway is prone to flooding	Many high-risk wetlands/estuary flooding

Project Number	VMN_1	VMN_2	VMN_3	VMN_4
	power is lost when one is damaged due to wind or nearby tree damage. This creates a high risk for both personal and property damage as well as road closures. (This is a main thoroughfare and evacuation route).	facilities. These facilities support a wide variety of community resources and staff serving critical purposes, road preservation (tree removal; snow removal; salting). The post office and other government offices are in the Town Hall. Loss of power/electricity to the main Village Hall and Garage where mitigation staff has equipment. Town Hall does have a basement that could potentially be used as an emergency sheltering facility.		
Description of the Solution	To place wires in an underground conduit throughout the length of Cleft Road. This was accomplished during the underground on West Shore post-Superstorm with excellent results.	Provide free-standing backup power via a generator to buildings.	Install pumps to remove water	Work with the Department of Environmental Conservation (DEC) to identify preservation
Critical Facility	No	Yes	No	No
EHP Issues	No	No	No	No
Estimated Timeline	1 - 3 Years	3 - 6 Months	Unknown (Years)	Unknown
Lead Agency	Trustee for Roads and/or Building Inspector	Village Hall and Department of Public Works	Village and Department of Public Works	Mill Neck Village and Department of Environmental Conservation
Estimated Costs	\$80,000 - \$100,000; Estimated: \$30 - \$50 per linear foot	\$50,000 - \$100,000	\$200,000 - \$300,000	\$150,000 - \$250,000
Estimated Benefits	Loss of personal, property, and needed infrastructure; in addition to avoidance of repeated emergency response.	This would prevent closures of these two facilities, allowing many Village staff to continue doing their day-to-day jobs and supporting effective response to downed trees, snow-removal needs, and other functions dependent upon these facilities.	Installing water removing pumps would prevent flooding on the Causeway	Prevent flooding of wetlands and
Potential Funding Sources	Village Budgets, County, State, and Federal funds	Village Budgets, Outside funding / In-Kind Match	HMA Grants	Unknown

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Mill Neck

NYS DHSES Action Worksheet			
Project Name:	Power Generator for sustainment to Village Garage/Town Hall		
Project Number:	VMN_2		
Risk / Vulnerability			
Hazard of Concern:	Microburst; Hurricane; High Winds; Any Hazards Causing Power Outages		
Description of the Problem:	Village Garage and Town Hall are closely located and could use a single power generator backup for both facilities. These facilities support a wide variety of community resources and staff serving critical purposes, road preservation (tree removal; snow removal; salting). The post office and other government offices are located in the Town Hall. Loss of power/electricity to the main Village Hall and Garage where mitigation staff has equipment. Town Hall does have a basement that could potentially be used as an emergency sheltering facility.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide free-standing backup power via a generator to buildings.		
Is this project related to a Critical Facility?		Yes	<input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)		No	<input type="checkbox"/>
Level of Protection:	This would protect against multiple different types of events causing power outages.	Estimated Benefits (losses avoided):	This would prevent closures of these two facilities, allowing many Village staff to continue doing their day-to-day jobs and supporting effective response to downed trees, snow-removal needs, and other functions dependent upon these facilities.
Useful Life:	20-30 years		
Estimated Cost:	\$50,000-\$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP - Within 2 years.
Estimated Time Required for Project Implementation:	3-6 months	Potential Funding Sources:	Village Budgets; outside funding / in-kind match
Responsible Organization:	Village Hall and the Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Rely solely on existing portable generator solution	nominal fuel (\$100/yr) maintenance(\$100/yr)	poor, non-permanent solution which creates vulnerability by only supporting one area at a time; when all areas need to be powered
	Move to another location that has better support; and sustainment capabilities	Millions of dollars	logistically impossible to achieve in the village because of the small size
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action —	\$0	
	Alternative 1_Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Mill Neck

NYS DHSES Action Worksheet			
Project Name:	Cleft Road Electrical Utility Underground		
Project Number:	VMN_2		
Risk / Vulnerability			
Hazard of Concern:	Loss of Power infrastructure due to storm/tree damage to low overhead wires		
Description of the Problem:	Along Cleft Road there are many low hanging damage-prone electrical and other infrastructure wires. Often power is lost when one is damaged due to wind or nearby tree damage. This creates a high risk for both personal and property damage as well as road closures. (This is a main thoroughfare and evacuation route).		
Action or Project Intended for Implementation			
Description of the Solution:	To place wires in an underground conduit throughout the length of Cleft Road. This was accomplished during the underground on West Shore post-Superstorm with excellent results.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	This would protect against the type of high-wind and storm events that occur multiple times per year, as well as non-natural hazard events (e.g. dying trees).	Estimated Benefits (losses avoided):	Preventing or minimizing the loss of personal, property, and needed infrastructure; in addition to avoidance of repeated emergency response.
Useful Life:	100-years		
Estimated Cost:	~\$30-\$50 per linear foot; very large project for the Village		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	12 months to 18 months start
Estimated Time Required for Project Implementation:	1-3 years	Potential Funding Sources:	Village Budgets, County, State, and Federal funds
Responsible Organization:	Trustee for Roads and/or Building Inspector	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Partial underground to targeted areas along Cleft.	\$30,000 - \$250,000	partial mitigation to hedge loss will eventually be overcome with power loss to vuln. areas
	Change power dependence to a different source away from current PSEG grid	Tens of Millions	unlikely to see innovative change to novel technology
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action —	\$0	
	Alternative 1_Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Mineola Annex

This document presents the Village of Mineola’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Scott P. Strauss, Mayor Village of Mineola 155 Washington Avenue Mineola, New York 11501 info@mineola-ny.gov 516-746-0750	Thomas J. Rini, Superintendent of Public Works Village of Mineola 155 Washington Avenue Mineola, New York 11501 trini@mineola-ny.gov 516-746-0750

Profile

The Village of Mineola covers approximately 1.88 square miles¹ and has a total population of 19,207 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Mineola are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Mineola Demographic Information

Demographic	Demographic
Below 5 Years Old	5.6%
Above 65 Years Old	17.5%
Individuals with Disabilities	2.9%
Persons in Poverty	4.3%
Renters	34.8%
Without a High School Diploma	9.2%
Without Access to Broadband Internet	12.2%
Black or African American alone	2.3%
American Indian and Alaska Native alone	0.1%
Asian alone	9.1%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	2.3%
White alone, not Hispanic or Latino, percent	68.3%
Hispanic or Latino	18.7%

¹ This is inclusive of land area only.

The Village of Mineola has been completely developed with regards to open space land. Residential properties have been re-developed to increase size of existing residential structures and building out to existing code limits based upon property size. The commercial re-development that is currently occurring is similar. Developers are replacing existing structures with new structures, and increasing height and density. The Village created an "Incentive Zoning District" in a portion of the commercial/business area, allowing developers to bypass traditional zoning requirements and to bring their plans to the Village Board for review and approval. Developers see project review and approval time reduced, and save money otherwise spent on various steps of the approval process. In exchange, the Village is able to negotiate with developers for various amenities and infrastructure improvements to improve the areas surrounding the proposed development and other Village facilities, such as park improvements, fire protection, water, sanitary sewer and street lighting utility improvements.

Current growth in the Village of Mineola is comprised of the addition of 4 new luxury apartment complexes, which adds approximately 1,300 apartment units, the MTA-LIRR Third Track construction, which effects all utilities and main roadways, and the construction of 2 parking garage facilities for approximately 900 vehicles. NYU Winthrop University Hospital added a Research Facility and is planning major redevelopment of the hospital to include a "New Life Center", parking garage, new logistics and supply facility and major redevelopment of the main hospital building. The only future development is existing land that's being repurposed. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County's vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Mineola. The jurisdiction identified Hurricane, Lightning, Wind as the hazards that impact the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Mineola include:

Hurricane, Lightning, and Wind.

Table 2: Village of Mineola Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact

Hazard	Impact Categories
Drought	Community, Economy, Health and Social Services, Natural and Cultural Resources
Extreme Temperatures	Community, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Flooding	Community, Economy, Housing, Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Hail	Community, Economy, Housing, Infrastructure, Natural and Cultural Resources
Lightning	Community, Housing, Infrastructure
Severe Winter Weather	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources
Tornados	No Impact
Wind	No Impact

Capability Assessment

This section summarizes the capabilities that the Village of Mineola has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment existing legal and regulatory tools for the Village of Mineola. The Village of Mineola maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, NFIP flood damage prevention ordinances, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Mineola Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village Code, Multiple Chapters
Capital Improvement Plan	No	
Climate Action Plan	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Emergency Management Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Village Code Chapter 279
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Village Code – Stormwater Management Chapters 198 and 454
Subdivision Ordinance(s)	Yes	Village Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Code Chapter 550

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Mineola. The Village of Mineola's primary administrative and technical capabilities include an emergency manager and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Mineola Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Thomas J. Rini, Superintendent of Public Works
Engineer(s) trained in construction practices related to buildings/infrastructure	No	

Staff / Personnel Resource	Yes / No	Details
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Daniel B. Whalen, Superintendent of Building Department
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Mineola. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, utilizing user fees for utility services, capital improvements project funding, and CDBG programs. Village of Mineola should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Mineola Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	General Obligation Bonds for Infrastructure Improvements or equipment purchases
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	Tax Anticipation Bonds for Capital Projects and Equipment purchases
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	Yes	Water Rates
Authority to withhold public expenditures in hazard prone areas	No	

Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	Yes	Handicap Accessibility Capital Improvement Projects
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment existing community classifications for the Village of Mineola. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Mineola Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Mineola and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Residential properties in low lying areas in the Village are prone to flooding caused by stormwater run off, but no properties in the jurisdiction have been substantially damaged as a result of recent flood events.

The Village does not currently have a designated floodplain manager. The Village administers the NFIP through building permit and site plan review. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Mineola is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village installs new storm water drainage systems to mitigate future losses due to flooding. The Flood Damage Prevention Ordinance was last amended 09/19/2007 and can be referenced in Chapter 279, L.L. No. 3-2007.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Mineola. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Village Hall & Community Center - Provide the Village Hall and Community Center with a fixed, emergency generator to ensure continued service to the Hall and Community Center during a storm or emergency event.	Department of Public Works (DPW) - Provide the DPW with two fixed, emergency generators: one outside the DPW Garage and one outside the DPW office. These proposed generators will ensure the continued emergency service or storm response capabilities of the DPW in a storm or emergency event.
Risk Category	Loss of power	Frequent Loss of Power
Project Status	Completed	Completed
Project Status Description	Done	Done
Carried Forward to 2020 Plan	No	No
Required Changes		

Proposed Mitigation Actions

Project Number	VMI_1	VMI_2	VMI_3
Project Name	2-way communications	Well 1 Generator	Well 4 Generator
Goal being met	2	2, 3, 5	2, 3, 5
Hazards to be mitigated	Hurricanes, Severe Winter Weather, and other storms	Hurricanes, Severe Winter Weather, and other storms	Hurricanes, Severe Winter Weather, and other storms
Priority Ranking	High	High	High
Description of the Problem	Outdated Radio System	During loss of power the Village needs to be able to power up publicly owned water wells to supply water to residents.	During times of loss of power, the Village needs the ability to power up publicly owned water wells to supply water to residents.
Description of the Solution	New Radio System	install new generator	A new generator that is powered with natural gas and comes on automatically.
Critical Facility	No	Yes	Yes
EHP Issues	No	No	No
Estimated Timeline	5 Years	4 Years	3 Years
Lead Agency	Village of Mineola	Village of Mineola	Village of Mineola
Estimated Costs	\$25,000	\$400,000	\$400,000
Estimated Benefits	communication	Avoid purchasing clean drinking water	Avoid purchasing clean drinking water
Potential Funding Sources	Village Budget	Village of Mineola Water Department Fund	Village of Mineola water department fund

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

WorekiNassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Mineola "Village" |

NYS DHSES Action Worksheet			
Project Name:	Well 4 generator		
Project Number:	VMI_3		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes, blizzards and other storms		
Description of the Problem:	During times of loss of power, the Village needs the ability to power up publicly owned water wells to supply water to residents.		
Action or Project Intended for Implementation			
Description of the Solution:	A new generator that is powered with natural gas and comes on automatically.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Any power outage	Estimated Benefits (losses avoided):	Avoid purchasing clean drinking water
Useful Life:	20 Years		
Estimated Cost:	\$400,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 6 Months
Estimated Time Required for Project Implementation:	3 Years	Potential Funding Sources:	Village of Mineola water department fund
Responsible Organization:	Village of Mineola	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Stock pile water	\$0	Not able to provide enough water to meet the demand
	Portable generators	Thousands of dollars	Best option
	No Action	\$0	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Mineola

NYS DHSES Action Worksheet			
Project Name:	Well 1 generator		
Project Number:	VMI_2		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes, blizzard and other storms		
Description of the Problem:	During loss of power the Village needs to be able to power up publicly owned water wells to supply water to residents.		
Action or Project Intended for Implementation			
Description of the Solution:	A new generator powered with natural gas and that comes on automatically		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Any power outage	Estimated Benefits (losses avoided):	Avoid purchasing clean drinking water
Useful Life:	20 Years		
Estimated Cost:	\$400,000.00		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 6 Months
Estimated Time Required for Project Implementation:	3 Years	Potential Funding Sources:	Village of Mineola Water Department Fund
Responsible Organization:	Village of Mineola	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Stockpile water	\$0	Not a able to provide enough water for demand
	Portable generators	Thousands of dollars	Best option
	No Action	\$0	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Munsey Park Annex

This document presents the Village of Munsey Park’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Lawrence A. Ceriello, Mayor 1777 Northern Boulevard Manhasset, NY 11030 lceriello@munseypark.org 516-639-2069	Tara Gibbons, Clerk 1777 Northern Boulevard Manhasset, NY 11030 tgibbons@munseypark.org 516-330-1228

Profile

The Village of Munsey Park covers approximately 0.52 square miles¹ and has a total population of 1,018 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Munsey Park are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Munsey Park Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.2%	Black or African American alone	40.0%
Above 65 Years Old	15.5%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	6.4%
Persons in Poverty	2.1%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	5.5%	Two or More Races	1.5%
Without a High School Diploma	1.3%	White alone, not Hispanic or Latino, percent	88.4%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	3.2%

¹ This is inclusive of land area only.

Munsey Park consists of 888 homes and two businesses developments. Over the last five years this administration has made a strong commitment to an overall beautification plan to improve and maintain the Village. Currently, two residential subdivisions have received permits for development. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. Thi information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Munsey Park. The jurisdiction identified flooding and wind as the hazards that impact the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Munsey Park include: **Flooding and Wind.**

Table 2: Village of Munsey Park Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Infrastructure
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	No Impact

Capability Assessment

This section summarizes the capabilities that the Village of Munsey Park has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Munsey Park. The Village of Munsey Park maintains several key administrative and technical capabilities to support mitigation, including special purpose ordinances, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Munsey Park Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	No	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	BZA

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Munsey Park. The Village of Munsey Park's primary administrative and technical capabilities include engineers, a GIS analyst, and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Munsey Park Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	West side engineering
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	West side engineering.
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building inspector/architect
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Munsey Park. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, levying taxes for specific purposes, utilizing user fees for utility services, and impact fees for home buyers and/or developers. Village of Munsey Park should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Munsey Park Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	Yes	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	Impact fees for new home development
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Munsey Park. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Munsey Park Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Munsey Park and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

There are no areas in the Village that are considered flood-prone at this time and does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Munsey Park is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction. The Village's Damage Prevention Ordinance was last amended 2/10/2009 and can be found in Chapter 99.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Munsey Park. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VMP_1	VMP_2	VMP_3
Project Name	Road Improvement Project	Tree Program	Hazard Risk Awareness Outreach and Education
Goal being met	1, 3	3, 4, 5	4
Hazards to be mitigated	Severe winter weather, Flooding	Hurricanes, Straight-line winds	High winds, tropical storms and other events that cause power outages
Priority Ranking	High	High	High
Description of the Problem	Certain roads in the Village of Munsey Park that have been flagged "red" from the Village's road study which means they are in great need of repair after several years of weather, plows and commuter traffic creating roads that are filled with pot holes and dangerous cracks. Our maintenance crew purchases bags of asphalt and will fill potholes, but the fill does not last long and is costly.	The Village of Munsey Park is a member of the Tree City USA. We have very beautiful and old trees throughout the Village. After Hurricane Sandy, the Village lost a tremendous number of trees that caused significant damage to homes. Many residents would like to remove trees from their property since the hurricane for fear that the trees will fall on their homes.	The high winds, tropical storms and other events that cause power outages that Munsey Park experiences threaten residential structures, some of which occur every year (e.g., wind). Residents could benefit from better understanding of hazard-resistance building materials and non-structural retrofits that could be completed.
Description of the Solution	The roads that have been marked in most need of repair need to be repaved in order to secure safe walking and biking conditions for pedestrians and safe road conditions for drivers. Road improvements will increase the durability of roadways to severe winter weather.	The Village would like to develop a tree maintenance program under the direction of a certified arborist that will help maintain the safety and health of our trees. In addition, the program would include a residential educational program to help residents learn techniques on how to optimize the health and safety of Village trees.	Establish outreach and education program to raise awareness amongst residents about disaster-resilience construction practices and non-structural retrofits.
Critical Facility	No	No	No
EHP Issues	No	No	No
Estimated Timeline	3 Weeks	6 Months - 1 Year	36 Months

Project Number	VMP_1	VMP_2	VMP_3
Lead Agency	Village of Munsey Park	Village of Munsey Park	Village of Munsey Park
Estimated Costs	To be determined	\$5,000	\$10,000 - \$25,000
Estimated Benefits	Safer driving conditions ,and the reduce the risk for injury and loss of life	Reduce and prevent property damage from high wind events that bring down large trees and limbs.	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.
Potential Funding Sources	Grants, CHIPS/PAVE/EWR Funds	Grants, Munsey Park Woman's Club Donation,	HMGP + Village Staff and Volunteer Time

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Munsey Park

NYS DHSES Action Worksheet			
Project Name:	Road Improvement Project		
Project Number:	VMP_1		
Risk / Vulnerability			
Hazard of Concern:	The roads in the Village of Munsey Park have been ruined by sleet, snow ice and sand from storms over the past several years.		
Description of the Problem:	Certain roads in the Village of Munsey Park that have been flagged "red" from the Village's road study which means they are in great need of repair after several years of weather, plows and commuter traffic creating roads that are filled with pot holes and dangerous cracks. Our maintenance crew purchases bags of asphalt and will fill potholes but the fill does not last long and is costly.		
Action or Project Intended for Implementation			
Description of the Solution:	The roads that have been marked in most need of repair need to be repaved in order to secure safe walking and biking conditions for pedestrians and safe road conditions for drivers. Road improvements will increase the durability of roadways to severe winter weather.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Severe winter weather events	Estimated Benefits (losses avoided):	Safer driving conditions ,and the reduce the risk for injury and loss of life
Useful Life:	15-30 Years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Fall 2020
Estimated Time Required for Project Implementation:	Three weeks	Potential Funding Sources:	Grants, CHIPS/PAVE/EWR Funds
Responsible Organization:	Incorporated Village of Munsey Park	Local Planning Mechanisms to be Used in Implementation, if any:	Try to seek a grant. Use next years budgeted CHIPS/PAVE/EWR funds towards the project
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Have the maintenance crew to continue to fill potholes	Bags of asphalt: One 50 lb bag is \$1200	Pro: cheaper and quicker fix. Con: partial solution to a larger issue.
Hire a mason/contractor to cut out sections of the road to fix dangerous spots.	Have to place out for a bid	Pro: cheaper than full replacement. Con: partial solution to a larger issue.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Munsey Park

NYS DHSES Action Worksheet			
Project Name:	Tree Program		
Project Number:	VMP_2		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes, Straight-line winds		
Description of the Problem:	The Village of Munsey Park is a member of the Tree City USA. We have very beautiful and old trees throughout the Village. After Hurricane Sandy, the Village lost a tremendous number of trees that caused significant damage to homes. Many residents would like to remove trees from their property since the hurricane for fear that the trees will fall on their homes.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village would like to develop a tree maintenance program under the direction of a certified arborist that will help maintain the safety and health of our trees. In addition, the program would include a residential educational program to help residents learn techniques on how to optimize the health and safety of Village trees.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	All high wind events	Estimated Benefits (losses avoided):	Reduce and prevent property damage from high wind events that bring down large trees and limbs.
Useful Life:	10 years		
Estimated Cost:	\$5,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1 Year
Estimated Time Required for Project Implementation:	6 Months - 1 Year to implement	Potential Funding Sources:	We could ask the Munsey Park Woman's Club for a donation. Look into grants and free educational courses on tree maintenance.
Responsible Organization:	Our Village would hire an arborist to help facilitate this project	Local Planning Mechanisms to be Used in Implementation, if any:	We would have our tree committee involved with assisting the arborist to implement the program
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No action	\$0	
	Educational classes offered to residents on how to maintain trees	Arborist preparation and hourly fee	Educating residents is essential, but the con is the Village would want an expert to maintain the trees.
	Newsletter or brochures educating residents on how to maintain trees	Arborist preparation, graphic art, printing and mailing costs	Educating residents is important but not as effective as having arborist maintain the trees by pruning and proper nutrition.
Progress Report (for plan maintenance)			
Date of Status Report:	The Village will first create a plan of arborist evaluation of Village trees in the Right of Way (ROW) to determine the needs of each tree. The list may continue to include other trees, not in the ROW. Trees at risk need to be identified on the property of each home. In addition to having the trees maintained by a certified arborist, we will also have to incorporate an educational plan for residents.		
Report of Progress:	This program is in the planning stage. The Village has identified the problem of maintaining all of the trees in the Village whether through pruning, removal or nutrition. Our goal is to limit the amount of tree destruction that occurred during hurricane Sandy.		

Update Evaluation of the Problem and/or Solution:

The Board of Trustees does not have the funds in this year's budget to do the same level of tree pruning on ROW trees as they did last year. Other options on funding are being considered and will be discussed at the Board of Trustees (BOT) meeting in September 2020. Another problem is the tree committee that works with residents is comprised of volunteers and are not certified arborists. We will have to research additional funds to educate our volunteers.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Munsey Park

NYS DHSES Action Worksheet			
Project Name:	Hazard Risk Awareness Outreach and Education		
Project Number:	VMP_3		
Risk / Vulnerability			
Hazard of Concern:	High winds, tropical storms and other events that cause power outages		
Description of the Problem:	The high winds, tropical storms and other events that cause power outages that Munsey Park experiences threaten residential structures, some of which occur every year (e.g., wind). Residents could benefit from better understanding of hazard-resistance building materials and non-structural retrofits that could be completed.		
Action or Project Intended for Implementation			
Description of the Solution:	Establish outreach and education program to raise awareness amongst residents about disaster-resilience construction practices and non-structural retrofits.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	N/A (Outreach)	Estimated Benefits (losses avoided):	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.
Useful Life:	5-10 years		
Estimated Cost:	\$10,000-\$25,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Beginning within one year
Estimated Time Required for Project Implementation:	36 months	Potential Funding Sources:	HMGP + Village Staff and Volunteer Time
Responsible Organization:	Village of Munsey Park	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Update building code to mandate use of hazard-resistant building material	Staff Time	There may not be political will to enact new building code requirements.
Establish funding program to support non-structural retrofits.	Unknown	Alternative is contingent upon finding appropriate funding program to support direct costs and administrative overhead.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	— <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Muttontown Annex

This document presents the Village of Muttontown’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
James Liguori, Mayor Village of Muttontown One 'Raz' Tafuro Way Muttontown, NY 11791 jliguori@muttontownny.gov 516 729-9350	Joe Russo, Acting Clerk Village of Muttontown One 'Raz' Tafuro Way Muttontown, NY 11791 jrusso@muttontownny.gov 516 729-9350

Profile

The Village of Muttontown covers approximately 6.09 square miles¹ and has a total population of 3,661 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Muttontown are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Muttontown Demographic Information

Demographic		Demographic	
Below 5 Years Old	1.3%	Black or African American alone	3.7%
Above 65 Years Old	18.3%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	23.0%
Persons in Poverty	4.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	2.6%	Two or More Races	0.5%
Without a High School Diploma	1.8%	White alone, not Hispanic or Latino, percent	69.6%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.2%

¹ This is inclusive of land area only.

The Village of Muttontown has seen an increase in residential development. In the past five years, large plots of land have been sectioned off and developed into subdivisions. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Muttontown. The jurisdiction identified Extreme Temperatures and Flooding as the hazards that impact the community most. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Muttontown include:
Extreme Temperatures and Flooding.

Table 2: Village of Muttontown Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Infrastructure
Drought	No Impact
Extreme Temperatures	Community, Infrastructure
Flooding	Community, Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community, Economy, Infrastructure
Tornados	No Impact
Wind	Community, Infrastructure, Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Muttontown has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification

and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Muttontown. The Village of Muttontown maintains several key administrative and technical capabilities to support mitigation, including building codes, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Muttontown Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	New York State Building Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Zoning Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	Village Zoning Code
Subdivision Ordinance(s)	No	Village Zoning Ordinance
Transportation Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Zoning Ordinance(s)	No	Village Zoning Ordinance

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Muttontown. Increasing capacity and expertise in mitigation related administrative and technical capabilities of the Village will support mitigation planning and implementation.

Table 4: Village of Muttontown Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	Tony Toscano Superintendent of public works
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	Paul Stevens, Liro Group
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	Paul Stevens, Liro Group
Personnel trained in construction practices related to buildings/infrastructure	No	Tony Toscano, H2M
Planner(s) with an understanding of natural hazards	No	Paul Stevens, Liro Group
Planner(s) with knowledge of land development and land management practices	No	Paul Stevens, Liro Group
Scientist(s) familiar with natural hazards	No	
Surveyors	No	North Coast

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Muttontown. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by capital improvements project funding and impact fees for home buyers and/or developers. Village of Muttontown should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Muttontown Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	Road impact fee
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Muttontown. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Muttontown Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Muttontown and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

A ravine along Mill River Road and Brookville Road is prone to flooding. The Village reported that three properties were substantially damaged as a result of recent flood events. The Village of Muttontown is in good standing with the NFIP.

Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. There are currently no RiskMAP projects ongoing in this jurisdiction. The Village actively reviews and evaluates the costs of performing different mitigation measures to reduce future flood losses in these areas.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Muttontown. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VMTT_1	VMTT_2
Project Name	Catch Basin Midlane South	Remsen's Lane Culvert
Goal being met	1, 3	1, 3
Hazards to be mitigated	Insufficient drainage	Roadway flooding
Priority Ranking	High	High
Description of the Problem	Midlane South is an old country road with minimal catch basins that are not sufficient. The shoulder and roadway becomes obstructed by soil, debris and gravel. Even with regular maintenance of the upstream catch basins this area of the road has been restricted several times in recent years due to storm events. These repeating events have strained the roadway requiring more frequent maintenance/repair/cleanup.	Existing culvert is decades old, built with 6x8 wood timbers and steel pipes. The supports are rotted, damaged, and weakened, increasing the risk of collapse. This existing wood culvert structure cannot handle the water volume, causing severe roadway flooding. Several storms in the last several years have caused the culvert to overflow at several points, requiring the police to close the road preventing the passage of emergency vehicles and the public. Additionally, these repeating events have strained the roadway requiring more frequent maintenance/repair.
Description of the Solution	Install a number of catch basins with a connecting piping system at several points along Midlane South from Knollwood Lane to Ridge Road. Additionally, this will also help the environment by filtering the roadway debris from entering the waterways.	Install an underground piping system from Route 25A to Remsen's Lane. The right of way (used by the existing culvert) would be used to install a piping system from the major water source at NY State Road 25A and connect to an existing drainage system at Remsens Lane. The old wood timbers and steel pipes would be removed, and the culvert would be remediated to ensure safety.
Critical Facility	No	No
EHP Issues	None	None
Estimated Timeline	3- 4 Weeks	2 - 4 Months
Lead Agency	Village of Muttontown	Village of Muttontown
Estimated Costs	\$75,000	\$500,000
Estimated Benefits	Improve the collection of stormwater, sediment and other debris flowing on the surface of the roadway which will increase the safety of the roadway and ensure proper drainage in the residential area.	Stop flooding of the road which can become hazardous from the excess water and debris. The Road has had to be closed during heavy rains. The projected savings is \$700,000 - \$900,000 in maintenance costs over the next 25 years.
Potential Funding Sources	Seek grant funding from State via our State Senator; Seek funding via FEMA Hazard Mitigation Assistance Program	Seek grant funding from State via our State Senator; Seek funding via FEMA Hazard Mitigation Assistance Program

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Muttontown

NYS DHSES Action Worksheet

Project Name: Remsens Lane Culvert

Project Number: VMTT_2

Risk / Vulnerability

Hazard of Concern: Flooding

Description of the Problem: Existing culvert is decades old, built with 6x8 wood timbers and steel pipes. The supports are rotted, damaged and weakened, increasing the risk of collapse. This existing wood culvert structure cannot handle the water volume, causing severe roadway flooding. Several storms in the last several years have caused the culvert to overflow at several points, requiring the police to close the road preventing the passage of emergency vehicles and the public. Additionally these repeating events have strained the roadway requiring more frequent maintenance/repair.

Action or Project Intended for Implementation

Description of the Solution: Install an underground piping system from Route 25A to Remsens Lane. The right of way (used by the existing culvert) would be used to install a piping system from the major water source at NY State Road 25A and connect to an existing drainage system at Remsens Lane. The old wood timbers and steel pipes would be removed and the culvert would be remediated to ensure safety.

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection: Mitigate flooding in 100-year storm

Useful Life: 50 years

Estimated Cost: \$500,000

Estimated Benefits (losses avoided):

Stop flooding of the road which can become hazardous from the excess water and debris. The Road has had to be closed during heavy rains. The projected savings is \$700,000 - \$900,000 in maintenance costs over the next 25 years.

Plan for Implementation

Prioritization: High

Desired Timeframe for Implementation:

ASAP

Estimated Time Required for Project Implementation:

2-4 Months

Potential Funding Sources:

Seek grant Funding from State via our State Senator/
Seek funding via FEMA Hazard Mitigation Assistance Program

Responsible Organization:

Village of Muttontown

Local Planning Mechanisms to be Used in Implementation, if any:

In house staff and Village Engineering firm

Three Alternatives Considered (including No Action)

Alternatives:

Action

Estimated Cost

Evaluation

No Action

\$0

Ongoing flooding and continued maintenance costs

Remove wood timbers and build concrete walls on each side to replace the wood timbers

\$1,750,000

Cost and community push back would reject this project

Acquire additional land to increase the width of the culvert and replace one side with new wood timbers

\$2,500,000 - \$4,000,000

Cost and resident push back would reject this project

Progress Report (for plan maintenance)

Date of Status Report:

Report of Progress:

Update Evaluation of
the Problem and/or
Solution:

1

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Muttontown

NYS DHSES Action Worksheet			
Project Name:	Catch Basin Midlane South		
Project Number:	VMTT_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Midlane South is an old country road with minimal catch basins that are not sufficient, The shoulder and roadway becomes obstructed by soil, debris and gravel. Even with regular maintenance of the upstream catch basins this area of the road has been restricted several times in recent years due to storm events. These repeating events have strained the roadway requiring more frequent maintenance/repair/cleanup.		
Action or Project Intended for Implementation			
Description of the Solution:	Install a number of catch basins with a connecting piping system at several points along Midlane South from Knollwood Lane to Ridge Road. Additionally this will also help the environment by filtering the roadway debris from entering the waterways.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Mitigate flooding in 50-year storm	Estimated Benefits (losses avoided):	\$150,000 savings in maintenance and road cleanup over the next 25 years
Useful Life:	25 years		
Estimated Cost:	\$75,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	3-4 Weeks	Potential Funding Sources:	Seek grant Funding from State via our State Senator/ Seek funding via FEMA Hazard Mitigation Assistance Program
Responsible Organization:	Village of Muttontown	Local Planning Mechanisms to be Used in Implementation, if any:	In house staff and Village Engineering firm
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Ongoing flooding and continued maintenance costs
	Rebuild the roadway	\$500,000	Cost and community push back would reject this project
	Build a wall to prevent water from reaching this roadway	\$800,000	Cost and local resident push back would reject this project
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of North Hills Annex

This document presents the Village of North Hills’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Marvin Natiss, Mayor Village of North Hills One Shelter Rock Road North Hills, NY 11576 mayor@villagenorthhills.com 516-627-3451	Marianne C. Lobaccaro, Administrator Village of North Hills One Shelter Rock Road North Hills, NY 11576 villageadministrator@villagenorthhills.com 516-627-3451

Profile

The Village of North Hills covers approximately 2.76 square miles¹ and has a total population of 5,969 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of North Hills are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of North Hills Demographic Information

Demographic		Demographic	
Below 5 Years Old	3.1%	Black or African American alone	2.6%
Above 65 Years Old	46.1%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	29.4%
Persons in Poverty	0.6%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	13.1%	Two or More Races	0.9%
Without a High School Diploma	1.5%	White alone, not Hispanic or Latino, percent	65.7%
Without Access to Broadband Internet	20.1%	Hispanic or Latino	1.4%

¹ This is inclusive of land area only.

The Village of North Hills Planning Board is currently reviewing plans for a large home development. In the past five years, development in the Village included Ritz Carlton Residences, Dealer Track commercial headquarters, and private homes. Permits have been approved for private property development. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of North Hills. The jurisdiction identified Wind as a natural hazard that impacts the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of North Hills include: **Wind**.

Table 2: Village of North Hills Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	Housing
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of North Hills has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification

and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of North Hills. The Village of North Hills maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, site plan review requirements, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village might consider the capabilities in the table below labeled “No”. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of North Hills Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	No	Chapter 215
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	On the Village’s Website: www.norhills.com
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Section 179
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	Yes	Section 179
Transportation Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Zoning Ordinance(s)	Yes	Section 215

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of North Hills. The Village of North Hills' primary administrative and technical capabilities include an emergency manager, a GIS analyst, a construction practices personnel, and natural hazards and land-use planner. The Village can bolster their capabilities in this category by identifying individuals with expertise in engineering.

Table 4: Village of North Hills Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Deputy Mayor Dennis Sgambati, Village Administrator, Marianne C. Lobaccaro
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Peter A. Cinquemani, RA
Personnel trained in construction practices related to buildings/infrastructure	Yes	Peter A. Cinquemani, RA
Planner(s) with an understanding of natural hazards	Yes	Peter A. Cinquemani, RA
Planner(s) with knowledge of land development and land management practices	Yes	Peter A. Cinquemani, RA
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of North Hills. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, private activity bonds,

and special tax bonds, levying taxes for specific purposes, utilizing user fees for utility services, capital improvements project funding, and impact fees for home buyers and/or developers. Village of North Hills should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of North Hills Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	The Village currently has no debt
Ability to incur debt through private activity bonds	Yes	The Village currently has no debt
Ability to incur debt through special tax bonds	Yes	The Village currently has no debt
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	Yes	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of North Hills. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of North Hills Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of North Hills and how the jurisdiction is meeting the requirements of the National Flood Insurance

Program (NFIP). The Village of North Hills is in an area of minimal flood hazard, according to FEMA flood insurance rate maps.

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. North Hills is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it accordingly. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of North Hills. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Community Awareness Program - Community outreach to keep residents informed about emergencies.
Risk Category	Extreme weather and other emergencies (all hazards).
Project Status	In progress
Project Status Description	The Village held three disaster preparedness seminars, two on Hurricane Preparedness and one on Winter Weather Hazards. Representatives from PSEGLI, Nassau County Office of Emergency Management and local elected officials were present. The village handed out informational material and supplies.
Carried Forward to 2020 Plan	Yes
Required Changes	No

Proposed Mitigation Actions

Project Number	VNH_1	VNH_2
Project Name	Hazard Risk and Risk Reduction Awareness Outreach and Education	Tree Maintenance Program
Goal being met	4	3, 5
Hazards to be mitigated	All natural hazards	All natural hazards
Priority Ranking	High	High
Description of the Problem	Various hazards threaten residential and commercial structures. Residents and business owners could benefit from better understanding of hazard - resistance building materials and non structural retrofits that could be completed.	Trees in the community present hazards to roads, residents, utilities and facilities during high wind and rain events several times a year. Downed trees on streets have blocked residents in and denied emergency vehicles access.
Description of the Solution	Establish outreach and education program to raise awareness amongst residents and business owners about disaster resilient construction practices and non-structural retrofits.	Develop a tree maintenance and inventory program that includes an annual tree evaluation survey and suggest mitigation measures to limit future damage caused by natural hazards that bring down limbs and trees.
Critical Facility	No	No

EHP Issues	None	None
Estimated Timeline	1-3 Years	1 Year
Lead Agency	Village of North Hills	Village of North Hills
Estimated Costs	\$10,000 - \$20,000	\$20,000
Estimated Benefits	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.	Property, building, infrastructure and vehicle damage as well as life safety.
Potential Funding Sources	Village Budget	Village Budget

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of North Hills]

NYS DHSES Action Worksheet			
Project Name:	Hazard Risk and Risk Reduction Awareness Outreach and Education]		
Project Number:	VNH_1		
Risk / Vulnerability			
Hazard of Concern:	All-natural hazards]		
Description of the Problem:	Various hazards threaten residential and commercial structures. Residents and business owners could benefit from better understanding of hazard - resistance building materials and non-structural retrofits that could be completed.]		
Action or Project Intended for Implementation			
Description of the Solution:	Establish outreach and education program to raise awareness amongst residents and business owners about disaster resilient construction practices and non-structural retrofits.]		
Is this project related to a Critical Facility?		Yes]	No <input checked="" type="checkbox"/>]
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	N/A – Outreach]	Estimated Benefits (losses avoided):	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.]
Useful Life:	Extended increased knowledge]		
Estimated Cost:	\$10,000-\$25,000]		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 3-6 months]
Estimated Time Required for Project Implementation:	1-3 years]	Potential Funding Sources:	Village budget]
Responsible Organization:	Village of North Hills Administration]	Local Planning Mechanisms to be Used in Implementation, if any:	None]
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action]	\$0]]
	Establish new building codes or standards requiring safer building practices]	Staff Time]	Would not reduce risk from existing buildings]
Formulate a phone tree list]	\$1,000]	Too reliant on individual compliance, not centralized]	
Progress Report (for plan maintenance)			
Date of Status Report:]		
Report of Progress:]		
Update Evaluation of the Problem and/or Solution:]		

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	– <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: [Incorporated Village of North Hills]

NYS DHSES Action Worksheet			
Project Name:	[Tree Maintenance Program]		
Project Number:	[VNH_2]		
Risk / Vulnerability			
Hazard of Concern:	[All natural hazards]		
Description of the Problem:	[Trees in the community present hazards to roads, residents, utilities and facilities during high wind and rain events several times a year. Downed trees on streets have blocked residents in and denied emergency vehicles access.]		
Action or Project Intended for Implementation			
Description of the Solution:	[Develop a tree maintenance and inventory program that includes an annual tree evaluation survey and suggest mitigation measures to limit future damage caused by natural hazards that bring down limbs and trees.]		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)]			
Level of Protection:	[All severe wind events; reduction in damages from annual events]	Estimated Benefits (losses avoided):	[Property, building, infrastructure and vehicle damage as well as life safety.]
Useful Life:	[20-30 years]		
Estimated Cost:	[\$20,000]		
Plan for Implementation			
Prioritization:	[High]	Desired Timeframe for Implementation:	[Within 6 months]
Estimated Time Required for Project Implementation:	[12-36 Months]	Potential Funding Sources:	[Village budget]
Responsible Organization:	[Village of North Hills Administration]	Local Planning Mechanisms to be Used in Implementation, if any:	[None]
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	[No Action]	[\$0]	[]
	[Send Village maintenance staff to complete one-time pruning.]	[\$5,000-\$10,000]	[Does not provide long-term risk reduction]
	[Establish Village tree maintenance standards for residents and businesses]	[Staff Time]	[Political feasibility isn't clear]
Progress Report (for plan maintenance)			
Date of Status Report:	[]		
Report of Progress:	[]		
Update Evaluation of the Problem and/or Solution:	[]		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Oyster Bay Cove Annex

This document presents the Village of Oyster Bay Cove’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Charles Goulding, Mayor Village Of Oyster Bay Cove 68 West Main Street PO Box 66 Oyster Bay, NY 11771 oysterbaycove@optonline.net 516-922-1016	Ted Von Briesen, Public Works Commissioner Village Of Oyster Bay Cove 68 West Main Street PO Box 66 Oyster Bay, NY 11771 oysterbaycove@optonline.net 516-922-1016

Profile

The Village of Oyster Bay Cove covers approximately 4.20 square miles¹ and has a total population of 2,140 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Oyster Bay Cove are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Oyster Bay Cove Demographic Information

Demographic		Demographic	
Below 5 Years Old	3.2%	Black or African American alone	2.7%
Above 65 Years Old	20.0%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	9.4%
Persons in Poverty	0.4%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	6.3%	Two or More Races	0.6%
Without a High School Diploma	1.5%	White alone, not Hispanic or Latino, percent	80.9%

¹ This is inclusive of land area only.

Demographic		Demographic	
Without Access to Broadband Internet	0.0%	Hispanic or Latino	1.7%

The growth trends in the Village include residential renovations, as well as reconstruction with ongoing new single-family homes construction and lot partitioning. The Village of does not zone in floodplains or wetlands. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Oyster Bay Cove. The jurisdiction identified Coastal Hazards, Flooding, and Hurricane as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Oyster Bay Cove include: **Coastal Hazards, Flooding, and Hurricane.**

Table 2: Village of Oyster Bay Cove Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Infrastructure
Tornados	No Impact
Wind	Natural Cultural Resources

Capability Assessment

This section summarizes the capabilities that the Village of Oyster Bay Cove has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Oyster Bay Cove. The Village maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, emergency response plans, floodplain management plans, NFIP flood damage prevention ordinances, site plan review requirements, special purpose ordinances, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Oyster Bay Cove Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	2020 Codes of NY State Based on ICC
Capital Improvement Plan	Yes	Capital Improvement Budget
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Village Code Chapter 22
Floodplain Management Plan(s)	Yes	Village Code Chapter 320
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Village Code Chapter 320
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code Chapter 264

Regulatory Tool	Yes / No	Citation (if applicable)
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	VILLAGE CODE 283
Subdivision Ordinance(s)	Yes	VILLAGE CODE 283
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	VILLAGE CODE CHAPTER 320

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Oyster Bay Cove. The Village of Oyster Bay Cove's primary administrative and technical capabilities include an emergency manager, engineers, a GIS analyst, and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Oyster Bay Cove Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Seth LubIn, Emergency Management Officer and Ted Von Briesen Public Works
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Westside Engineering
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	Yes	Westside Engineering
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Westside Engineering and Building Dept
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Oyster Bay Cove. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Oyster Bay Cove should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Oyster Bay Cove Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	Capital Improvement Budget
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Oyster Bay Cove. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Oyster Bay Cove Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Oyster Bay Cove and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Some coastal flooding can occur in the Village of Oyster Bay Cove along the Long Island Sound.

The Village's Building Inspector is responsible for floodplain management. The NFIP is administered in the Village through the review of site plans and issuance of building permits. The Village did not note any current barriers to running a successful NFIP program. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Oyster Bay Cove is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the Village on 09/26/2016. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance was last amended 07/21/2009 and can be referenced in Article XI, Zoning, L.L. No. 1-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Oyster Bay Cove. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VOBC_1	VOBC_2	VOBC_3
Project Name	Swiftreach System Mitigation Outreach Program	Village Shoreline Protection	Tree Maintenance Program
Goal being met	2, 4	1, 2, 3	3, 5
Hazards to be mitigated	All Natural hazards	Erosion, Flooding, Sea Level Rise, Severe Wind, Severe Winter Weather, Storm Surge	Straight-line wind, hurricane
Priority Ranking	High	High	High
Description of the Problem	There is currently not a comprehensive system in place to keep residents informed during natural disasters and emergencies, including severe storms, severe winter weather, hurricanes, flooding, etc.	Erosion along Oyster Bay Harbor at Landing Road causes damage to property and the shoreline.	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Just recently, in August 2020 Tropical Storm Isaias caused many trees and large limbs to fall in our Village. In addition to the potential threat of falling on property or an individual, the down trees were in the middle of streets which hinder access by Emergency Vehicles. In addition, the down trees caused Electrical wires to come down. Many of our residents were without electrical power for a week.
Description of the Solution	Implement the Swiftreach Mitigation Outreach Program to inform Village residents about mitigation best practices using the Swiftreach System.	Structural shoreline protection with hardscape such as seawall or boulders.	Develop a tree maintenance program that includes the to evaluation of trees on a regular basis and suggest mitigation measures to limit future damage caused by high wind that brings down limbs and trees.
Critical Facility	No	No	No

EHP Issues	No	Yes	No
Estimated Timeline	1 Year	5 Years	1 Year
Lead Agency	Village	Village	Village
Estimated Costs	\$60,000	\$100,000 - \$150,000	\$25,000
Estimated Benefits	Avoid residents' injury or harm and protection of property during natural disasters,	Prevention of loss of property and damage to the shoreline	Property, building, infrastructure, and vehicle damage, as well as life safety.
Potential Funding Sources	NYS, Federal funding, or Village budget	NYS, Federal funding, or Village budget	Municipal budget, NYS Grant

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Oyster Bay Cove

NYS DHSES Action Worksheet			
Project Name:	Swiftreach System Mitigation Outreach Program		
Project Number:	VOBC_1		
Risk / Vulnerability			
Hazard of Concern:	All Natural Hazards		
Description of the Problem:	There is currently not a comprehensive system in place to keep residents informed during natural disasters and emergencies, including severe storms, severe winter weather, hurricanes, flooding, etc.		
Action or Project Intended for Implementation			
Description of the Solution:	Implement the Swiftreach Mitigation Outreach Program to inform Village residents about mitigation best practices using the Swiftreach System.		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	During all natural hazards	Estimated Benefits (losses avoided):	Avoid residents' injury or harm and protection of property during natural disasters,
Useful Life:	10 Years (to be reassessed)		
Estimated Cost:	\$60,000		
Plan for Implementation			
Prioritization:	High		
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	NYS, Federal funding, or Village budget
Responsible Organization:	Village	Local Planning Mechanisms to be Used in Implementation, if any:	None
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	No outreach to residents
	Email signup	\$10,000	Not all residents are reached
	Social media Account	\$10,000	Not as effective as Swiftreach, as fewer residents would be informed
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Oyster Bay Cove

NYS DHSES Action Worksheet			
Project Name:	Tree Maintenance Program		
Project Number:	VOBC_3		
Risk / Vulnerability			
Hazard of Concern:	Straight-line wind, hurricane		
Description of the Problem:	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Just recently, in August 2020 Tropical Storm Isaias caused many trees and large limbs to fall in our Village. In addition to the potential threat of falling on property or an individual, the down trees were in the middle of streets which hinder access by Emergency Vehicles. In addition, the down trees caused Electrical wires to come down. Many of our residents were without electrical power for a week.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop a tree maintenance program that includes the to evaluation of trees on a regular basis and suggest mitigation measures to limit future damage caused by high wind that brings down limbs and trees.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Reduction in damages from annual wind events (at a minimum).	Estimated Benefits (losses avoided):	Property, building, infrastructure, and vehicle damage, as well as life safety.
Useful Life:	20-30 years		
Estimated Cost:	\$25,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	1-2 years
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	Municipal budget, NYS Grant
Responsible Organization:	Village of Oyster Bay Cove	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Conduct one-time removal of sick and hazardous trees.	\$25,000-\$50,000	Does not provide sustained risk-reduction.
	Enact policies encouraging wind-resistant tree plantings.	Unknown / Staff Time	Feasibility is unclear; would not reduce risk from existing trees.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	_ <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Plandome Heights Annex

This document presents the Village of Plandome Heights’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Mayor Kenneth C. Riscica 37 Orchard Street Manhasset, NY 11030 mayor@plandomeheights-ny.gov 516-241-8523	Arlene Drucker, Clerk 37 Orchard Street Manhasset, Ny 11030 clerk@plandomeheights-ny.gov 516-220 6977

Profile

The Village of Plandome Heights covers approximately 0.20 square miles¹ and has a total population of 945 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Plandome Heights are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Plandome Heights Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.5%	Black or African American alone	0.0%
Above 65 Years Old	16.0%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	13.0%
Persons in Poverty	1.4%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	4.0%	Two or More Races	1.0%
Without a High School Diploma	0.3%	White alone, not Hispanic or Latino, percent	82.0%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	4.0%

¹ This is inclusive of land area only.

Plandome Heights is a mature community, with limited growth outside of building renovations and/or expansions. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Plandome Heights. The jurisdiction identified Hurricane as a natural hazard that impacts the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Plandome Heights include: **Hurricane**.

Table 2: Village of Plandome Heights Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Housing
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Housing
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Housing
Tornados	No Impact
Wind	Housing

Capability Assessment

This section summarizes the capabilities that the Village of Plandome Heights has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the

identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Plandome Heights. The Village of Plandome Heights maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, and emergency response plans. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Plandome Heights Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	Yes	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Plandome Heights. The Village of Plandome Height's primary administrative and technical capabilities include construction practices and personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in emergency management and planning (specifically related to flooding).

Table 4: Village of Plandome Heights Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Part-time Building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Plandome Heights. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by capital improvement project funding and impact fees for home buyers and/or developers. Village of Plandome Heights should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Plandome Heights Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	Yes	Charge an impact fee on an extremely rare recent subdivision.
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Plandome Heights. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Plandome Heights Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Plandome Heights and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village include homes near the coast on Shore Road, the Beachway, Bayview Circle, and Waterside Lane.

The Village's Building Inspector is responsible for floodplain management. The Village administers the NFIP through building permit and site plan review. The Village did not note any

current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village reported that no properties were substantially damaged as a result of recent flood events. The Village of Plandome Heights is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 01/30/2020 and its last Community Assistance Visit on 08/04/2010. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance for the Village of Plandome Heights meets minimum requirements. The ordinance was last amended 06/01/2009 and can be referenced in Chapter 65, Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Plandome Heights. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VPH_1	VPH_2	VPH_3	VPH_4
Project Name	Develop a Continuity of Operations Plan	Healthy Trees Maintenance Program	Emergency Generator Installations at Critical Facility	Harden or Upgrade Utilities to be Disaster-Resistant
Goal being met	2, 3, 4	3	2, 3	1
Hazards to be mitigated	All-natural hazards	High winds, hurricanes, strong rains, power outages	All hazards that cause power outages	High Wind, Hurricanes, Ice Storms
Priority Ranking	High	High	High	High
Description of the Problem	Lack of resources (only one full-time employee) prevents us from preparing a continuity of operations plan (COOP). Having a COOP plan would help the Village better prepare our residents and community for hazards. Due to lack of resources, having a COOP would significantly assist the Village in communicating and coordinating among residents during times of disaster.	High winds and strong rains bring down trees that damage property and potentially life. No amount of tree maintenance can expose every issue because Mother Nature is involved and some vulnerabilities are hidden. But aggressively trimming trees can help reduce "windage" and "sail" and searching for vulnerable trees for elimination can prevent damage. Power outages are also a problem.	As Village Hall does not have a generator, when there is a prolonged electrical outage it is unable to continue functioning as the critical facility it is.	The Village's fundamental electrical infrastructure is largely 80, or more, years old dating back to the establishment of the Village in 1929 and a large development in the 1940s. Therefore, Plandome Heights has outdated "tri wire" distribution wires which should be hardened to current delivery standard. Many of the Village's utility poles have reached their useful life and the Village also has many aging or near obsolete transformers. Plandome Heights experiences many power outages during storms and high wind conditions. Updating and hardening this aged infrastructure would help greatly in mitigating outages due to storms and other high wind events.
Description of the Solution	Prepare a comprehensive continuity of operations plan	Develop a tree maintenance plan that lays out a process for	Install a fixed, emergency generator at Village Hall to ensure continued	Harden and/or enhance the utility lines, poles, transistors, switches and

Project Number	VPH_1	VPH_2	VPH_3	VPH_4
	<p>to address the flow of communications between the Village and its residents, the coordination of Village operations and the conduct of business during response and recovery of a disaster.</p> <p>In addition to the creation of strategies, this plan needs to address structural issues such as the need for an electric generator to ensure that Village Hall can operate with electricity during disasters.</p>	<p>identifying vulnerable trees and monitoring and maintaining healthy ones to reduce the long-term risk posed by trees to properties and public streets and utilities including electric, phone, cable, and Fios.</p>	<p>service during a storm or emergency event and the installation of underground power lines.</p>	<p>any other critical utility installments/parts in the Village.</p>
Critical Facility	No	No	Yes	Yes
EHP Issues	No	No	No	No
Estimated Timeline	3 Months	3 Months	1 Year	Ongoing
Lead Agency	Village of Plandome Heights	Village of Plandome Heights	Village of Plandome Heights	PSEG
Estimated Costs	\$10,000 per year	\$10,000 per year	To be determined	To be determined
Estimated Benefits	Reduced property damage and an increased ability to continue operations during emergencies and disasters	Tens of thousands of dollars saved in property damage, and reduction in loss of life.	Continued service at each critical facility during a storm or emergency event and the installation of underground power lines.	Protection of life safety
Potential Funding Sources	Taxes	Taxes	FEMA HMGP	FEMA Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Plandome Heights

NYS DHSES Action Worksheet			
Project Name:	Healthy Trees Maintenance Program		
Project Number:	VPH_2		
Risk / Vulnerability			
Hazard of Concern:	The Village is a very treed community. High winds, hurricanes, and strong rains bring down trees that damage property and potentially life		
Description of the Problem:	High winds and strong rains bring down trees that damage property and potentially life. No amount of tree maintenance can expose every issue because Mother Nature is involved and some vulnerabilities are hidden. But aggressively trimming trees can help reduce "windage" and "sail" and searching for vulnerable trees for elimination can prevent damage. Power outages are also a problem.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop a tree maintenance plan that lays out a process for identifying vulnerable trees and monitoring and maintaining healthy ones to reduce the long-term risk posed by trees to properties and public streets and utilities including electric, phone, cable, and Fios.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Medium	Estimated Benefits (losses avoided):	Tens of thousands of dollars saved in property damage, and reduction in loss of life.
Useful Life:	Ongoing		
Estimated Cost:	\$10,000 per year		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Now
Estimated Time Required for Project Implementation:	Three months	Potential Funding Sources:	Taxes
Responsible Organization:	Village of Plandome Heights	Local Planning Mechanisms to be Used in Implementation, if any:	Current CEMP
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Use of volunteers	\$1,000	Not effective enough
	Hire an outside firm	\$10,000	Not cost-effective
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Plandome Heights

NYS DHSES Action Worksheet			
Project Name:	Develop a Continuity of Operations Plan		
Project Number:	VPH_1		
Risk / Vulnerability			
Hazard of Concern:	All natural hazards		
Description of the Problem:	<p>Lack of resources (only one full-time employee) prevents us from preparing a continuity of operations plan (COOP). Having a COOP plan would help the Village better prepare our residents and community for hazards. Due to lack of resources, having a COOP would significantly assist the Village in communicating and coordinating among residents during times of disaster.</p> <p>For example, after Storm Sandy and during COVID-19, Village Hall had closures and reduced service and it was difficult to communicate status with residents and other constituents.</p> <p>One of the threats to continuity of operations is that the Village lacks a generator to permit it to remain operational during power outages.</p>		
Action or Project Intended for Implementation			
Description of the Solution:	<p>Prepare a comprehensive continuity of operations plan to address the flow of communications between the Village and its residents, the coordination of Village operations and the conduct of business during response and recovery of a disaster.</p> <p>In addition to the creation of strategies, this plan needs to address structural issues such as the need for an electric generator to ensure that Village Hall can operate with electricity during disasters.</p>		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Medium	Estimated Benefits (losses avoided):	Reduced property damage and an increased ability to continue operations during emergencies and disasters
Useful Life:	Ongoing		
Estimated Cost:	\$10,000 / year		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Now
Estimated Time Required for Project Implementation:	Three months	Potential Funding Sources:	Taxes
Responsible Organization:	Village of Plandome Heights	Local Planning Mechanisms to be Used in Implementation, if any:	Current CEMP
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Use of volunteers	\$1,000	Not effective enough
	Use of monthly newsletters	\$3,000	Not effective in the specifics of a disaster
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

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(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Plandome Heights

NYS DHSES Action Worksheet			
Project Name:	Emergency Generator Installations at Critical Facility		
Project Number:	VPH_3		
Risk / Vulnerability			
Hazard of Concern:	All hazards that cause power outages		
Description of the Problem:	As Village Hall does not have a generator, when there is a prolonged electrical outage it is unable to continue functioning as the critical facility it is.		
Action or Project Intended for Implementation			
Description of the Solution:	Install a fixed, emergency generator at Village Hall to ensure continued service during a storm or emergency event and the installation of underground power lines.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Power Outages	Estimated Benefits (losses avoided):	Continued service at each critical facility during a storm or emergency event and the installation of underground power lines.
Useful Life:	25-30 Years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	FEMA HMGP
Responsible Organization:	Village of Plandome Heights	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Power outages would continue to disrupt emergency response capabilities
	Full size generators or portable units may be rented	\$20,000-\$40,000 depending on length of outage and size of generators.	Lead time for set up and obtaining units is required; not feasible for times of sudden power loss,
Solar panel systems and battery storage can be utilized	\$50,000-\$150,000 depending on size and number of panels	Feasibility is unclear; storage of power poses significant challenge.	

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Plandome Heights

NYS DHSES Action Worksheet			
Project Name:	Harden or Upgrade Utilities to be Disaster-Resistant		
Project Number:	VPH_4		
Risk / Vulnerability			
Hazard of Concern:	High Wind, Hurricanes, Ice Storms		
Description of the Problem:	The Village's fundamental electrical infrastructure is largely 80, or more, years old dating back to the establishment of the Village in 1929 and a large development in the 1940s. Therefore, Plandome Heights has outdated "tri wire" distribution wires which should be hardened to current delivery standard. Many of the Village's utility poles have reached their useful life and the Village also has many aging or near obsolete transformers. Plandome Heights experiences many power outages during storms and high wind conditions. Updating and hardening this aged infrastructure would help greatly in mitigating outages due to storms and other high wind events.		
Action or Project Intended for Implementation			
Description of the Solution:	Harden and/or enhance the utility lines, poles, transisters, switches and any other critical utility installments/parts in the Village.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Multi-hazard Protection	Estimated Benefits (losses avoided):	Protection of life safety.
Useful Life:	100 Years		
Estimated Cost:	To be determined		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	FEMA Grants
Responsible Organization:	PSEG	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	None
	Purchase portable generators to deploy to areas with power outages	\$50,000-\$100,000 per generator	This action wouldn't prevent direct damages from downed poles or lines
	Maintain with more durable light bases and poles	<\$50,000	This is not fiesable for a long-term solution

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Plandome Manor Annex

This document presents the Village of Plandome Manor’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Ed Butt, Superintendent Of Buildings Village of Plandome Manor 55 Manhasset Avenue Manhasset, NY 11030 inspector@plandomemanor.com 516-627-3701	Randi Malman, Village Clerk Village of Plandome Manor 55 Manhasset Avenue Manhasset, NY 11030 clerk@plandomemanor.com 516-627-3701

Profile

The Village of Plandome Manor covers approximately 0.51 square miles¹ and has a total population of 832 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Plandome Manor are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Plandome Manor Demographic Information

Demographic		Demographic	
Below 5 Years Old	7.5%	Black or African American alone	0.0%
Above 65 Years Old	17.0%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	16.1%
Persons in Poverty	1.9%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	5.1%	Two or More Races	0.8%
Without a High School Diploma	1.9%	White alone, not Hispanic or Latino, percent	79.0%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	2.04%

¹ This is inclusive of land area only.

The majority of the Village of Plandome Manor's development includes road repair and replacement. In the past five years, the Village has seen subdivisions, residential buildings, sidewalks, and jogging paths developed within the community. Further, the Village is prioritizing road reconfiguration, the addition of traffic lights and the development of Osprey Nest in the beach area.. Recent development in the 100-year floodplain includes the three lot development on Lake Road. The Village has multiple permitted lots scheduled for development. Additionally, the jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County's vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Plandome Manor. The jurisdiction identified Extreme Temperatures, Drought, Flooding, Ground Failure, Hail, Lightning, and Tornadoes as hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Plandome Manor include: **Extreme Temperatures, Drought, Flooding, Ground Failure, Hail, Lightning, and Tornadoes.**

Table 2: Village of Plandome Manor Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	Infrastructure
Extreme Temperatures	Housing, Infrastructure, Natural and Cultural Resources
Flooding	Infrastructure
Ground Failure	Community, Housing, Infrastructure
Hurricane and Tropical Storms	No Impact
Hail	Natural and Cultural Resources
Lightning	Infrastructure
Severe Winter Weather	No Impact
Tornadoes	Housing, Infrastructure, Natural Cultural Resources

Hazard	Impact Categories
Wind	No Impact

Capability Assessment

This section summarizes the capabilities that the Village of Plandome Manor has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Plandome Manor. The Village of Plandome Manor maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, floodplain management plans, post disaster recovery plan, site plan review requirements, special purpose ordinances, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Plandome Manor Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village of Plandome Manor Building Code; IBC 2020
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	Yes	FEMA Flood Plain
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	Yes	CSMP

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Planning Board Code of Plandome Manor
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	Yes	Board of Zoning Appeals Code of Plandome Manor
Stormwater Management Plan(s)	Yes	Planning
Subdivision Ordinance(s)	Yes	Planning Board Code of Plandome Manor
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Board of Zoning Appeals Code of Plandome Manor

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Plandome Manor. The Village of Plandome Manor has a high level of primary administrative and technical capabilities to support mitigation. This includes management, engineering, grant writing, administration, construction, analysis, and planning. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Plandome Manor Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Superintendent of Buildings
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Superintendent of Buildings
Engineer(s) with knowledge of land development and land management practices	Yes	Engineering consultant
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Engineering consultant, Superintendent of Buildings
Personnel trained in construction practices related to buildings/infrastructure	Yes	Superintendent of Buildings
Planner(s) with an understanding of natural hazards	Yes	Engineering consultant

Staff / Personnel Resource	Yes / No	Details
Planner(s) with knowledge of land development and land management practices	Yes	Engineering consultant
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Plandome Manor. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by levying taxes for specific purposes, capital improvements project funding, and state mitigation grant programs. Village of Plandome Manor should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Plandome Manor Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	DASNY

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Plandome Manor. Participation in the BCEGS program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Plandome Manor Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes
Public Protection Classification Program	No

Classification	Yes/No (or Status)
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Plandome Manor and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village are located along North Plandome Road, Lake Road, Gulls Cove, and Water Lane.

The Village's Superintendent of Buildings is responsible for floodplain management. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Plandome Manor is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 01/30/2020 and its last Community Assistance Visit on 08/30/2005. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance for the Village of Plandome Manor meets minimum requirements. The ordinance was last amended 01/01/2010 and can be referenced in Chapter 121 of Village of Plandome Manor Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Plandome Manor. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VPM_1	VPM_2	VPM_3	VPM_4
Project Name	North Plandome Road Culvert	Plandome Park Road Reconstruction	Village storm drain maintenance	Village tree maintenance program
Goal being met	1, 2, 3	1, 2, 3	2,3	3
Hazards to be mitigated	Flooding Ground Failure	Flooding	Flooding	Loss of property and life
Priority Ranking	High	High	High	High
Description of the Problem	The 70-Year-old culvert on North Plandome Road has deteriorated and is in danger of collapsing. The culvert measures twenty feet wide and lies under N. Plandome Road connecting Leeds Pond and Manhasset Bay	Severely damaged roads that cause flooding, can be detrimental to stormwater management and can impede the travel of emergency vehicles	Clogged drains and flooding	Dead or diseased trees on/near the roadways
Description of the Solution	The repair includes insertion of a structural sleeve to reinforce the existing damaged culvert as well as the addition of a new culvert to be facilitate the volume of water between Manhasset Bay and Leeds Pond	Mill and fill roads plus regrade and install storm drains	Increased stormwater maintenance through continual cleaning and repair	Cut and prune damaged or dangerous trees
Critical Facility	Yes	Yes	Yes	Yes
EHP Issues	DEC approved	Village approved	Village approved	Village approved
Estimated Timeline	12 Years	3 Months	Ongoing	Ongoing
Lead Agency	Town of North Hempstead	Village of Plandome Manor	Village of Plandome Manor	Village of Plandome Manor
Estimated Costs	\$2,000,000	\$800,000	\$60,000	\$10,000
Estimated Benefits	Safety of Coastal Evacuation Route and maintaining the integrity of the road and surrounding area	Will allow for drainage and safer travel for residents and emergency vehicles	Eliminate flooding of roads	Safety of property and village structures

Project Number	VPM_1	VPM_2	VPM_3	VPM_4
Potential Funding Sources	NY State Grant	Public and Private funding sources	Village Budget	Village Budget

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Plandome Manor |

NYS DHSES Action Worksheet			
Project Name:	North Plandome Road Culvert		
Project Number:	VPM_1		
Risk / Vulnerability			
Hazard of Concern:	Deterioration of Culvert on North Plandome Rd. causes flooding and ground failure in the case of a 100-Year event and flooding		
Description of the Problem:	The 70-year-old culvert on North Plandome Road has deteriorated and is in danger of collapsing. The culvert measures twenty feet wide and lies under N. Plandome Road connecting Leeds Pond and Manhasset Bay		
Action or Project Intended for Implementation			
Description of the Solution:	The repair includes insertion of a structural sleeve to reinforce the existing damaged culvert as well as the addition of a new culvert to be facilitate the volume of water between Manhasset Bay and Leeds Pond		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Protection of the integrity of roadway in a 100yr. storm event	Estimated Benefits (losses avoided):	Safety of Coastal Evacuation Route and maintaining the integrity of the road and surrounding area
Useful Life:	50 Years		
Estimated Cost:	\$2,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	4 months
Estimated Time Required for Project Implementation:	12 Years	Potential Funding Sources:	NY State Grant
Responsible Organization:	ToNH	Local Planning Mechanisms to be Used in Implementation, if any:	Consulting engineers and ToNH DPW plus Village Building Supt.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No action	\$0	The collapse of culvert leading to the collapse of a major evacuation route
	Complete reconstruction of the culvert	\$15 million	Traffic disruption of a major evacuation route
	Redesign the roadway with a bridge over the culvert	\$100 million	Traffic disruption for miles of a major evacuation route for a year
Progress Report (for plan maintenance)			
Date of Status Report:	July 2, 2020		
Report of Progress:	Project to begin on July 7, 2020		

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Plandome Manor

NYS DHSES Action Worksheet			
Project Name:	Plandome Park Road Reconstruction		
Project Number:	VPM_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding and damage to vehicles		
Description of the Problem:	Severely damaged roads that cause flooding, can be detrimental to stormwater management and can impede the travel of emergency vehicles		
Action or Project Intended for Implementation			
Description of the Solution:	Mill and fill roads plus regrade and install storm drains		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	100-Year flood event	Estimated Benefits (losses avoided):	Will allow for drainage and safer travel for residents and emergency vehicles
Useful Life:	20 Years		
Estimated Cost:	\$800,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Construction to begin by Sept. 2020
Estimated Time Required for Project Implementation:	3 months	Potential Funding Sources:	Public and private funding sources
Responsible Organization:	Village of Plandome Manor	Local Planning Mechanisms to be Used in Implementation, if any:	Village engineer and building superintendent
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	The continued deterioration of the roadway
	Village to take possession of roads and rebuild according to State standards	\$3,000,000	Roads would have to be widened to meet state standards. Private property would be taken by the village
	Close the roads to all traffic excluding emergency vehicles	\$0	Homeowners' property values would be greatly affected.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Rockville Centre Annex

This document presents the Village of Rockville Centre’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Francis X. Murray, Mayor Village of Rockville Centre 1 College Place Rockville Centre, NY 11571 fmurray@rvcny.us 516-678-9260	Kevin Reilly, Village Engineer Village of Rockville Centre 1 College Place Rockville Centre, NY 11571 kreilly@rvcny.us 516-679-9313

Profile

The Village of Rockville Centre covers approximately 3.25 square miles¹ and has a total population of 24,550 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Rockville Centre are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Rockville Centre Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.0%	Black or African American alone	6.1%
Above 65 Years Old	18.1%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	4.9%	Asian alone	2.6%
Persons in Poverty	4.4%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	30.2%	Two or More Races	2.5%
Without a High School Diploma	4.6%	White alone, not Hispanic or Latino, percent	79.4%
Without Access to Broadband Internet	13.7%	Hispanic or Latino	11.4%

¹ This is inclusive of land area only.

There is currently little to no major development trends in Rockville Centre. In the past few years, the Village saw the development of one large Avalon apartment complex near train station and a new dormitory at Molloy College. The Village Board has granted permits for a few new residences to be built in the jurisdiction. The jurisdiction maintains its zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Rockville Centre. The jurisdiction identified Flooding, Severe Winter Weather, and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Rockville Centre include: **Flooding, Severe Winter Weather, and Wind.**

Table 2: Village of Rockville Centre Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Housing
Drought	No Impact
Extreme Temperatures	Infrastructure
Flooding	Infrastructure
Ground Failure	Infrastructure
Hurricane and Tropical Storms	Community, Infrastructure, Natural and Cultural Resources
Hail	No Impact
Lightning	Infrastructure
Severe Winter Weather	Community, Economy, Infrastructure
Tornados	No Impact
Wind	Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Rockville Centre has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources,

and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Rockville Centre. The Village of Rockville Centre maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, site plan review requirements, stormwater management plans, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Rockville Centre Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village of RVC Building Department
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Village of RVC
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village RVC Building Department
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Village of RVC Department of Public Works
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Zoning Ordinance(s)	Yes	Village of RVC Building Department

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Rockville Centre. The Village of Rockville Centre's primary administrative and technical capabilities include an emergency manager, engineers, grant writers, and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Rockville Centre Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Emergency Manager, Deputy Emergency Manager
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Village Engineer
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Village Engineer
Engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer
Grant Writers	Yes	Director of Community Development
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Superintendent of Buildings, Deputy Superintendent of Buildings
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Rockville Centre. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, capital improvements project funding, and CDBG programs. Village of Rockville Centre should

consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Rockville Centre Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	TAN or RAN
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Rockville Centre. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Rockville Centre Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Rockville Centre and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village include residential streets located along Mill River.

The Village's Engineer is responsible for floodplain management. The NFIP is administered in the Village through the review of site plans and issuance of building permits. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

Substantial damage determinations are made through the building permitting process. One property in the Village of Rockville Centre was substantially damaged by recent flood events. The Village of Rockville Centre is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) was last conducted in the Village in 2019. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Some homes have been elevated in the Village of Rockville Centre to mitigate the risk of future flood damage. The Flood Damage Prevention Ordinance for the Village of Rockville Centre exceeds minimum requirements through the enforcement of additional freeboard. The ordinance was last amended 08/10/2009 and can be referenced in L.L. 2-2009 Chapter 188 of Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Rockville Centre. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Project Table #1 – 7:

Action	Stabilize the shoreline of Mill River through additional analysis of the erosion of the River's banks and develop a plan for minimizing flooding.	Install catch-basin inserts to improve the drainage at specific trouble-spots within the Village	Repair or raise Park Avenue Bridge	Investigate drainage and watershed improvements for Smith Pond to mitigate roadway and park flooding	Acquire emergency generators for Critical Facilities	Bulkhead repair. Request the State to rehabilitate Mill River stormwater basin by replacing rotted bulkheads	Rehabilitate Mill River as a stormwater basin by dredging the basin area
Risk Category	Flooding	Flooding	Flooding	Flooding	Power outages	Flooding	Flooding
Project Status	In Progress	In Progress	Not Started	In Progress	In Progress	Not Started	Not Started
Project Status Description	Final Construction Documents created and project is ready for bidding	In design process	Not started. Not feasible at this time.	Final Construction Documents created and project is ready for bidding	One trailer mounted standby generator purchased.	Not Started at this time.	Not Started at this time.
Carried Forward to 2020 Plan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Required Changes	Governor's Office of Storm Recovery / Living with The Bay. Made possible by State Grant.	Governor's Office of Storm Recovery / Living with The Bay.	Calling out the County as a potential partner.	Governor's Office of Storm Recovery / Living with The Bay. Made possible by State Grant.	This was purchased through capital funds in municipal budget.	Not provided	Not provided

Project Table #8 – 16:

Action	Reverse 911 system. Expand and maintain database of residents and contact information so we can inform them of emergency situations	Develop and publish information to be used by residents to prepare for natural catastrophic events.	Expand tree-planting program. Develop and education series so that residents better understand how to care for their mature trees, which trees to plant for the greatest safety and how to identify the warning signs of a tree in distress.	Construct a Regional Emergency Command Center to serve communities in southwestern Nassau County that have limited access to NYCOEM in an emergency situation	Add a link to the Village's website that directs users to the County's mitigation planning website	Community engagement. Conduct annual reviews and/or smaller meetings with civic groups, the public and other stakeholders.	Evacuation planning. Meet with local healthcare facilities for review and improve evacuation plans	Centralized emergency distribution system with three emergency generators.
Risk Category	Local emergencies	Local emergencies	Flooding	Local emergencies	Power outages	Local emergencies	Local emergencies	Loss of electrical power
Project Status	In Progress	In Progress	In Progress	Not Started	In Progress	Not Started	Not Started	Not Started
Project Status Description	Continue community outreach for signing up for reverse 911.	Continue to update website with information.	Continue to plant trees throughout village. Tree survey performed throughout Village.	Not feasible at this time due to costs. Soon after Sandy, this was considered a high-priority action. The activity was taken a public referendum for funding but voted down.	Continue to update website with information.	Not Started at this time.	Not Started at this time.	Not Started at this time.
Carried Forward to 2020 Plan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Required Changes	Not provided	Not provided	Continue Community Outreach.	Not provided	Not provided	Not provided	Not provided	Not provided

Proposed Mitigation Actions

Project Table #1 – 9:

Project Number	VRC_1	VRC_2	VRC_3	VRC_4	VRC_5	VRC_6	VRC_7	VRC_8	VRC_9
Project Name	Catch-Basin Installation	Centralized Emergency Distribution System	County Mitigation Planning Website Access	Drainage Improvements at Intersections	Emergency Generators for Critical Facilities	Emergency Preparation Publications	Enhanced community engagement	Healthcare facility evacuation planning	Lister Park Improvements
Goal being met	1, 2, 3	1, 2, 3	4	3	2,3	4	4	1, 2, 4	3
Hazards to be mitigated	Flooding	Loss of Power	Local Emergencies	Flooding	Power Outages	Local Emergencies	Local Emergencies	Local Emergencies	Flooding
Priority Ranking	High	High	High	High	High	High	High	High	High
Description of the Problem	Times of heavy rain creates flooding in specific trouble-spots within the Village	There is a need for three emergency generators and a centralized emergency distribution system	The Villages website is not linked to the County's mitigation planning website	Flooding at various intersections during rain events, and poor air quality.	Power Outages	Resident knowledge of how to prepare for emergencies and disasters needs to be enhanced in order to create resiliency among the whole community	There is a need for increased Community Engagement	Healthcare facilities need revised and improved evacuation plans.	Flooding, Erosion
Description of the Solution	Install catch-basin inserts to improve the drainage at specific trouble-spots	Centralized emergency distribution system with three emergency generators.	Add a link to the Village's website that directs users to the County's mitigation planning website	Install new drainage structures, and upgrade the older drainage structures, in addition to new pre-treatment structures for water quality. Along with, bio-retention areas near intersections that experience flooding and ponding during rain events	Acquire emergency generators for Critical Facilities	Develop and publish information to be used by residents to prepare for natural catastrophic events.	Community engagement. Conduct annual reviews and/or smaller meetings with civic groups, the public and other stakeholders.	Evacuation planning. Meet with local healthcare facilities for review and improve evacuation plans	Stabilize shoreline and other drainage upgrades.

Project Number	VRC_1	VRC_2	VRC_3	VRC_4	VRC_5	VRC_6	VRC_7	VRC_8	VRC_9
Critical Facility	No	Yes	No	No	Yes	No	No	Yes	No
EHP Issues	Unknown	No	No	Unknown	Unknown	No	No	No	No
Estimated Timeline	In Progress: Design in progress Target Date: 3 Years	Target Date: 2015 - 2016 Not started yet	In Progress Target Date: 2014	1 Year	In Progress: One trailer mounted standby generator purchased. Target Date: 2014 5 Years	In Progress Target Date: 2014 / 2 Years	Target Date: 2014 Not stated yet	Target Date: 2014 Not started yet	1 - 5 Years, Currently in progress
Lead Agency	Governor's Office of Storm Recovery, Living with The Bay	Catholic Health Services - Mercy Medical Center	Village of Rockville Centre	Village of Rockville Centre, Governor's Office of Storm Recovery	Village of Rockville Centre	Village of Rockville Centre	Village of Rockville Centre	Village of Rockville Centre	Governor's Office of Storm Recovery
Estimated Costs	To be determined	\$9,100,000	To be determined	\$250,000	To be determined	To be determined	To be determined	To be determined	\$3,000,000; These costs are expected to be fully reimbursed.
Estimated Benefits	Reduction in flooding in Village hotspots.	Streamlined emergency distribution system and enhanced power capabilities through generators.	Residents will have direct access to the County's Mitigation Planning Website from the Village's website.	A reduction in flooding as well as an improvement in water quality.	Power will remain operational for critical facilities during a power outage	Residents will gain a greater understanding of local emergency procedures, preparation techniques and tools, and how to respond to in emergency situations	Greater community collaboration which can increase whole community resiliency and resident interest in protecting Community infrastructure	Creates resiliency amongst healthcare facilities and positions staff members to effectively and efficiently respond in the event of an evacuation.	Widespread reduction in flood damages; ecosystem and water quality.
Potential Funding Sources	To be determined	Municipal Budget, FEMA Grant	To be determined	Grants, Municipal Budget	Capital Funds in the Municipal Budget	Municipal Budget	Municipal Budget	To be determined	Grants

Project Table #10 – 18:

Project Number	VRC_10	VRC_11	VRC_12	VRC_13	VRC_14	VRC_15	VRC_16	VRC_17	VRC_18
Project Name	Mill River Basin Rehabilitation	Mill River Dredging	Mill River Shoreline	Park Avenue Bridge	Regional Emergency Command Center Construction	Reverse 911 System	Smith Pond Investigation	Smith Pond Rehabilitation	Tree-Planting Program Expansion
Goal being met	3, 5	3, 5	1, 2, 3	3	1, 2, 3, 5	4	4, 5	3, 5	6
Hazards to be mitigated	Flooding	Flooding	Flooding	Flooding	Local Emergencies	Local Emergencies	Flooding	Flooding, Erosion	Flooding
Priority Ranking	High	High	High	High	High	High	High	High	High
Description of the Problem	Flooding	Flooding	The shoreline of Mill River needs to be stabilized to prevent flooding	Flooding of Park Avenue Bridge	Some communities have limited access to NYCOEM in an emergency situation	The database of residents needs to be expanded to better reach the whole community during emergency situations	Roadway and Park flooding due to Smith Pond	Flooding, Erosion	Tree-planting and treatment programs need to be developed to educate residents on proper land use related to planting and caring for trees
Description of the Solution	Bulkhead repair. Request the State to rehabilitate Mill River stormwater basin by replacing rotted bulkheads	Rehabilitate Mill River as a stormwater basin by dredging the basin area	Stabilize the shoreline of Mill River through additional analysis of the erosion of the River's banks and develop a plan for minimizing flooding.	Repair or raise Park Avenue Bridge	Construct a Regional Emergency Command Center to serve communities in southwestern Nassau County that have limited access to NYCOEM in an emergency situation	Reverse 911 system. Expand and maintain database of residents and contact information so we can inform them of emergency situations	Investigate drainage and watershed improvements for Smith Pond to mitigate roadway and park flooding	Multi-jurisdiction project installing a new connected system with a bulkhead, stabilize shoreline, living shoreline, and other drainage upgrades.	
Critical Facility	No	No	No	Yes	Yes	No	No	No	No
EHP Issues	Unknown	Unknown	Unknown	Unknown	No	No	Unknown	No	No
Estimated Timeline	Target Date: 2014 Progress: Not Started	Target Date: 2014 Progress: Not Started	In Progress: Final Construction Documents created and	Targeted Date: 2014 Status: Not Started	Target Date: 2014 Progress: Not Started	In Progress Target Date: 2014 / Ongoing	In Progress Target Date: 2014 / 10 Years	1 - 5 Years, Currently in progress	In Progress Target Date: 2014 / Ongoing

Project Number	VRC_10	VRC_11	VRC_12	VRC_13	VRC_14	VRC_15	VRC_16	VRC_17	VRC_18
	10 Years	10 Years	project is ready for bidding. Target Date: 10 Years		5 Years				
Lead Agency	Village of Rockville Centre	Village of Rockville Centre	Governor's Office of Storm Recovery, Living with The Bay	Calling out the County as a potential partner.	Village of Rockville Centre	Village of Rockville Centre	Governor's Office of Storm Recovery, Living with The Bay.	Governor's Office of Storm Recovery	Village of Rockville Centre
Estimated Costs	To be determined	To be determined	To be determined	To be determined	To be determined	To be determined	To be determined	\$3,000,000; These costs are expected to be fully reimbursed.	To be determined
Estimated Benefits	Restoration of the Mill River stormwater basin	Restoration of the Mill River stormwater basin	A reduction of flooding and preservation of the River's banks	Reduction in flooding of the Park Avenue Bridge	All southwestern Nassau County communities will have access to an Emergency Command Center in an emergency situation	Enhanced communication with Village residents during emergency situations, potentially preserving the loss of life and property	Reduction of park and roadway flooding	Reduction in flood damages to residential properties and village-owned infrastructure; protects coastal area throughout the watershed (beyond the boundaries of Rockville Centre)	Community outreach and nature preservation
Potential Funding Sources	NY State	Grants	State Grant	To be determined	Grants	Municipal Budget	State Grant	Grants	Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

eNassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Rockville Centre

NYS DHSES Action Worksheet

Project Name: Smith Pond Rehabilitation

Project Number: VRC_17

Risk / Vulnerability

Hazard of Concern: Flooding

Description of the Problem: Flooding, erosion

Action or Project Intended for Implementation

Description of the Solution: Multi-jurisdiction project installing a new connected system with a bulkhead, stabilize shoreline, living shoreline, and other drainage upgrades.

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	100-Year flood event	Estimated Benefits (losses avoided):	Reduction in flood damages to residential properties and village-owned infrastructure; protects coastal area throughout the watershed (beyond the boundaries of Rockville Centre)
Useful Life:	10 - 15 Years		
Estimated Cost:	Current estimate is approximately \$3M; these costs are expected to be fully reimbursed.		

Plan for Implementation

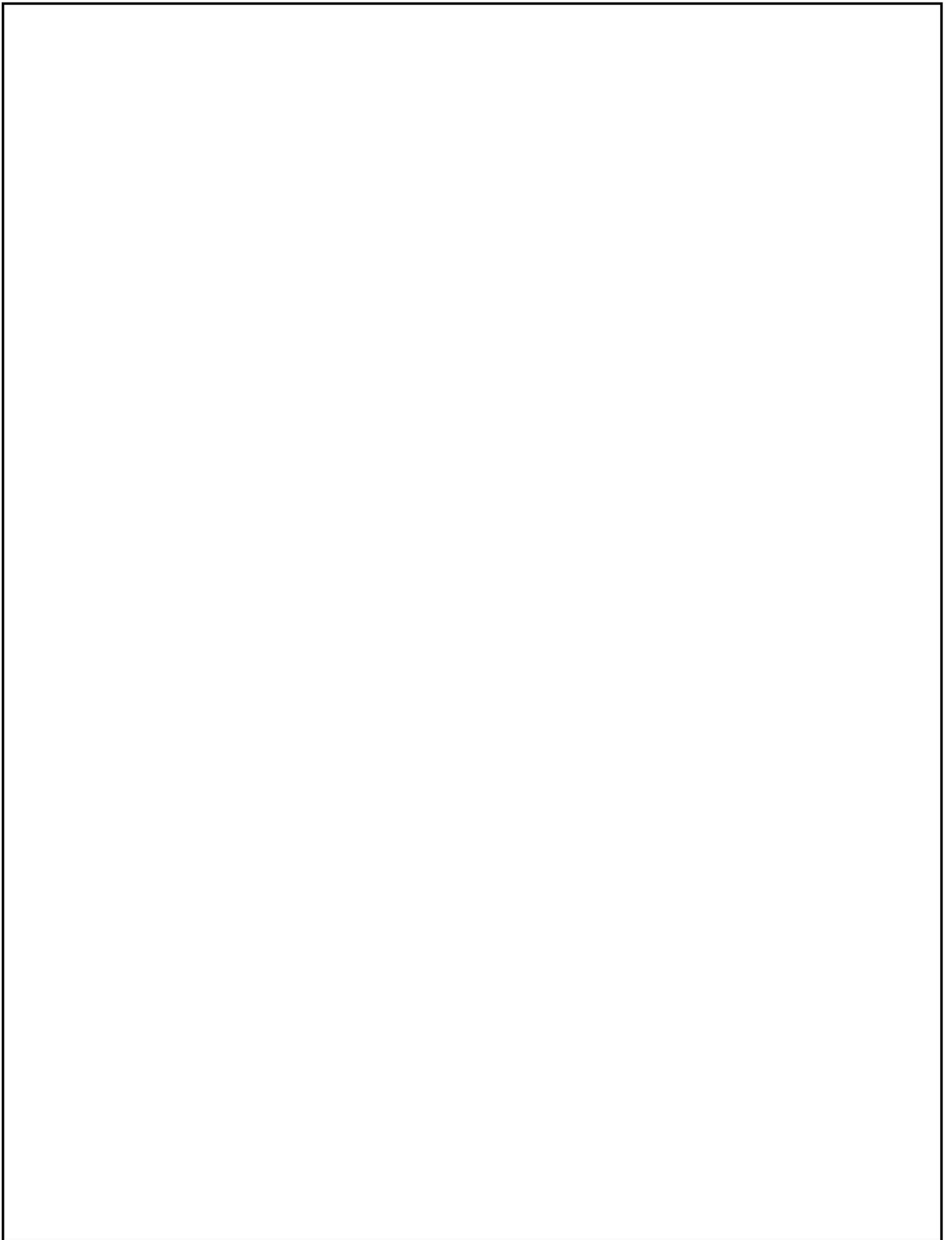
Prioritization:	High	Desired Timeframe for Implementation:	Currently in progress
Estimated Time Required for Project Implementation:	Currently in progress; 1 - 5 Years	Potential Funding Sources:	Grants
Responsible Organization:	Governor's Office of Storm Recovery	Local Planning Mechanisms to be Used in Implementation, if any:	

Three Alternatives Considered (including No Action)

Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	
	Install native grasses along the shorelines of willing homeowners	\$25,000 - \$50,000	Minimal flood risk reduction and contingent upon willing landowners
	Install just a bulkhead	\$500,000	Less sustainable and less comprehensive solution.

Progress Report (for plan maintenance)

Date of Status Report:	Design plans are finalized and contract documents to be bid during summer 2020
Report of Progress:	In progress
Update Evaluation of the Problem and/or Solution:	In progress



Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Rockville Centre

NYS DHSES Action Worksheet			
Project Name:	Lister Park Improvements		
Project Number:	VRC_9		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding, erosion		
Action or Project Intended for Implementation			
Description of the Solution:	Stabilize shoreline and other drainage upgrades.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	100-Year flood event	Estimated Benefits (losses avoided):	Widespread reduction in flood damages; ecosystem and water quality.
Useful Life:	10 - 15 Years		
Estimated Cost:	Current estimate is approximately \$3M; these costs are expected to be fully reimbursed.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Currently in progress
Estimated Time Required for Project Implementation:	Currently in progress.	Potential Funding Sources:	Grants
Responsible Organization:	Governor's Office of Storm Recovery	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Just stabilize shoreline	\$25,000 - \$50,000	Not a full comprehensive approach to minimize risk
	Remove and Replace Entire Bulkead along Mill River	\$1,000,000 +/-	Large project, very extensive, high cost
Progress Report (for plan maintenance)			
Date of Status Report:	Design plans are finalized and contract documents to be bid during summer 2020.		
Report of Progress:	In progress		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Rockville Centre

NYS DHSES Action Worksheet			
Project Name:	Drainage Improvements at Intersections		
Project Number:	VRC_4		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Flooding at various intersections during rain events, and poor air quality.		
Action or Project Intended for Implementation			
Description of the Solution:	Install new drainage structures, and upgrade the older drainage structures, in addition to new pre-treatment structures for water quality. Along with, bio-retention areas near intersections that experience flooding and ponding during rain events.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	TBD	Estimated Benefits (losses avoided):	A reduction in flooding as well as an improvement in water quality.
Useful Life:	15 - 20 Years		
Estimated Cost:	\$250,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	3 - 5 Years
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	Grants, Municipal budget
Responsible Organization:	Village of Rockville Centre, Governor's Office of Storm Recovery	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Minor repair to existing structures	\$50,000	Does not solve the entire problem of water quality improvements
	New replacement drainage structures	\$100,000	Does not solve or improve water quality
Progress Report (for plan maintenance)			
Date of Status Report:	In progress		
Report of Progress:	Plans were drawn up for specific intersections; not prioritized under the current round of funding from the Governor's Office for Storm Recovery		
Update Evaluation of the Problem and/or Solution:	In progress		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Roslyn Harbor Annex

This document presents the Village of Roslyn Harbor’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

1Primary Point of Contact	Alternate Point of Contact
Dina Kussoff, Emergency Management Coordinator Village of Roslyn Harbor 310 Motts Cove Road S. Roslyn Harbor, NY 11576 jacy@optonline.net 516-382-3201	Steve Fellman, Building Inspector Village of Roslyn Harbor 310 Motts Cove Road S. Roslyn Harbor, NY 11576 crazy2dayz@hotmail.com 631-987-3065

Profile

The Village of Roslyn Harbor covers approximately 1.19 square miles¹ and has a total population of 922 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Roslyn Harbor are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Roslyn Harbor Demographic Information

Demographic	Demographic
Below 5 Years Old	4.0%
Above 65 Years Old	23.8%
Individuals with Disabilities	Information not provided
Persons in Poverty	3.0%
Renters	8.1%
Without a High School Diploma	1.1%
Black or African American alone	0.7%
American Indian and Alaska Native alone	0.0%
Asian alone	13.1%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	1.6%
White alone, not Hispanic or Latino, percent	81.0%

¹ This is inclusive of land area only.

Demographic		Demographic	
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

Recent development and growth, specifically in the past five years, includes the re-development of single-family homes. The Village of Roslyn Harbor does not permit development in wetlands setbacks. Currently, subdivided land from former large lots and redevelopment of single-family homes on existing lots are permitted for construction. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Roslyn Harbor. The jurisdiction identified Coastal Hazards, Hurricane, Severe Winter Weather, and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Roslyn Harbor include: **Coastal Hazards, Hurricane, Severe Winter Weather, and Wind.**

Table 2: Village of Roslyn Harbor Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	Community, Health and Social Services
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	Community, Health and Social Services, Infrastructure
Severe Winter Weather	Community, Health and Social Services, Infrastructure
Tornados	Community, Health and Social Services, Infrastructure
Wind	Community, Health and Social Services, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Roslyn Harbor has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Roslyn Harbor. The Village of Roslyn Harbor maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, community development plan, comprehensive/master plan, emergency response plans, floodplain management plans, NFIP flood damage prevention ordinances, open space plans, real estate disclosure requirements, site plan review requirements, special purpose ordinances, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Roslyn Harbor Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village Code, NYS Building Codes (ICC)
Capital Improvement Plan	Yes	Capital Budget
Climate Action Plan	No	
Community Development Plan	Yes	2020 Updated Planning Study
Comprehensive Plan / Master Plan	Yes	2020 Updated Planning Study
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Emergency Management Plan
Floodplain Management Plan(s)	Yes	In conjunction with the DEC
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Village Code
Open Space Plan(s)	Yes	2020 Planning Study
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Real Estate Disclosure Requirements	Yes	All application, petitions/requests for a variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions of any ordinance, local law, rule or regulation constituting the zoning and planning regulations, are required to submit a Disclosure Affidavit pursuant to NYS General Municipal Law 809
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	Yes	
Stormwater Management Plan(s)	Yes	Yearly Stormwater Reports
Subdivision Ordinance(s)	Yes	Village Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Roslyn Harbor. The Village of Roslyn Harbor has a high-level of administrative and technical capabilities to support mitigation. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Roslyn Harbor Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Dina Kussoff, Emergency Management Coordinator (Volunteer); David Mandell, Asst. Emergency Management Coordinator (Volunteer)
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Roger Cocchi, D&B Engineers (Village Engineer) & Architects, LiRo Group (Stormwater Management)
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Roger Cocchi, D&B Engineers & Architects, LiRo Group, Engineering
Engineer(s) with knowledge of land development and land management practices	Yes	Roger Cocchi, Village Engineer (D&B Engineers & Architects)
Grant Writers	Yes	Marla Wolfson, Village Clerk/Treasurer; Jamie Cattani, Court Clerk; Abby Kurlender, Trustee

Staff / Personnel Resource	Yes / No	Details
Personnel skilled or trained in Geographic Information Systems	Yes	Village Engineer - Roger Cocchi (D&B Engineering & Architecture)
Personnel trained in construction practices related to buildings/infrastructure	Yes	Stephen Fellman, Building Inspector (Architect), Peter Albniski, Plan & Arch review, Village Engineer
Planner(s) with an understanding of natural hazards	Yes	Frederick P. Clark & Associates, Consultants; Abby Kurlender, Planner
Planner(s) with knowledge of land development and land management practices	Yes	Frederick P. Clark & Associates, Consultants; Abby Kurlender, Planner
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Roslyn Harbor. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by levying taxes for specific purposes, utilize user fees for utility services, capital improvements project funding, CDBG programs, impact fees for home buyers and/or developers, and state mitigation grant programs. Village of Roslyn Harbor should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Roslyn Harbor Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	Community Beautification/Fund, Contingency Fund
Authority to utilize user fees for utility services	Yes	Garbage District - Solid Waste Services
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	Capital Budget

Resources	Yes / No	Additional Details
Community Development Block Grants (CDBG)	Yes	Participate in Town of Oyster Bay consortium
Impact fees for home buyers and/or developers	Yes	Road Impact Fees; Site & Rec Fees Road Impact Fees; Site & Rec Fees
State mitigation grant programs	Yes	CHIPS, EWR, PAVENY

Community Classification Assessment

Table 6 lists the assessment existing community classifications for the Village of Roslyn Harbor. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Roslyn Harbor Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Roslyn Harbor and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village of Roslyn Harbor include areas along Hempstead Harbor, including certain streets with slopes that have drainage issues.

The Village's Building Inspector is responsible for floodplain management. The NFIP is administered through building permit/floodplain permit requirements, site plan review, zoning review, requirements to submit elevations, and variances. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

Substantial damage determinations are made by the Village's Building Inspector or Engineer, through site visits and visual inspection.

No properties in the jurisdiction have been substantially damaged as a result of recent flood events. The Village of Roslyn Harbor is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the Village on 08/27/1997. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village has taken a number of steps to mitigate losses from flooding, including drainage system mitigation, septic system inspection with all new or substantially improved/damaged

buildings, site reviews by the Village Engineer for drainage associated with all pool installations, and continuous update and enforcement of village codes (e.g., Stormwater Runoff Codes). The Flood Damage Prevention Ordinance for the Village of Roslyn Harbor meets minimum requirements. The ordinance was last amended 2009 and can be referenced in Article XV (section 100-70 - section 100-90).

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Roslyn Harbor. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VRH_1	VRH_2	VRH_3	VRH_4
Project Name	Ongoing Tree Assessment Plan	Flood Drainage Feasibility Project	Community Communications Update Project	Senior and Special Needs Community Care Project
Goal being met	1, 3	1, 2, 3, 5	1, 2, 3	1, 2, 4
Hazards to be mitigated	Hurricanes and tropical storms, Severe Winter Weather, Straight-line Winds	Flooding	All hazards	All hazards
Priority Ranking	High	High	High	High
Description of the Problem	Roslyn Harbor is a Village with many tall and old trees. In the past, access to the Village during emergencies due to high winds and ground saturation has been limited by fallen trees blocking roadways. Impassable roads during and immediately after storms has limited the ability of police, fire, EMS and other emergency vehicles to reach residents and significantly restricts residents from leaving the Village to obtain necessities or reach hospitals or other emergency services.	During hurricanes, heavy rains and storms, combined with high tides and storm surge, the westernmost roads of Village of Roslyn Harbor can flood, stranding residents and closes off a major ingress/ egress road (Bryant Avenue) thus limiting access to Roslyn Harbor and neighboring towns such as Glen Head, Glenwood Landing, and Sea Cliff communities. Flooding and slow drainage has caused damage to residential structures, saturated the ground, and delayed the ability of essential services such as fire, EMS, and Police to access area should they be needed during emergencies.	Although the village has made a genuine attempt to establish a list of residents and their contact numbers and email addresses, situations often change and periodic updates are required to ensure that all inhabitants receive critical information and updates regarding emergency situations in a timely manner. Current information may be outdated or incorrect. Although the village has made a genuine attempt to establish a list of residents and their contact numbers and email addresses, situations often change and periodic updates are required to ensure that all inhabitants receive critical information and updates regarding emergency situations in a timely manner. Current information may be outdated or incorrect.	Seniors citizens and people with special needs may be more vulnerable and need additional assistance during emergency situations. They may be unable to call for help when needed or unsure of what to do in emergencies. Family and friends may be out of town or unaware of an emergency in the village, leaving these residents alone and virtually helpless.
Description of the Solution	Regular assessment of trees along major access roads leading to the village and	Study of the grading, roads, and feasibility of various actions such as curbs, drainage	Contact all residents, businesses, establishments, and houses of worship in the Village and gather the latest contact	To better serve seniors, the Village officials would like to set up a registry of vulnerable

Project Number	VRH_1	VRH_2	VRH_3	VRH_4
	minor roadways that allow emergency access to residential areas to determine if trees are in danger of falling, are unhealthy, or, if limbs hanging over roads pose a hazard. Alleviating these hazards by removing or trimming such trees would prevent health and life risks to residents and avoid property and road damage and cleanup costs .In the past, impassable roads prevented emergency crews from accessing residential areas resulting in a death of one of our residents who was killed by a fallen tree.	culverts, or other means to ensure that storm surge can easily drain back into Hempstead Harbor and minimize risk to towns and villages during and after a storm.	information such as phone numbers, email addresses, names of family members, pets that may need care in emergencies, out of area emergency contacts and any pertinent information they wish to give the village regarding a special circumstance. Establish a quick means of contacting and disseminating information to residents by phone or email or multiple sources	individuals for wellness checks during emergencies
Critical Facility	Yes	Yes	No	No
EHP Issues	museums, historical structures	museum, historical site	museum, church	no
Estimated Timeline	1 Year	1 Year	6 Months	6 Months
Lead Agency	Village Government	County, Town, Village, State	Village Government	Village Government
Estimated Costs	\$200,000	\$75,000-\$100,000	\$1,000 - \$2,000	\$1,000
Estimated Benefits	Avoidance of loss of life, extensive property damage, prevention of injury, and prevention of more costly damages	Avoidance of prolonged flooding, additional property damage due to mold growth due to slow drainage, undermining of road structures, excessive ground saturation and delays of critical services to residents in Roslyn Harbor and nearby towns during emergencies	Ensure all inhabitants receive emergency information promptly to protect their health and safety.	Seniors and special needs residents would receive a phone call during emergencies, wellness checks in person if the village is unable to reach a resident or family member. The village can contact family members if in doubt about a resident's safety.
Potential Funding Sources	Village revenue, Town revenue, Grants	County, Town, Village, State, Federal grants	Village resources, Grants	Village resources, Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Roslyn Harbor, NY

NYS DHSES Action Worksheet

Project Name: Ongoing Tree Assessment Plan
 Project Number: VRH_1

Risk / Vulnerability

Hazard of Concern: Fallen trees during severe storms
 Description of the Problem: Roslyn Harbor is a Village with many tall and old trees. In the past, access to the village during emergencies due to high winds and ground saturation has been limited by fallen trees blocking roadways. Impassable roads during and immediately after storms has limited the ability of police, fire, EMS and other emergency vehicles to reach residents and significantly restricts residents from leaving the Village to obtain necessities or reach hospitals or other emergency services.

Action or Project Intended for Implementation

Description of the Solution: Regular assessment of trees along major access roads leading to the village and minor roadways that allow emergency access to residential areas to determine if trees are in danger of falling, are unhealthy, or, if limbs hanging over roads pose a hazard. Alleviating these hazards by removing or trimming such trees would prevent health and life risks to residents and avoid property and road damage and cleanup costs. In the past, impassable roads prevented emergency crews from accessing residential areas resulting in a death of one of our residents who was killed by a fallen tree.

Is this project related to a Critical Facility? Yes No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	40 mph winds or higher	Estimated Benefits (losses avoided):	Avoidance of loss of life, extensive property damage, prevention of injury, and prevention of more costly damages
Useful Life:	5 years		
Estimated Cost:	\$200,000		

Plan for Implementation

Prioritization:	High	Desired Timeframe for Implementation:	1 month
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	Village revenue, town revenue, available grants
Responsible Organization:	Village Government	Local Planning Mechanisms to be Used in Implementation, if any:	Existing village code

Three Alternatives Considered (including No Action)

Alternatives:	Action	Estimated Cost	Evaluation
	No Action		Allow trees to fall and deal with consequences after the fact
	Use volunteers to assess trees	Unlimited cost due to damaged roads, structures, persons	Cost of life, injury and property damage to homes, roadways and motorists vary with the extent of damage per incident. Lack of proficient and scheduled inspections does not adequately address the problem
	Use tree company/arborist to evaluate problems if noticed	Unlimited cost	Does not make a thorough assessment unless a structured and defined program of regular and ongoing inspection, maintenance and mitigation is in place

Progress Report (for plan maintenance)

Date of Status Report:
 Report of Progress:

Update Evaluation of
the Problem and/or
Solution:

1

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Roslyn Harbor, NY

NYS DHSES Action Worksheet

Project Name: Flood drainage feasibility project

Project Number: VRH_2

Risk / Vulnerability

Hazard of Concern: High tide and storm surge floods in the western portion of the village

Description of the Problem: During hurricanes, heavy rains and storms, combined with high tides and storm surge, the westernmost roads of Village of Roslyn Harbor can flood, stranding residents and closes off a major ingress/ egress road (Bryant Avenue) thus limiting access to Roslyn Harbor and neighboring towns such as Glen Head, Glenwood Landing, and Sea Cliff communities. Flooding and slow drainage has caused damage to residential structures, saturated the ground, and delayed the ability of essential services such as fire, EMS, and Police to access area should they be needed during emergencies.

Action or Project Intended for Implementation

Description of the Solution: Study of the grading, roads, and feasibility of various actions such as curbs, drainage culverts, or other means to ensure that storm surge can easily drain back into Hempstead Harbor and minimize risk to towns and villages during and after a storm.

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection: Storm surge, high tide

Useful Life: 20 years

Estimated Cost: \$75,000-\$100,000

Estimated Benefits (losses avoided):

Avoidance of prolonged flooding, additional property damage due to mold growth due to slow drainage, undermining of road structures, excessive ground saturation and delays of critical services to residents in Roslyn Harbor and nearby towns during emergencies

Plan for Implementation

Prioritization: High

Desired Timeframe for Implementation:

1 Year

Estimated Time Required for Project Implementation:

1 Year

Potential Funding Sources:

County, Town, Village, State, Federal grants

Responsible Organization: County, Town, Village, State

Local Planning Mechanisms to be Used in Implementation, if any:

Three Alternatives Considered (including No Action)

Alternatives:

Action

Estimated Cost

Evaluation

No Action

\$0

The situation remains the same, periodic flooding and damage to property undermining of structures, roadways and ground saturation, delay of receiving critical services, danger to stranded citizens

Raise curbs

unknown

May not alleviate problem during high tide, storm surge causing delays and damage

Use alternate roadways during flood

0

Damage to property and roads continues, creating delays in critical services when most needed (during emergencies) resulting in a risk to the health and safety of residents

Progress Report (for plan maintenance)

Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Roslyn Harbor NY

NYS DHSES Action Worksheet

Project Name: Community Communications Update Project

Project Number: VRH_3

Risk / Vulnerability

Hazard of Concern: In anticipation of upcoming emergencies, it is essential to reach out to all community members to warn them of upcoming situations such as hurricanes, high winds, epidemic outbreaks, and various other emergency circumstances.

Description of the Problem: Although the village has made a genuine attempt to establish a list of residents and their contact numbers and email addresses, situations often change and periodic updates are required to ensure that all inhabitants receive critical information and updates regarding emergency situations in a timely manner. Current information may be outdated or incorrect.

Action or Project Intended for Implementation

Description of the Solution: Contact all residents, businesses, establishments, and houses of worship in the Village and gather the latest contact information such as phone numbers, email addresses, names of family members, pets that may need care in emergencies, out of area emergency contacts and any pertinent information they wish to give the village regarding a special circumstance. Establish a quick means of contacting and disseminating information to residents by phone or email or multiple sources.

Is this project related to a Critical Facility? Yes No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection:	This would protect against multiple hazard events.	Estimated Benefits (losses avoided):	Ensure all inhabitants receive emergency information promptly to protect their health and safety.
Useful Life:	1 year		
Estimated Cost:	\$1,000-2,000		

Plan for Implementation

Prioritization:	High	Desired Timeframe for Implementation:	1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	Village resources, or available grants
Responsible Organization:	Village Government	Local Planning Mechanisms to be Used in Implementation, if any:	

Three Alternatives Considered (including No Action)

Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Use outdated information to contact residents omitting new or changed contacts
	Ask residents using current information to update by current email list	0	Possibly omitting new residents, businesses or any entity whose circumstances or contact information has changed
	Use phone blast	0	Omits anyone with new numbers, omits new residents and stakeholders

Progress Report (for plan maintenance)

Date of Status Report:

Report of Progress:

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Roslyn Harbor, NY

NYS DHSES Action Worksheet

Project Name: Seniors and Special Needs Community Members

Project Number: VRH_4

Risk / Vulnerability

Hazard of Concern: During emergencies, senior citizens and people with special needs might need additional help to ensure their safety and well being

Description of the Problem: Seniors citizens and people with special needs may be more vulnerable and need additional assistance during emergency situations. They may be unable to call for help when needed or unsure of what to do in emergencies. Family and friends may be out of town or unaware of an emergency in the village, leaving these residents alone and virtually helpless.

Action or Project Intended for Implementation

Description of the Solution: To better serve seniors, the Village officials would like to set up a registry of vulnerable individuals for wellness checks during emergencies

Is this project related to a Critical Facility?

Yes

No

(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)

Level of Protection: This would protect against multiple hazard events

Estimated Benefits (losses avoided):

Seniors and special needs residents would receive a phone call during emergencies, wellness checks in person if the village is unable to reach a resident or family member. The village can contact family members if in doubt about a resident's safety.

Useful Life: 1 year

Estimated Cost: \$1,000

Plan for Implementation

Prioritization: High

High

Desired Timeframe for Implementation:

1 year

Estimated Time Required for Project Implementation:

6 months

Potential Funding Sources:

Village resources, local grants

Responsible Organization:

Village Government

Local Planning Mechanisms to be Used in Implementation, if any:

Three Alternatives Considered (including No Action)

Alternatives:

Action

Estimated Cost

Evaluation

No Action

\$0

Seniors and special needs residents may be stranded

Rely on neighbors

0

Seniors and special needs residents may be stranded

Rely on word of mouth

0

Seniors and special needs residents may be stranded

Progress Report (for plan maintenance)

Date of Status Report:

Report of Progress:

Update Evaluation of
the Problem and/or
Solution:

1

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Russell Gardens Annex

This document presents the Village of Russell Gardens’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

1Primary Point of Contact	Alternate Point of Contact
Michael Jurcsak, Supervisor Department of Public Works 6 Tain Drive Great Neck, NY 11021 dpw@russellgardens.com 516-457-1779	Christine Blumberg, Clerk Village of Russell Gardens 6 Tain Drive Great Neck, NY 11021 clerk@russellgardens.com 516-482-8246

Profile

The Village of Russell Gardens covers approximately 0.20 square miles¹ and has a total population of 952 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Russell Gardens are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Russell Gardens Demographic Information

Demographic		Demographic	
Below 5 Years Old	8.9%	Black or African American alone	0.0%
Above 65 Years Old	18.5%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	28.6%
Persons in Poverty	2.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	18.8%	Two or More Races	0.9%
Without a High School Diploma	5.7%	White alone, not Hispanic or Latino, percent	65.8%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	4.0%

¹ This is inclusive of land area only.

The jurisdiction did not provide information regarding past and/or present development trends. However, the jurisdiction maintains zoning maps and planning teams. Understanding development trends and how they intersect with hazard-prone areas, allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Russell Gardens. The jurisdiction identified Hurricane, Severe Winter Weather, and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Russell Gardens include: **Hurricane, Severe Winter Weather, and Wind.**

Table 2: Village of Russell Gardens Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Community
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Community
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Russell Gardens has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification

and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Russell Gardens. The Village of Russel Gardens maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, and stormwater management plans. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Russell Gardens Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	2010 Nassau County Master Plan
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Russell Gardens. The Village of Russell Gardens' primary administrative and technical capabilities include an emergency manager and a construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in land use and natural hazards (specifically related to flooding).

Table 4: Village of Russell Gardens Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	DPW Supervisor
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Russell Gardens. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by levying taxes for specific purposes. Village of Russell Gardens should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Russell Gardens Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	

Resources	Yes / No	Additional Details
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	Yes	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Russell Gardens. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Russell Gardens Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Russell Gardens and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). The Village does not contain any flood-prone (100-Year flood) areas.

The Village's Building Department is responsible for floodplain management. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Russell Gardens is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 1/18/2008. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance was last amended 06/04/2009 and can be referenced in Chapter 26, Village Code, L.L. No. 1-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Russell Gardens. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Through various forms of aggressive community outreach, residents will be informed of critical steps to take to prepare for an unexpected emergency, and actions to take during and following a local emergency.
Risk Category	Extreme weather events, power outages, local emergencies
Project Status	In Progress
Project Status Description	Village currently uses E-Mail and a list serve of residents that chose to receive Village alerts. This is done with Constant Contact
Carried Forward to 2020 Plan	Yes
Required Changes	Not provided.

Proposed Mitigation Actions

Project Number	VRG_1	VRG_2	VRG_3	VRG_4
Project Name	Catch basin replacement/reconstruct	Community Outreach Emergency Information Service	Swift 911	Village Tree Preservation and Replacement
Goal being met	1	4	4	5
Hazards to be mitigated	Flooding	Emergency Communications	Power outages	Severe weather events
Priority Ranking	High	High	High	High
Description of the Problem	Catch basins can become clogged from debris and cause flooding during periods of heavy rain. In some cases, catch basins are not large enough to accommodate the quantity of rain falling during storms.	A stronger communication system needs to be developed to inform residents of critical steps do take during a local emergency	A secure and reliable broad communication system needs to be implemented. Past weather events such as hurricanes and snowstorms have resulted in the loss of electrical power, and heating during cold days while stranding residents in their homes. Additionally, some of the elder residents require health assistance and medical supplies.	Village trees line the streets within 5 feet of the sidewalks and provide a unique visual beauty that provides a full and overlapping canopy shade. This view is desirable to new and established homeowners and gives this Village its' character. Most of these trees are Sycamores, Lindens, and a mix of maple species. Past Hurricanes (i.e., Sandy 2014, Ivan 2011, Barry 2007) all have had impacts on the village trees, Sandy being the worst.

Project Number	VRG_1	VRG_2	VRG_3	VRG_4
				Major infrastructure damage tree loss due to moist soil and high winds made many trees topple and hit homes and while blocking roadways making emergency vehicle access impossible to aid Village residents.
Description of the Solution	Conduct monthly assessments of catch basins under the Clean Water Act/ Phase II to determine cleanliness and structure condition. Repair and replace catch basins as needed based on these assessments. Upgrade catch basin capacity as needed.	Create various forms of aggressive community outreach which will inform residents of critical steps to take to prepare for an unexpected emergency, and actions to take during and following a local emergency	To secure a reliable media source such as Swift 911 to advise Village residents of events that would impact their safety. This would reach every resident within the village limits via current media sources i.e. home telephone, internet e-mail, or secure a software company i.e. Swift 911.	Identify potential village tree hazards that would cause severe damage or personal injury using a systematic yearly approach with a certified arborist. Catalog each tree and tag them by number and species, and identify species tree diameter at "breast height" to gage tree's age. Develop a yearly tree care procedure to ensure proper canopy development. Assess root "flare" health/ root impingement to sidewalks and driveways.
Critical Facility	No	No	Yes	No
EHP Issues	Yes	No	No	No
Estimated Timeline	2022	Target Date: 2014 - 2015 Status: In Progress	1 full fiscal year	1 full fiscal year
Lead Agency	Incorporated Village of Russell Gardens	Incorporated Village of Russell Gardens	Incorporated Village of Russell Gardens	Incorporated Village of Russell Gardens
Estimated Costs	To be determined	To be determined	To be determined	\$35,000 per year
Estimated Benefits	Minimize flooding	Increase community awareness about disaster preparedness and response	To minimize damage to property and harm to human life	Avoidance of \$1,000,000 in tree removal costs due to Storm damage
Potential Funding Sources	Municipal Funds, FEMA Grants	FEMA Grants. Municipal Funds	Village Budget and Municipal Grants	Village Budget/ Cornell Co-operative funding sources /Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Russell Gardens

NYS DHSES Action Worksheet			
Project Name:	Swift 911		
Project Number:	VRG_3		
Risk / Vulnerability			
Hazard of Concern:	Communication to all Village residents on emergency action related to severe weather and any emergent critical situation that affects resident's safety		
Description of the Problem:	A secure and reliable broad communication system needs to be implemented. Past weather events such as hurricanes and snowstorms have resulted in the loss of electrical power, and heating during cold days while stranding residents in their homes. Additionally, some of the elder residents require health assistance and medical supplies.		
Action or Project Intended for Implementation			
Description of the Solution:	To secure a reliable media source such as Swift 911 to advise Village residents of events that would impact their safety. This would reach every resident within the village limits via current media sources i.e. home telephone, internet e-mail, or secure a software company i.e. Swift 911.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Full	Estimated Benefits (losses avoided):	To minimize damage to property and harm to human life
Useful Life:	10 Years		
Estimated Cost:	Unknown at this time		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One full fiscal year
Estimated Time Required for Project Implementation:	One full fiscal year	Potential Funding Sources:	Village budget and Municipal Grants
Responsible Organization:	Incorporated Village of Russell Gardens	Local Planning Mechanisms to be Used in Implementation, if any:	Village Mayor and Board of Trustees
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No action	\$0	
	Use a specially designated signal flag at the village hall's flag pole	\$125.00	This is Flag is only visible to those residents that pass by the Village hall entrance. We have 7 other entrances to our Village
Use posting boards	\$450.00 to create one for each of the 7 entrances	This does not reach those residents that do not walk about this village and drivers will not stop to read them	
Progress Report (for plan maintenance)			
Date of Status Report:	July 15, 2020		
Report of Progress:	Periodic discussion among Village Board is in progress		
Update Evaluation of the Problem and/or Solution:	November 2020		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Russell Gardens

NYS DHSES Action Worksheet			
Project Name:	Village Tree Preservation and Replacement		
Project Number:	VRG_4		
Risk / Vulnerability			
Hazard of Concern:	Loss of Village trees during severe weather events		
Description of the Problem:	Village trees line the streets within 5 feet of the sidewalks and provide a unique visual beauty that provides a full and overlapping canopy shade. This view is desirable to new and established homeowners and gives this Village its' character. Most of these trees are Sycamores, Lindens, and a mix of maple species. Past Hurricanes (i.e., Sandy 2014, Ivan 2011, Barry 2007) all have had impacts on the village trees, Sandy being the worst. Major infrastructure damage tree loss due to moist soil and high winds made many trees topple and hit homes and while blocking roadways making emergency vehicle access impossible to aid Village residents.		
Action or Project Intended for Implementation			
Description of the Solution:	Identify potential village tree hazards that would cause severe damage or personal injury using a systematic yearly approach with a certified arborist. Catalog each tree and tag them by number and species, and identify species tree diameter at "breast height" to gage tree's age. Develop a yearly tree care procedure to ensure proper canopy development. Assess root "flare" health/ root impingement to sidewalks and driveways.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	High	Estimated Benefits (losses avoided):	Avoidance of \$1,000,000 in tree removal costs due to Storm damage
Useful Life:	30 years		
Estimated Cost:	\$35,000.00 / year		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One fiscal year
Estimated Time Required for Project Implementation:	One Fiscal Year	Potential Funding Sources:	Village budget/ Cornell Co-operative funding sources/ Grants
Responsible Organization:	Incorporated Village of Russell Gardens	Local Planning Mechanisms to be Used in Implementation, if any:	Village Board /Public Works and contracted arborist
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Department of Public Works (DPW) to assess all Village trees not certified as an arborist	\$4,000 in fragmented shared time with other DPW duties	Not enough personnel to complete the thorough action plan related to the estimated time
	Use a tree trimming company without a certified arborist to prune all visible deadwood on Village trees	\$15,000 per year	Many trees health statuses could be missed if tree health is poor at "bucket elevations" and not reported by non Arborists
Progress Report (for plan maintenance)			
Date of Status Report:	In Progress, looking for an arborist		
Report of Progress:	Waiting on the last interview for project acceptance from an arborist		
Update Evaluation of the Problem and/or Solution:	Selected Village Board member is currently working on securing more interviews with other arborists		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Russell Gardens

NYS DHSES Action Worksheet			
Project Name:	Catch basin replacement/ reconstruct		
Project Number:	VRG_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Catch basins can become clogged from debris and cause flooding during periods of heavy rain. In some cases, catch basins are not large enough to accommodate the quantity of rain falling during storms.		
Action or Project Intended for Implementation			
Description of the Solution:	Conduct monthly assessments of catch basins under the Clean Water Act/ Phase II to determine cleanliness and structure condition. Repair and replace catch basins as needed based on these assessments. Upgrade catch basin capacity as needed.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:		Estimated Benefits (losses avoided):	Minimize flooding
Useful Life:			
Estimated Cost:			
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Beginning within one year.
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	Municipal Funds, GEMA grants
Responsible Organization:	Incorporated Village of Russell Gardens	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Upgrade all catch basins within the Village to increase flow capacity and reduce clogging issues.	Unknown.	The financial feasibility of this alternative is unclear.
	Establish Village debris-removal program.	Village Staff and Equipment Time	This alternative does not offer sustainable risk reduction and fails to address capacity issues of catch basins.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Sands Point Annex

This document presents the Village of Sands Point’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

1Primary Point of Contact	Alternate Point of Contact
Liz Gaynor, Village Clerk Village of Sands Point PO Box 188 Port Washington, NY 11050 liz@sandspoint.org 516-883-3044	Peter Forman, Deputy Mayor, Police Commissioner Village of Sands Point PO Box 188 Port Washington, NY 11050 peter@sandspoint.org 516-717-0000

Profile

The Village of Sands Point covers approximately 4.24 square miles¹ and has a total population of 2,856 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Sands Point are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Sands Point Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.9%	Black or African American alone	1.1%
Above 65 Years Old	18.2%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	9.5%
Persons in Poverty	1.8%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	7.1%	Two or More Races	0.6%
Without a High School Diploma	3.8%	White alone, not Hispanic or Latino, percent	85.4%

¹ This is inclusive of land area only.

Demographic		Demographic	
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.6%

In the past five years, the Village of Sands Point has seen minimal residential development, which is expected to increase in the future. Permits were granted for large-lot subdivision developments. The Village maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Sands Point. The jurisdiction identified Coastal Hazards, Flooding, Hurricane, and Lightning as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. Coastal Hazards, Flooding, Hurricane, and Lightning This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Sands Point include: **Coastal Hazards, Flooding, Hurricane, and Lightning.**

Table 2: Village of Sands Point Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Economy, Housing, Infrastructure, Natural and Cultural Resources
Drought	Health and Social Services, Housing, Infrastructure
Extreme Temperatures	Health and Social Services, Housing, Infrastructure
Flooding	Community, Housing, Infrastructure, Natural and Cultural Resources
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural and Cultural Resources, No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Health and Social Services
Tornados	No Impact

Hazard	Impact Categories
Wind	Housing, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Sands Point has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Sands Point. The Village of Sands Point maintains several key administrative and technical capabilities to support mitigation, including building codes, emergency response plans, open space plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Sands Point Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Village of Sands Point Code Book
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	Annual Resolution
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	Village of Sands Point Code Book
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village of Sands Point Code Book
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Annual Report
Subdivision Ordinance(s)	Yes	Village of Sands Point Code Book
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village of Sands Point Code Book

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Sands Point. The Village of Sands Point's primary administrative and technical capabilities include an emergency manager, engineers, GIS analysts, and land development planners. The Village can bolster their capabilities in this category by identifying individuals with expertise in planning and natural hazards (specifically related to flooding).

Table 4: Village of Sands Point Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Peter Forman Commissioner PWM OEM, Larry Balaban, Correne Martinez Administrator PWM OEM
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	Dvirka & Bartilucci
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	Dvirka & Bartilucci
Engineer(s) with knowledge of land development and land management practices	Yes	West Side Engineering
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Brian Gunderson and Stephen Rusnak
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	

Staff / Personnel Resource	Yes / No	Details
Planner(s) with knowledge of land development and land management practices	Yes	Stephen Rusnak
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Sands Point. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and private activity bonds, utilizing user fees for utility services, capital improvements project funding, and state mitigation grant programs. Village of Sands Point should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Sands Point Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Bonds
Ability to incur debt through private activity bonds	Yes	Bonds
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	Yes	Water
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment existing community classifications for the Village of Sands Point. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Sands Point Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No

Classification	Yes/No (or Status)
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Sands Point and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village are primarily located along the shoreline.

The Village does not currently have a designated floodplain manager. Some of the barriers to running a successful NFIP program in the Village include access to up to date information and funding. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Sands Point is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the village on 09/27/2018. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance was last amended 07/28/2009 and can be referenced in Chapter 94, Flood Damage Prevention, adopted 7-28-2009 by LL No. 3-2009.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Sands Point. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VSP_1	VSP_2	VSP_3
Project Name	Hoffstot Lane	Sands Point Bulkhead Replacement Project	Critical Slope Reinforcement Initiative
Goal being met	Flooding	Coastal Hazards, Flooding	Coastal Hazards, Flooding
Hazards to be mitigated	1	1	1
Priority Ranking	High	High	High
Description of the Problem	The road floods due to storm-related tidal flooding in conjunction with rising water levels of adjacent marshlands and from the beach. This road is a single egress point from homes in the area and when flooded or washed out, landlocks residents of this Peninsula and traps them.	Significant shoreline erosion and risk to Village infrastructure from Long Island Sound due to wave and water action from storms in boats. Also, risk to local ecosystems from the same erosion and loss of land into Long Island sound.	The Incorporated Village of Sands Point has been struggling with slope failures on the east side of its property overlooking Hempstead Harbor. This slope is on Village property and it protects the Village’s competition size outdoor pool and a Village building. A large part of the slope has dropped 10 feet in less than two years and has put Village infrastructure at higher risk to coastal hazards and flooding.
Description of the Solution	Raise the roadway to address effects from a “25-Year” Storm. During storm events, this would prevent a washout of the road and landlocked residents. Instead, the water would go under the road to allow residents and emergency vehicles to have continuous access to homes.	Remove the old bulkhead and install a new bulkhead to prevent further erosion, in addition to reinforcing the shoreline bulkhead	Reinforce the slope through phase 3 of the Slope Reinforcement Initiative. Phase one and two consisted of installing underdrains and backfilling the failed slope with 900 cubic yards of a lightweight material. Phase three consists of repairing the worst section of the slope that has dropped ten feet in less than two years. Reinforcement of this section requires over 1500 cubic yards of material in an area that is not easily accessed with standard trucking.
Critical Facility	No	No	No
EHP Issues	Yes	Yes	Yes

Project Number	VSP_1	VSP_2	VSP_3
Estimated Timeline	4 Years	2 Years	2 Years
Lead Agency	VSP	VSP	VSP
Estimated Costs	\$1,000,000	\$500,000	\$500,000
Estimated Benefits	This would increase resident safety, including increased access to homes by emergency services and providing egress to homeowners.	This would further prevent shoreline erosion which would result in a decrease in loss of useable land. In addition, it would protect facilities from being damaged due to additional erosion and corresponding bank instability.	Avoid deterioration, regain protection of Village infrastructure, and life safety.
Potential Funding Sources	FEMA and Bonding	FEMA Mitigation and Bonding	VSP/Grant

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Sands Point

NYS DHSES Action Worksheet			
Project Name:	Hoffstot Lane		
Project Number:	VSP_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	The road floods due to storm-related tidal flooding in conjunction with rising water levels of adjacent marshlands and from the beach. This road is a single egress point from homes in the area and when flooded or washed out, landlocks residents of this Peninsula and traps them.		
Action or Project Intended for Implementation			
Description of the Solution:	Raise the roadway to address effects from a "25-Year" Storm. During storm events, this would prevent a washout of the road and landlocked residents. Instead, the water would go under the road to allow residents and emergency vehicles to have continuous access to homes.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	25-Year Hurricane	Estimated Benefits (losses avoided):	This would increase resident safety, including increased access to homes by emergency services and providing egress to homeowners.
Useful Life:	30 Years		
Estimated Cost:	1 Million		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	4 years
Estimated Time Required for Project Implementation:	4 years	Potential Funding Sources:	FEMA and Bonding
Responsible Organization:	Inc. Village of Sands Point	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	The Village could spend \$100 Million on buying houses from homeowners.	\$100 million	This alternative is extremely unlikely to take place given the cost – not financially feasible.
	The Village could make the necessary repairs as needed (which would require purchasing boats and high-water vehicles to patrol the area during flooding).	1 million	To make the necessary repairs as well as large purchases would have to be done with the annual budget which more than likely would put the village over the tax cap.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Sands Point ("Village")

NYS DHSES Action Worksheet			
Project Name:	Sands Point Bulkhead Replacement Project		
Project Number:	VSP_2		
Risk / Vulnerability			
Hazard of Concern:	Years of deterioration of the bulkhead		
Description of the Problem:	Significant shoreline erosion and risk to Village infrastructure from Long Island Sound due to wave and water action from storms in boats. Also, risk to local ecosystems from the same erosion and loss of land into Long Island Sound.		
Action or Project Intended for Implementation			
Description of the Solution:	Remove the old bulkhead and install a new bulkhead to prevent further erosion.		
Is this project related to a Critical Facility?	Yes	<input type="checkbox"/>	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	25-Year Hurricane	Estimated Benefits (losses avoided):	This would further prevent shoreline erosion which would result in a decrease in loss of useable land. In addition, it would protect facilities from being damaged due to additional erosion and corresponding bank instability.
Useful Life:	50 Years		
Estimated Cost:	\$500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2 Years
Estimated Time Required for Project Implementation:	2 Years	Potential Funding Sources:	FEMA Mitigation and Bonding
Responsible Organization:	Inc. Village of Sands Point	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Move the Village's facilities	\$2,500,000	It would be very costly to move the buildings and pool
Annually repair as needed	\$500,000	Annual repairs would be very costly to the annual budget	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			

Update Evaluation of
the Problem and/or
Solution:

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: **Village of Sands Point**

NYS DHSES Action Worksheet			
Project Name:	Critical Slope Reinforcement Initiative		
Project Number:	VSP_3		
Risk / Vulnerability			
Hazard of Concern:	Coastal Hazards, Flooding		
Description of the Problem:	The Incorporated Village of Sands Point has been struggling with slope failures on the east side of its property overlooking Hempstead Harbor. This slope is on Village property and it protects the Village's competition size outdoor pool and a Village building. A large part of the slope has dropped 10 feet in less than two years and has put Village infrastructure at higher risk to coastal hazards and flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	Reinforce the slope through phase 3 of the Slope Reinforcement Initiative. Phase one and two consisted of installing underdrains and backfilling the failed slope with 900 cubic yards of a lightweight material. Phase three consists of repairing the worst section of the slope that has dropped ten feet in less than two years. Reinforcement of this section requires over 1500 cubic yards of material in an area that is not easily accessed with standard trucking.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Prevents increase in flood and coastal hazard risk over time.	Estimated Benefits (losses avoided):	Avoid deterioration, regain protection of Village infrastructure, and life safety.
Useful Life:	~30 years		
Estimated Cost:	\$500,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	Two Years	Potential Funding Sources:	VSP/Grant
Responsible Organization:	Village of Sands Point	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Relocate Village Competition Pool and Building.	Substantially greater than \$500,000	Cost prohibitive; Village would prefer to maintain existing facilities.
Conduct a detailed slope stability study.	TBD	The Village has a strong understanding of what needs to be done to stabilize the slope and prevent additional droppage.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	— <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Sea Cliff Annex

This document presents the Village of Sea Cliff’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

1Primary Point of Contact	Alternate Point of Contact
Bruce Kennedy, Admin Village of Sea Cliff 300 Sea Cliff Avenue PO Box 340 Sea Cliff, NY 11579 bkennedy@seacliff-ny.gov 516-671-0080	Shane Dommin, Building Inspector at Village of Sea Cliff Village of Sea Cliff 300 Sea Cliff Avenue PO Box 340 Sea Cliff, NY 11579 516-671-0080

Profile

The Village of Sea Cliff covers approximately 1.11 square miles¹ and has a total population of 5,020 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Sea Cliff are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Sea Cliff Demographic Information

Demographic	Demographic
Below 5 Years Old	3.9%
Above 65 Years Old	19.4%
Individuals with Disabilities	4.8%
Persons in Poverty	7.2%
Renters	28.4%
Without a High School Diploma	3.3%
Without Access to Broadband Internet	9.7%
Black or African American alone	1.4%
American Indian and Alaska Native alone	0.0%
Asian alone	0.4%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	1.9%
White alone, not Hispanic or Latino, percent	93.3%
Hispanic or Latino	9.1%

¹ This is inclusive of land area only.

With limited space for growth and development, the Village mainly sees renovation and redevelopment projects. Additionally, in the last five years, the Village oversaw the implementation of sewers. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Sea Cliff. The jurisdiction identified Coastal Hazards, Drought, Extreme Temperature, Flooding, Ground Failure, Hurricane and Tropical Storms, Hail, Severe Winter Weather, and Tornados as the natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Sea Cliff include: **Hurricane**.

Table 2: Village of Sea Cliff Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Housing
Drought	Housing, No Impact
Extreme Temperatures	Health and Social Services
Flooding	Community, Housing, Infrastructure
Ground Failure	Housing, Infrastructure
Hurricane and Tropical Storms	Community, Infrastructure
Hail	Community, Housing, Infrastructure
Lightning	No Impact
Severe Winter Weather	Economy, Housing, Infrastructure
Tornados	Community, Economy, Health and Social Services, Housing, Infrastructure, Natural Cultural Resources
Wind	No Impact

Capability Assessment

This section summarizes the capabilities that the Village of Sea Cliff has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Sea Cliff. The Village of Sea Cliff maintains several key administrative and technical capabilities to support mitigation, including building codes, climate action plans, community development plans, comprehensive/master plans, economic development plans, growth management plans, emergency response plans, open space plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Sea Cliff Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	No	
Climate Action Plan	Yes	
Community Development Plan	Yes	
Comprehensive Plan / Master Plan	Yes	
Economic Development Plan(s)	Yes	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	Yes	
NFIP Flood Damage Prevention Ordinance(s)	Yes	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Sea Cliff. The Village of Sea Cliff's primary administrative and technical capabilities include an emergency manager, grant writers, and construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in planning and natural hazards (specifically related to flooding).

Table 4: Village of Sea Cliff Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Bruce Kennedy, Shane Dommin
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	Yes	Erin McDonnell
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Shane Dommin, Building Department
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Sea Cliff. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Sea Cliff should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Sea Cliff Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Sea Cliff. Participation in the Climate Smart Communities program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Sea Cliff Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Sea Cliff and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). The areas of Shore Road and the Boulevard are prone to flooding.

The Village's Administrator and Building Inspector are responsible for floodplain management. The Village administers the NFIP through building permit and site plan review, and onsite inspections. Some of the barriers to running a successful NFIP program in the Village include having limited staff and resources to address all the needs. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, building inspectors perform onsite inspections to assess the level of damage to properties and determine if buildings are substantially damaged. The Village reported that one property was substantially damaged as a result of Superstorm Sandy. The Village of Sea Cliff is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit in the form of a Community Assistance Visit was conducted in the Village on 01/19/2012. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

Home modifications have been the Village's primary mitigation tool in flood-prone areas. The Flood Damage Prevention Ordinance for the Village of Sea Cliff meets minimum requirements. The ordinance was last amended 2020 and can be referenced in Chapter 68, Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Sea Cliff. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VSC_1	VSC_2
Project Name	Beach Protection/Jetty	Boardwalk/Bulkheading
Goal being met	3	3
Hazards to be mitigated	Coastal Hazards	Coastal Hazards
PriorityRanking	High	High
Description of the Problem	Rising sea levels are diminishing the beach area and causing extensive erosion	Rising sea levels are threatening the Boardwalk and the hillside beyond, threatening residences and businesses.
Description of the Solution	Install a new rock jetty that goes out into Glen Cove Creek to reduce erosion and increase sand accretion.	Install higher seawalls and raise the Boardwalk to protect the waterfront area.
Critical Facility	Yes	Yes
EHP Issues	No	No
Estimated Timeline	3 - 5 years	5 - 10 years
Lead Agency	Village of Sea Cliff	Village of Sea Cliff
Estimated Costs	\$3000000	\$10000000
Estimated Benefits	Public use of the beach and \$10,000,000 - \$20,000,000 avoided in losses	Public access to the waterfront and an estimated \$10,000,000 in avoided losses
Potential Funding Sources	Federal and State Grants	Federal and State Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Sea Cliff

NYS DHSES Action Worksheet			
Project Name:	Beach Protection/Jetty		
Project Number:	VSC_1		
Risk / Vulnerability			
Hazard of Concern:	Coastal Hazards - Sea Level Rise		
Description of the Problem:	Rising sea levels are diminishing the beach area and causing extensive erosion.		
Action or Project Intended for Implementation			
Description of the Solution:	Install a new rock jetty that goes out into Glen Cove Creek to reduce erosion and increase sand accretion.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	National Climate Assessment intermediate-high sea level rise scenario (~4' of local sea-level rise by 2100)	Estimated Benefits (losses avoided):	Public use of the beach and \$10,000,000 - \$20,000,000 avoided in losses.
Useful Life:	25 - 50 Years		
Estimated Cost:	\$3,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5-10 Years
Estimated Time Required for Project Implementation:	3-5 Years	Potential Funding Sources:	Federal / State Grants
Responsible Organization:	Village of Sea Cliff	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Conduct a feasibility study to understand the different options available for protecting the beach area and reducing erosion.	~\$25,000	There may be more cost-effective and sustainable options to consider.
Relocate the beach area to a different location in Sea Cliff.	To be determined	Sea level rise could continue to threaten the beach area even if it's relocated.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Incorporated Village of Sea Cliff

NYS DHSES Action Worksheet			
Project Name:	Boardwalk/Bulkheading		
Project Number:	VSC_2		
Risk / Vulnerability			
Hazard of Concern:	Coastal Hazards - Sea Level Rise		
Description of the Problem:	Rising sea levels are threatening the Boardwalk and the hillside beyond, threatening residences and businesses.		
Action or Project Intended for Implementation			
Description of the Solution:	Install higher seawalls and raise the Boardwalk to protect the waterfront area.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	National Climate Assessment intermediate-high sea level rise scenario (~4' of local sea-level rise by 2100)	Estimated Benefits (losses avoided):	Public access to the waterfront and an estimated \$10,000,000 in avoided losses
Useful Life:	25 - 50 Years		
Estimated Cost:	\$10,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	5-10 years
Estimated Time Required for Project Implementation:	5-10 years	Potential Funding Sources:	Federal / State Grants
Responsible Organization:	Village of Sea Cliff	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Relocate waterfront homes and businesses away from the shoreline and turn the waterfront area into a park.	To be determined	While this option would eliminate the risk of sea level rise and storm surge damaging property, it is likely the costliest option.
	Elevate waterfront properties and install green infrastructure to reduce coastal flooding.	To be determined	This option would reduce the flood risk of waterfront property without installing hard infrastructure that could change the flow of water.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of South Floral Park Annex

This document presents the Village of South Floral Park’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

1Primary Point of Contact	Alternate Point of Contact
Geoffrey N. Prime, Mayor Village of South Floral Park 383 Roquette Avenue South Floral Park, New York 11001 mayorgeoffreyprime@southfloralpark.org 516-352-8047	George Ingram, Deputy Mayor Village of South Floral Park 383 Roquette Avenue South Floral Park, New York 11001 glingram@southfloralpark.org 516-352-8047

Profile

The Village of South Floral Park covers approximately 0.10 square miles¹ and has a total population of 2,006 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of South Floral Park are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of South Floral Park Demographic Information

Demographic		Demographic	
Below 5 Years Old	6.7%	Black or African American alone	57.2%
Above 65 Years Old	10.0%	American Indian and Alaska Native alone	0.3%
Individuals with Disabilities	Information not provided	Asian alone	10.5%
Persons in Poverty	1.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	17.2%	Two or More Races	4.5%
Without a High School Diploma	7.1%	White alone, not Hispanic or Latino, percent	7.7%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	8.8%

¹ This is inclusive of land area only.

South Floral Park has mainly seen residential growth and development, with five new homes built in subdivisions within the past five years. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of South Floral Park. The jurisdiction identified Hurricane, and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of South Floral Park include: **Hurricane, and Wind.**

Table 2: Village of South Floral Park Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Community
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of South Floral Park has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the

identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of South Floral Park. The Village of South Floral Park maintains building tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of South Floral Park Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Building code is online line with ecode.com
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of South Floral Park. The Village of South Floral Park's primary administrative and technical capabilities include an emergency manager and engineers. The Village can bolster their capabilities in this category by identifying individuals with expertise in planning and natural hazards (specifically related to flooding).

Table 4: Village of South Floral Park Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Jennifer Bellamy
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	Yes	Carmen-Dunne engineering firm
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of South Floral Park. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds and CDBG programs. Village of South Floral Park should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of South Floral Park Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	The Village of SFP just paid-off a bond to purchase a fire truck
Ability to incur debt through private activity bonds	No	
Ability to incur debt through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	SFP is a member of the CD Consortium and this year we are receiving \$30k in grant funding for residential home improvements for families on fixed income
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of South Floral Park. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of South Floral Park Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of South Floral Park and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). The area at the bottom of the hill along Chelsea Street is prone to flooding and has been flooded at least once in the last three years.

The Village does not currently have a designated floodplain manager. The Village of South Floral Park does not have a NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made by obtaining three written quotes from qualified and licensed contractors to estimate the damage.

The Village reported that no properties were substantially damaged as a result of recent flood events. The Village of South Floral Park is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village clears storm drains to reduce the risk of flooding. The Village has 44 storm drains that require this cleaning but the Village does not currently have the budget to maintain all of the drains. The costs are approximately \$500 to \$1200 per drain. The Flood Damage Prevention Ordinance was last amended 01/04/2006.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of South Floral Park. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VSFP_1	VSFP_2	VSFP_3	VSFP_4
Project Name	Comprehensive Preparedness/Disaster Plan	Develop a Disaster Communications Plan	Establish Village Snow Removal Procedures	Develop Tree Removal and Maintenance Program
Goal being met	4, 5	4, 5	4, 5	3, 4,5
Hazards to be mitigated	All hazards	All hazards	Snow	High wind, storms
Priority Ranking	High	High	Medium	High
Description of the Problem	The village does not have an updated Disaster Recovery Plan. It was last updated in 1992.	The Village's population is approximately 1,800 and although the Village has a robo-call system and a social media page, current communication systems do not reach all residents. There is not a current plan for the Village to handle response to pandemics.	Heavy snow on the ground in the Village can prevent the residents getting their cars out of the Village to go to work. The roads are not heavily traveled and the residents rely on the Village staff to clear the roads quickly and adequately to ensure the roads are safe for the residents and emergency vehicles.	The Village does not have the proper resources or tools to adequately assess and remove large and hazardous trees from Village roads. In the past, the Village had problems removing large trees from the roads and had to rely on residents to assist. The Village has approximately three miles of roads consisting of four streets by seven avenues.
Description of the Solution	Create a robust disaster plan. Possibly hire a consultant to create the plan for execution.	<ol style="list-style-type: none"> 1. Evaluate existing policies, procedures, and resources available for disaster-related communications. 2. Develop a comprehensive disaster communications plan (including both natural hazard events and pandemics) to allow for the effective communication of plans, protocols, etc., in a timely manner. 3. Conduct an outreach campaign during "blue skies" to update Village Contact List and increase the reach of Village social media accounts to allow for more efficient emergency communications when needed, and provide resources about mitigation measures that residents and businesses can take now to reduce or eliminate impact from natural hazards and pandemics, 	Create a detailed call tree of Department of Public Works workers and contingency staff that are available "on-call" to support snow removal to allow for more efficient and thorough snow removal following major snow events. Provide training to designated staff to train them on use of snow equipment and best practices related to snow removal.	This program would include establishing a baseline inventory of all Village Trees and existing equipment and outstanding equipment needs. This would include a preliminary set of recommended trimming and removal actions. It would also include the development of a set of written procedures for what to do when a tree falls on or adjacent to publicly-maintained roads and establish a standing on-call relationship with a tree removal contractor if deemed necessary.
Critical Facility	Yes	No	No	No

Project Number	VSFP_1	VSFP_2	VSFP_3	VSFP_4
EHP Issues	No	No	No	Yes
Estimated Timeline	1 Year	1 Year	1 Year	1 Year
Lead Agency	Village Office of Emergency Management	Village Office of Emergency Management	Department of Public Works	Department of Public Works
Estimated Costs	80 -120 hours for a Village staff member or cost for a consultant.	To be determined	To be determined	\$2,000 a year
Estimated Benefits	Loss of life, damages to roads, residential property	Increased reach and timeliness of emergency communications; greater life safety and efficiency in the use of Village Staff resources.	Increased availability and safety of roads for emergency and residential vehicles.	Safe roads for emergency and residential vehicles.
Potential Funding Sources	Grant and Village funding	Grant funding	Village funding	HMGP or other Planning Grants

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of South Floral Park

NYS DHSES Action Worksheet			
Project Name:	Develop Tree Removal and Maintenance Program		
Project Number:	VSFP_4		
Risk / Vulnerability			
Hazard of Concern:	Roads blocked to emergency vehicles and residential vehicles when they fall due to high winds.		
Description of the Problem:	The Village does not have the proper resources or tools to adequately remove large trees from Village roads. In the past, the Village had problems removing large trees from the roads and had to rely on residents to assist. The Village has approximately three miles of roads consisting of four streets by seven avenues.		
Action or Project Intended for Implementation			
Description of the Solution:	This program would include establishing a baseline inventory of all Village Trees and existing equipment and outstanding equipment needs. This would include a preliminary set of recommended trimming and removal actions. It would also include the development of a set of written procedures for what to do when a tree falls on or adjacent to publicly-maintained roads and establish a standing on-call relationship with a tree removal contractor if deemed necessary.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Tropical storms, hurricanes, and windstorms	Estimated Benefits (losses avoided):	Safe roads for emergency and residential vehicles.
Useful Life:	Ongoing		
Estimated Cost:	\$2000.00 Per Year		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	Within one year	Potential Funding Sources:	HMGP or other Planning Grants
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	unknown
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Remove all trees	\$10,000	Very costly and would make the residents very unhappy
	Close roads were the trees are vulnerable	\$500.00	Roads would not be passable for residential vehicles or emergency vehicles. This would cause a dangerous situation for the community.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of South Floral Park

NYS DHSES Action Worksheet			
Project Name:	Comprehensive Preparedness/Disaster Plan		
Project Number:	VSFP_1		
Risk / Vulnerability			
Hazard of Concern:	All natural disasters are of concern to the Village. Specific hazards of concern are snow, hurricanes, and pandemics.		
Description of the Problem:	The village does not have an updated Disaster Recovery Plan. It was last updated in 1992.		
Action or Project Intended for Implementation			
Description of the Solution:	Create a robust disaster plan. Possibly hiring a consultant to create the plan for execution. 1. Notification to residents 2. Cleared roads 3. Contingency worksite 4. Place to hold policies, procedures and protocols. 5. Ability for workers to get to work, especially Department of Public Works. Currently, none of the employees live in the Village		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	10 years	Estimated Benefits (losses avoided):	Loss of life, damages to roads, residential property
Useful Life:	Every ten years		
Estimated Cost:	80-120 hours for a Village staff member or \$ for a consultant.		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Next six months
Estimated Time Required for Project Implementation:	One to two years	Potential Funding Sources:	Grants or village resources
Responsible Organization:	Village or consultant	Local Planning Mechanisms to be Used in Implementation, if any:	Access to disaster plans of villages with similar geographic composition.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Call the County or a neighboring Village for Assistance	The expense would be a 2-week human resource expense.	A county or neighboring community's plan would still have to be modified
	Put together a Community Task Force of Volunteers	None. It would be volunteers.	Put the responsibility back on the residents. It would be difficult to recruit volunteers and manage the volunteers.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of South Floral Park

NYS DHSES Action Worksheet			
Project Name:	Develop a Disaster Communications Plan		
Project Number:	VSFP_2		
Risk / Vulnerability			
Hazard of Concern:	All hazards		
Description of the Problem:	The Village's population is approximately 1,800 and although the Village has a robo-call system and a social media page, current communication systems do not reach all residents. There is not a current plan for the Village to handle response to pandemics.		
Action or Project Intended for Implementation			
Description of the Solution:	1. Evaluate existing policies, procedures, and resources available for disaster-related communications. 2. Develop a comprehensive disaster communications plan (including both natural hazard events and pandemics) to allow for the effective communication of plans, protocols, etc., in a timely manner. 3. Conduct an outreach campaign during "blue skies" to update Village Contact List and increase the reach of Village social media accounts to allow for more efficient emergency communications when needed, and provide resources about mitigation measures that residents and businesses can take now to reduce or eliminate impact from natural hazards and pandemics.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	N/A (Outreach)	Estimated Benefits (losses avoided):	Increased reach and timeliness of emergency communications; greater life safety and efficiency in the use of Village Staff resources.
Useful Life:	5-10 years		
Estimated Cost:	TBD		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	ASAP
Estimated Time Required for Project Implementation:	One Year	Potential Funding Sources:	Grant Funding
Responsible Organization:	Village of South Floral Park	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Conduct outreach plan to update contact list as stand-alone action.	Staff Time	This would improve our contact information for residents but wouldn't address concerns about communication protocols or processes.
	Hire an external communications firm to provide emergency communication support.	Unknown	Village's preference is to increase capacity and local communication abilities.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	— <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Stewart Manor Annex

This document presents the Village of Stewart Manor’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Mike Onorato, Mayor Village of Stewart Manor 120 Covert Avenue Stewart Manor, NY 11530 monorato@stewartmanor.org 516-354-1800	Rosemarie A. Biehayn, Village Administrator Village of Stewart Manor 120 Covert Avenue Stewart Manor, NY 11530 rbiehayn@stewartmanor.org 516-354-1800

Profile

The Village of Stewart Manor covers approximately 0.20 square miles¹ and has a total population of 2,125 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Stewart Manor are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Stewart Manor Demographic Information

Demographic		Demographic	
Below 5 Years Old	7.3%	Black or African American alone	2.2%
Above 65 Years Old	18.7%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	2.9%
Persons in Poverty	1.5%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	6.6%	Two or More Races	1.4%
Without a High School Diploma	3.0%	White alone, not Hispanic or Latino, percent	77.3%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	3.6%

¹ This is inclusive of land area only.

Currently, growth and development are stagnate. As the Village is completely developed with no vacant land, the Village has overseen its own improvement projects: repaving downtown, repaving a parking lot, reconstructing a Village-owned garden parcel, and rehabilitating the Village's small pool. In the future, the Village expects redevelopment of a gas station/mechanics shop property. The Village maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Stewart Manor. The jurisdiction identified Lightning, Severe Winter Weather, and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Stewart Manor include: **Lightning, Severe Winter Weather, and Wind.**

Table 2: Village of Stewart Manor Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	Infrastructure
Severe Winter Weather	Community, Economy, Health and Social Services, Infrastructure
Tornados	No Impact
Wind	Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Stewart Manor has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Stewart Manor. The Village of Stewart Manor maintains several key administrative and technical capabilities to support mitigation, including building codes, NFIP flood damage prevention ordinances, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Stewart Manor Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	NYS Code and Village Code - last updated 11-4-2019
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	Village Code Chapter 90 - 11-5-2007
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Village Code - updated through 11-4-2019

Regulatory Tool	Yes / No	Citation (if applicable)
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Village Code Chapter 158 11-4-2007
Subdivision Ordinance(s)	Yes	Village Code - various references in code updated through 11-4-2019
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Village Code - last updated 11-4-2019

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Stewart Manor. The Village of Stewart Manor's administrative and technical capability is inclusive of construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in technical skills and planning.

Table 4: Village of Stewart Manor Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Stewart Manor. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds and CDBG programs. Village of Stewart Manor should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Stewart Manor Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Stewart Manor. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Stewart Manor Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Stewart Manor and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). In the past 5 years, no significant areas of flooding have been observed.

Flooding that does occur typically happens as street flooding in a very severe rain event, where the water recedes within an hour of the rain stopping.

The Village's Building Inspector is responsible for floodplain management. The Village administers the NFIP through education and outreach. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Stewart Manor is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance for the Village of Stewart Manor meets minimum requirements. The ordinance was last amended 11/05/2007 and can be referenced in Chapter 90 of the Municipal Code of the Village of Stewart Manor.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Stewart Manor. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	More aggressive tree trimming, evaluation of all village trees, tree inventory
Risk Category	Damage from tree branches during storms and high wind events
Project Status	In Progress
Project Status Description	Ongoing; continuing aggressive tree-trimming.
Carried Forward to 2020 Plan	Yes
Required Changes	Not at this time.

Proposed Mitigation Actions

Project Number	VSM_1	VSM_2	VSM_3
Project Name	COOP - Continuance of Operation Plan	Hazard Risk Awareness Outreach and Education	Preventative Tree Maintenance Program
Goal being met	2, 4	4	3, 5
Hazards to be mitigated	All-natural hazards	Hurricanes, nor'easters, tropical storms, high winds and other hazards that cause power outages	Straight-line wind, hurricanes
Priority Ranking	High	High	High
Description of the Problem	The impacts of severe natural hazards may cause the Village Hall at 120 Covert Avenue, Stewart Manor, NY to close. This limits the Village's ability to provide services to residents. This was the case for the COVID-19 pandemic crisis, where continuity of operations procedures were required to be developed concurrently to the disaster response.	The Village of Stewart Manor experiences tropical storms, nor'easters, high winds and other hazards that threaten residential structures, some of which occur every year (e.g., wind). The Village sees that its residents and business owners could benefit from better understanding of hazard-resistance building materials and non-structural retrofits that could be completed.	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Recently, during Tropical Storm Isaias, the Village lost two major trees that blocked roadways and destroyed sidewalks. This is in addition to the many smaller trees that fell, larger trees that were damaged, then requiring removal, and large branches that fall and create a hazard. This is despite very aggressively pruning and removing trees in the Village. The amount spent on said work has been well in excess of \$50,000 the past three years and this year is on pace for \$70,000. This does not include the work to repair sidewalks or the amount spent by residents for damages. The amount may not seem like much, but it is in excess of 2% of the entire Village budget.
Description of the Solution	Develop a COOP Plan for the Village in order to plan for continuance of governance given various disaster scenarios. Implement pieces of the plan which can be, for example, setting up remote access for all Village Hall staff to work from home.	The Village will build an outreach and education program to raise awareness amongst residents and business-owners about disaster-resilience construction practices and non-structural retrofits.	Through a well-funded preventative program for trees, the Village could mitigate future problems and hazards. The Village will therefore plan for and develop a tree maintenance program that includes hiring an arborist, monitoring trees on a regular basis and formulating mitigation measures to limit future damage caused by high wind that brings down limbs and trees.
Critical Facility	No	No	No
EHP Issues	No	Unkown	No
Estimated Timeline	6 Months – 1 Year	36 Months	1 Year
Lead Agency	Village IT Department	Village of Stewart Manor	Village of Stewart Mannor

Project Number	VSM_1	VSM_2	VSM_3
Estimated Costs	\$1,500	\$20,000 - \$30,000	\$20,000 - \$30,000
Estimated Benefits	No disruption of services.	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.	Property, building, infrastructure, and vehicle damage, as well as life safety.
Potential Funding Sources	Municipal Budget	HMGP + Village Staff and/or Volunteer Time	Municipal budget, HMA Grants, NYS Grant

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Stewart Manor

NYS DHSES Action Worksheet			
Project Name:	COOP - Continuity of Operations Plan.		
Project Number:	VSM_1		
Risk / Vulnerability			
Hazard of Concern:	All hazards.		
Description of the Problem:	The impacts of severe natural hazards may cause the Village Hall at 120 Covert Avenue, Stewart Manor, NY to close. This limits the Village's ability to provide services to residents. This was the case for the COVID-19 pandemic crisis, where continuity of operations procedures were required to be developed concurrently to the disaster response.		
Action or Project Intended for Implementation			
Description of the Solution:	Develop a COOP Plan for the Village in order to plan for continuance of governance given various disaster scenarios. Implement pieces of the plan which can be, for example, setting up remote access for all Village Hall staff to work from home.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Protective against more extreme events.	Estimated Benefits (losses avoided):	Continuity of provision of services.
Useful Life:	Indefinite		
Estimated Cost:	\$1500		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Ongoing
Estimated Time Required for Project Implementation:	Previously started; Six-months to a year	Potential Funding Sources:	Municipal Budget
Responsible Organization:	Village IT Department	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Limited ability to provide services; high level of effort to maintain continuity of operations.
	Provide Village services through the Village Kiosk	Low	Limited ability to provide services and ability to interact with residents.
Put information on website	Low	Limited provision of services and ability to interact with residents. Requires internet access and electricity.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Stewart Manor

NYS DHSES Action Worksheet			
Project Name:	Hazard Risk Awareness Outreach and Education		
Project Number:	VSM_2		
Risk / Vulnerability			
Hazard of Concern:	Hurricanes, nor'easters, tropical storms, high winds and other hazards that cause power outages		
Description of the Problem:	The Village of Stewart Manor experiences tropical storms, nor'easters, high winds and other hazards that threaten residential structures, some of which occur every year (e.g., wind). The Village sees that its residents and business owners could benefit from better understanding of hazard-resistance building materials and non-structural retrofits that could be completed.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will build an outreach and education program to raise awareness amongst residents and business-owners about disaster-resilience construction practices and non-structural retrofits.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
<small>(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)</small>			
Level of Protection:	Medium	Estimated Benefits (losses avoided):	Reduction in hazard damages resulting from individual-level mitigation activities and resilient building practices.
Useful Life:	Indefinite		
Estimated Cost:	\$20,000 - \$30,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	36 Months	Potential Funding Sources:	HMGP + Village Staff and/or Volunteer Time
Responsible Organization:	Village of Stewart Manor	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Limited community preparedness.
	Provide information via the Village Kiosk.	Low	Difficult to ensure information is comprehensive.
	Provide physical go bags with preparedness items, guidance and emergency contact information.	High	Cost prohibitive.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Stewart Manor

NYS DHSES Action Worksheet			
Project Name:	Preventative Tree Maintenance Program		
Project Number:	VSM_3		
Risk / Vulnerability			
Hazard of Concern:	Straight-line wind, hurricane		
Description of the Problem:	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Recently, during Tropical Storm Isaias, the Village lost two major trees that blocked roadways and destroyed sidewalks. This is in addition to the many smaller trees that fell, larger trees that were damaged, then requiring removal, and large branches that fall and create a hazard. This is despite very aggressively pruning and removing trees in the Village. The amount spent on said work has been well in excess of \$50,000 the past three years and this year is on pace for \$70,000. This does not include the work to repair sidewalks or the amount spent by residents for damages. The amount may not seem like much, but it is in excess of 2% of the entire Village budget.		
Action or Project Intended for Implementation			
Description of the Solution:	Through a well-funded preventative program for trees, the Village could mitigate future problems and hazards. The Village will therefore plan for and develop a tree maintenance program that includes hiring an arborist, monitoring trees on a regular basis and formulating mitigation measures to limit future damage caused by high wind that brings down limbs and trees.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Protects against storm events that occur frequently (multiple times per year)	Estimated Benefits (losses avoided):	Property, building, infrastructure, and vehicle damage, as well as life safety.
Useful Life:	10 Years		
Estimated Cost:	\$20,000 - \$30,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	Municipal budget, HMA Grants, NYS Grant
Responsible Organization:	Village of Stewart Manor	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	Lack of preparedness and a continued treat for loss of property and life
	Manage trees after they fall	\$5,000	This will not reduce the threat to residents or infrastructure
	Remove sick or dangerous specimens	\$25,000	If funding impossible, do work over a three-year period.

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Upper Brookville Annex

This document presents the Village of Upper Brookville’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Tracy Lynch, Clerk & Treasurer Village of Upper Brookville 1395 Planting Fields Road Oyster Bay, NY 11771 516 624 7715 X 104	Thomas Mullen, Deputy Clerk Village of Upper Brookville 1395 Planting Fields Road Oyster Bay, NY 11771 516 624 7715 X 101

Profile

The Village of Upper Brookville covers approximately 4.30 square miles¹ and has a total population of 1,535 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Upper Brookville are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Upper Brookville Demographic Information

Demographic		Demographic	
Below 5 Years Old	2.5%	Black or African American alone	0.7%
Above 65 Years Old	21.4%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	19.0%
Persons in Poverty	3.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	7.3%	Two or More Races	2.4%
Without a High School Diploma	2.8%	White alone, not Hispanic or Latino, percent	71.5%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	1.0%

¹ This is inclusive of land area only.

There is no commercial property in the Village. The only future development would include new dwellings on vacant land. There is an active application with the Planning Board to develop a 100-acre parcel with 13 new residential lots but the Board has not granted final approval to-date. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Upper Brookville. The jurisdiction identified Flooding and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Upper Brookville include: **Flooding and Wind.**

Table 2: Village of Upper Brookville Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	Community
Extreme Temperatures	Community
Flooding	Community, Infrastructure
Ground Failure	No Impact
Hurricane and Tropical Storms	Community
Hail	No Impact
Lightning	Community
Severe Winter Weather	Community
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Upper Brookville has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources,

and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Upper Brookville. The Village of Upper Brookville maintains several key administrative and technical capabilities to support mitigation, including building codes, comprehensive/master plans, open space plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Upper Brookville Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	Yes	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	Yes	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	Yes	

Regulatory Tool	Yes / No	Citation (if applicable)
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Upper Brookville. The Village of Upper Brookville has a high-level of administrative and technical capabilities to support mitigation. Increasing training capacity and expertise of these individuals will support mitigation practice in the Village.

Table 4: Village of Upper Brookville Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Mayor Elliot Conway
Engineer(s) trained in construction practices related to buildings/infrastructure	Yes	LIRO
Engineer(s) with an understanding of natural and/or human caused hazards	Yes	LIRO
Engineer(s) with knowledge of land development and land management practices	Yes	LIRO
Grant Writers	Yes	
Personnel skilled or trained in Geographic Information Systems	Yes	LIRO
Personnel trained in construction practices related to buildings/infrastructure	Yes	LIRO and Core Group
Planner(s) with an understanding of natural hazards	Yes	Planning Board
Planner(s) with knowledge of land development and land management practices	Yes	Planning Board
Scientist(s) familiar with natural hazards	No	
Surveyors	Yes	LIRO

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Upper Brookville. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds and CDBG programs. Village of Upper Brookville should consider exploring additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Upper Brookville Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Upper Brookville. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Upper Brookville Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Upper Brookville and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village include areas along Wheatley Road, Wolver Hollow Road, and Chicken Valley Road.

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Upper Brookville is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Village mitigates future losses by clearing swales, culverts, and under road pipes. The Flood Damage Prevention Ordinance can be referenced in Chapter 156, Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Upper Brookville. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan.

Proposed Mitigation Actions

Project Number	VUB_1	VUB_2	VUB_3
Project Name	Sheltering Needs	Tree Survey	Emergency Generator Installation at Critical Facility
Goal being met	2	1	2, 3
Hazards to be mitigated	Severe Weather and Wind Events	Wind, Tropical Storms and Hurricanes, Severe Weather.	All hazards that cause power outages
Priority Ranking	High	High	High
Description of the Problem	When severe weather strikes, residents could be without power for extended periods of time. Without power, residents may not have the following sheltering needs i.e.. electricity, heat, air conditioning, phone, cooking facilities, food storage, hot water, sanitary systems, sleeping equipment, electric car and phone charging ability.	Trees fall on electric lines during severe weather can cause extended power outages for residents. The high winds and rains of Superstorm Sandy caused power outages to residents in excess of two weeks.	When there are prolonged power outages, the Village Hall can longer provide its critical services.
Description of the Solution	Provide residents with sheltering need services in the new Village Hall that they may not have in times of severe weather.	Create a plan that identifies trees in the Village, along right of ways (ROW's) on Village, Private, County & State Roads, that should be pruned/removed to reduce/eliminate the problem.	A fixed, emergency generator to be installed in Village Hall to ensure continued service at this critical facility during a storm or emergency event, and the installation of underground power lines.
Critical Facility	No	No	Yes
EHP Issues	Unknown	Unknown	No

Estimated Timeline	The Village plans construction of the new Village Hall starting in 2021 with a natural gas generator.	1 Month	1 Year
Lead Agency	Clerk/Treasurer's Office	Clerk/Treasurer's Office	Village of Upper Brookville
Estimated Costs	\$10,000	\$15,000	\$100,000
Estimated Benefits	Provide a location for residents to get basic services when severe weather strikes.	Provide continued electric service to residents during severe weather.	Continued service at Village Hall during a storm or emergency event and the installation of underground power lines.
Potential Funding Sources	Grants and Municipal Budget	Grants and Municipal Budget	FEMA HMGP

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Upper Brookville |

NYS DHSES Action Worksheet			
Project Name:	Sheltering Needs		
Project Number:	VUB_1		
Risk / Vulnerability			
Hazard of Concern:	Severe Weather and Wind Events		
Description of the Problem:	When severe weather strikes, residents could be without power for extended periods of time. Without power, they may not have the following sheltering needs: electricity, heat, air conditioning, phone service, cooking facilities, food storage, hot water, sanitary systems, security systems, sleeping equipment, electric car and phone charging ability.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide residents with sheltering services at a Community Center in the new Village Hall in times of severe weather and wind events. The Village plans to start construction of the new Village Hall in 2021 on their vacant lot at the intersection of Wolver Hollow/Chicken Valley Road. The plans include a natural gas generator.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Semi-Annually	Estimated Benefits (losses avoided):	Provide a location for residents to get basic services when severe weather strikes.
Useful Life:	20 years		
Estimated Cost:	\$20,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One to two years
Estimated Time Required for Project Implementation:	Community Center will be available to residents upon completion of new Village Hall 2021/22	Potential Funding Sources:	Grants, Municipal Budget
Responsible Organization:	Village Clerk/Treasurer's Office	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	No sheltering services provided to residents.
	Create a severe weather/wind event tool kit informing residents how to prepare.	\$2000	While tool kit informs, it will not provide essential sheltering needs.
Set up a Storm Camp on Village property.	\$50,000 or more	Provide security, sanitary, electricity, tents, propane.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Upper Brookville |

NYS DHSES Action Worksheet			
Project Name:	Tree Survey		
Project Number:	VUB_2		
Risk / Vulnerability			
Hazard of Concern:	Wind, Tropical Storms and Hurricanes, Severe Weather.		
Description of the Problem:	Trees that fall on electric lines during severe weather can cause extended power outages to residents. The high winds and rains of Superstorm Sandy caused power outages to residents in excess of two weeks.		
Action or Project Intended for Implementation			
Description of the Solution:	Create a plan that identifies trees in the Village, along right of way's (ROW's) on Village, Private, County & State roads, that should be pruned/removed to reduce/eliminate the problem.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Multiple Times Per Year	Estimated Benefits (losses avoided):	Continued electric service to residents.
Useful Life:	Five years		
Estimated Cost:	\$75,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within six months
Estimated Time Required for Project Implementation:	One month	Potential Funding Sources:	Grants and municipal budget
Responsible Organization:	Clerk/Treasurer's Office	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Tree removal on Village/Private roads only.	\$50,000	Would only benefit residents on Village and Private roads
	Tree removal on State and County roads in the Village only.	\$25,000	Would only benefit residents on County and State roads in Village
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Upper Brookville

NYS DHSES Action Worksheet			
Project Name:	Emergency Generator Installation at Critical Facility		
Project Number:	VUB_3		
Risk / Vulnerability			
Hazard of Concern:	All hazards that cause power outages		
Description of the Problem:	When there are prolonged power outages, the Village Hall can longer provide its critical services.		
Action or Project Intended for Implementation			
Description of the Solution:	A fixed, emergency generator to be installed in Village Hall to ensure continued service at this critical facility during a storm or emergency event, and the installation of underground power lines.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	Power outages / multiple hazard types	Estimated Benefits (losses avoided):	Continued service at Village Hall during a storm or emergency event and the installation of underground power lines.
Useful Life:	25 – 30 Years		
Estimated Cost:	\$100,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	FEMA HMGP
Responsible Organization:	Village of Upper Brookville	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	A solar panel system and battery storage could be used	\$50,000-\$150,000 depending on size and number of panels	This is a short-term solution that may not be feasible for extended operations and some weather conditions
	Could rent a full size generator or use portable units	\$20,000-\$40,000 depending on length of outage	This would not be possible for sudden power loss because it takes time to setup and it would not be possible to obtain units
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Valley Stream Annex

This document presents the Village of Valley Stream’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Jay Hunter, Deputy Village Clerk Village of Valley Steam 123 South Central Avenue Valley Stream, NY 11580 vsdpclrk@vsvny.org 516-592-5104	Frank Roca, Emergency Management Coordinator Village of Valley Steam 123 South Central Avenue Valley Stream, NY 11580 vsfpb@vsvny.org 516-592-5147

Profile

The Village of Valley Stream covers approximately 3.48 square miles¹ and has a total population of 37,431 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Valley Stream are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Valley Stream Demographic Information

Demographic	Demographic
Below 5 Years Old	5.0%
Above 65 Years Old	13.7%
Individuals with Disabilities	6.0%
Persons in Poverty	4.4%
Renters	18.6%
Without a High School Diploma	9.5%
Without Access to Broadband Internet	0.0%
Black or African American alone	27.6%
American Indian and Alaska Native alone	0.0%
Asian alone	15.4%
Native Hawaiian and other Pacific Islander alone	0.0%
Two or More Races	4.6%
White alone, not Hispanic or Latino, percent	31.0%
Hispanic or Latino	22.9%

¹ This is inclusive of land area only.

The Village of Valley Stream has experienced a great deal of development in past years and has multiple large projects scheduled in the future. These projects include additions to the Green Acers Commons (i.e., supermarket, restaurant, and strip mall). Additionally, multiple dwellings are being constructed throughout the Village as well as a large self-storage facility. Further, plots of land are being subdivided into single-family dwellings. In the next five years, the Village hopes to develop an outdoor mall, multiple large dwellings, and self-storage facility. Currently, there are single- and multi-family dwellings within the flood plain. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Valley Stream. The jurisdiction identified Coastal Hazards, Flooding, and Hurricane as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Valley Stream include:
**Coastal Hazards,
 Flooding, and
 Hurricane.**

Table 2: Village of Valley Stream Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	Community, Infrastructure
Drought	Infrastructure
Extreme Temperatures	Infrastructure
Flooding	Community, Economy, Housing, Infrastructure
Ground Failure	Infrastructure
Hurricane and Tropical Storms	No Impact
Hail	Community
Lightning	Community, Housing, Infrastructure
Severe Winter Weather	Community, Infrastructure
Tornados	Community, Housing, Infrastructure

Hazard	Impact Categories
Wind	Community, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Valley Stream has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Valley Stream. The Valley Stream maintains several key administrative and technical capabilities to support mitigation, including building codes, capital improvement plans, community development plans, floodplain management plans, NFIP floodplain damage prevention ordinances, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Valley Stream Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	2020 NYS Fire & Building Code - Valley Stream General Code and Local zoning code
Capital Improvement Plan	Yes	Road & Culvert repair
Climate Action Plan	No	
Community Development Plan	Yes	CA Zone which permits Multiple Dwellings to be built in commercially zoned areas
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	Yes	Chapter 34 of the Village Code
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	Yes	Chapter 34 of the Village Code
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	

Regulatory Tool	Yes / No	Citation (if applicable)
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	NYS Building Code and Valley Stream General Code and local zoning code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Chapter 76 of the Village Code
Subdivision Ordinance(s)	Yes	Chapter 99 of Village Zoning Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Valley Stream General Code and Zoning Code

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Valley Stream. The Village of Valley Stream's primary administrative and technical capabilities include an emergency manager, a NFIP floodplain administration, construction practices personnel, and natural hazards and land development planners. The Village can bolster their capabilities in this category by identifying individuals with expertise in engineering and analysis.

Table 4: Village of Valley Stream Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Emergency Manager - Emergency Management Coordinator
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	Yes	Village Building Inspectors
Planner(s) with an understanding of natural hazards	Yes	Village Building Inspectors

Staff / Personnel Resource	Yes / No	Details
Planner(s) with knowledge of land development and land management practices	Yes	Department of Economic Development
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Valley Stream. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation and special tax bonds, levying taxes for specific purposes, capital improvements project funding, and CDBG programs. Village of Valley Stream should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Valley Stream Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	Yes	Anticipation notes
Authority to levy taxes for specific purposes	Yes	Library Fund
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	Yes	Road & Culvert repair
Community Development Block Grants (CDBG)	Yes	Nassau County Consortium
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Valley Stream. Participation in the BCEGS program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Valley Stream Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	Updating
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Valley Stream and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village include stormwater streams and ponds, AE zones designated on FEMA flood insurance rate maps, regulatory floodways, and other areas of flood hazard.

The Village's Engineer is responsible for floodplain management. FEMA Floodplain Management Training will further support the growth of the floodplain management program. All structures in special flood hazard areas within the Village of Valley Stream are required to secure a floodplain permit before any new construction, renovations, or repair work is permitted, whether due to flooding or any other type of damage. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

After flood events, substantial damage determinations are made in accordance with provisions listed in Village Code Chapter 34 and current adopted NYS Uniform Fire Prevention and Building Code.

The Village of Valley Stream is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 05/20/2013 and its last Community Assistance Visit on 10/19/2011. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

All structures in special flood hazard areas within the Village of Valley Stream are required to secure a floodplain permit before any new construction, renovations, or repair work whether due to flooding or any other type of damage, is permitted. The Flood Damage Prevention Ordinance for the Village of Valley Stream meets minimum requirements. The ordinance was last amended 08/17/2009 and can be referenced in Chapter 34 of Village Code.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Valley Stream. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	A permanent natural gas generator will be installed at 70 McKeon Ave. Valley Stream, NY 11580. It will have sufficient capacity to allow the facility to maintain all necessary patient needs.
Risk Category	Loss of Electric Power
Project Status	Completed
Project Status Description	In HMGP Grant Process
Carried Forward to 2020 Plan	No
Required Changes	Officially the generator has not been signed off by the Village of Valley Stream Building Department.

Proposed Mitigation Actions

Project Number	VVS_1	VVS_2	VVS_3	VVS_4
Project Name	Generator Replacement at All Village Firehouses	Hendrickson Park - Erosion/shoreline restoration	Management Plan of Storm Drains, Culverts, and Streams	Mill Pond - Erosion/shoreline restoration
Goal being met	2,3	1,5	1	1,5
Hazards to be mitigated	Hurricanes, high wind events, nor'easters, severe winter weather	Erosion & Flooding	Flooding	Erosion & Flooding
Priority Ranking	High	High	High	High
Description of the Problem	The generators in all the firehouses are at least 30 years old. Firehouses are a critical facility that provide lifesaving services to the village, in addition to providing a safe place for village residents to go in a time of disaster. Power outages threaten the capacity of these firehouses to continue to provide services in a time of emergency.	Overtime the stream erodes the shoreline and flooding begins to affect the upstream facilities	During heavy rainstorms, catch basins, culverts, and sewers become backed up due to debris. Small streams overflow their banks flooding some areas.	Overtime the stream erodes the shoreline and flooding begins to affect the upstream facilities
Description of the Solution	The Village is going to replace and upgrade all generators at Firehouses. These upgrades will increase our capacity to power the entire facility in times of disaster when the power grid is damaged.	Continue the erosion control program	The maintenance plan will include regular clearing and cleaning of basins, erosion management, partnering with Nassau County to investigate opportunities to expand the capacity of the stormwater management system, and increasing culvert capacity.	Continue the erosion control program
Critical Facility	Yes	Yes	No	Yes
EHP Issues	No	DEC permits	Yes	DEC permits
Estimated Timeline	1 - 2 Years	2 - 3 Years	5 Years	2 - 3 Years
Lead Agency	Village of Valley Stream Maintenance Department	Village of Valley Stream Department of Public Works	Village of Valley Stream Department of Public Works	Village of Valley Stream Department of Public Works
Estimated Costs	\$41,8000	\$100,000	\$50,000 - \$1,000,000	\$75,000
Estimated Benefits	The increase in capacity will help the First Responders operate better due to the entire building being on back-up power instead of just a few circuits. This will also benefit the public who may utilize the building for charging electronics cooling/heating rooms and possibly storing refrigerated medicine in time of power loss	Could be in the Millions if bridges and roadways are washed out	Reducing flooding events saves damage to the infrastructure and buildings along with reducing risk to the public.	Could be in the Millions if bridges and roadways are washed out

Project Number	VVS_1	VVS_2	VVS_3	VVS_4
Potential Funding Sources	Municipal Fiscal Budget	Nassau County DPW	Fiscal Budget	Nassau County DPW

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Valley Stream

NYS DHSES Action Worksheet			
Project Name:	Stormwater Management Plan of Storm Drains, Culverts, and Streams		
Project Number:	VVS_3		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	During heavy rainstorms, catch basins, culverts, and sewers become backed up due to debris over time. Small streams overflow their banks flooding some areas.		
Action or Project Intended for Implementation			
Description of the Solution:	Through the Stormwater Management Plan, the Village Department of Public Works (DPW) will continue to perform routine maintenance of clearing and cleaning out basins. The village will also continue to engage in an erosion plan to make sure the streams and waterways flow smoothly. The village will explore opportunities to partner with Nassau County and NYS DEC to determine how the Village's stormwater runoff can be managed and improved to decrease flooding potential. Some possible solutions may include increasing catch basin sizes and expanding the capacity of the culverts.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Medium	Estimated Benefits (losses avoided):	Reducing flooding events saves damage to the infrastructure and buildings along with reducing risk to the public.
Useful Life:	Eight to ten years		
Estimated Cost:	\$50,000 up to over \$1,000,000 if culverts need to be increased		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Immediate
Estimated Time Required for Project Implementation:	Five years	Potential Funding Sources:	Fiscal Budget
Responsible Organization:	Village of Valley Stream Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Divert water flow to different streams	\$100,000 - \$200,000 depending on scope of project	May not be feasible due to limited land use
	Construct some sort of Dam system to limit water flow	\$1,000,000 - \$2,000,000	Could complicate flooding up above the dam and endanger other areas
Progress Report (for plan maintenance)			
Date of Status Report:	6/22/2020		
Report of Progress:	On-going		
Update Evaluation of the Problem and/or Solution:	The program has alleviated some flooding, but the system can only accommodate a certain amount of run-off at a time		

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Valley Stream

NYS DHSES Action Worksheet			
Project Name:	Generator Replacement at All Village Firehouses		
Project Number:	VVS_1		
Risk / Vulnerability			
Hazard of Concern:	Power Loss due to Hurricanes, High Wind events, Nor'easters, Severe Weather Events and Blackouts.		
Description of the Problem:	The generators in all the firehouses are at least 30 years old. Firehouses are a critical facility that provide lifesaving services to the village, in addition to providing a safe place for Village residents to go in a time of disaster. Power outages threaten the capacity of these firehouses to continue to provide services in a time of emergency.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village is going to replace and upgrade all generators at Firehouses. These upgrades will increase our capacity to power the entire facility in times of disaster when the power grid is damaged.		
Is this project related to a Critical Facility?	Yes	<input checked="" type="checkbox"/>	No
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Power outages	Estimated Benefits (losses avoided):	The increase in capacity will help the First Responders operate better due to the entire building being on back-up power instead of just a few circuits. This will also benefit the public who may utilize the building for charging electronics cooling/heating rooms and possibly storing refrigerated medicine in time of power loss.
Useful Life:	25-30 years		
Estimated Cost:	\$418,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	One to two years	Potential Funding Sources:	Municipal Fiscal Budget
Responsible Organization:	Village of Valley Stream Maintenance Department	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	Could rent a full size generator or use portable units	\$20,000-\$40,000 depending on length of outage	Would take time to set up in a sudden power loss or unable to obtain units
	Use solar panels system and battery storage	\$50,000-\$150,000 depending on size and number of panels	Could possibly work in short term but for extend operations or weather conditions might not be feasible
	No action	\$0	None
Progress Report (for plan maintenance)			
Date of Status Report:	6/22/2020		

Report of Progress:	Three of the six are complete.]
Update Evaluation of the Problem and/or Solution:	The program has had a positive impact on the usability of the Fire houses. Apparatus doors open now on back-up power and all usable parts of the firehouse have electric, heat and A/C.]

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Westbury Annex

This document presents the Village of Westbury’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Pasquale Iannucci, Deputy Superintendent Village of Westbury piannucci@villageofwestbury.org 516-334-0062	John Bartunek, Chief at Westbury Fire Department Village of Westbury jbartunek@westburyfd.com 516-334-0062

Profile

The Village of Westbury covers approximately 2.37 square miles¹ and has a total population of 15,351 according to the American Community Survey 5-Year 2018 Estimates. Some of the demographics of the Village of Westbury are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Westbury Demographic Information

Demographic		Demographic	
Below 5 Years Old	4.4%	Black or African American alone	26.0%
Above 65 Years Old	17.2%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	4.0%	Asian alone	11.5%
Persons in Poverty	7.0%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	24.8%	Two or More Races	6.5%
Without a High School Diploma	15.0%	White alone, not Hispanic or Latino, percent	36.2%
Without Access to Broadband Internet	13.6%	Hispanic or Latino	25.7%

¹ This is inclusive of land area only.

The Village of Westbury has seen very little development over the last five years; however, the Village is expecting to see an increase in residential buildings over the next five to ten years. The jurisdiction maintains zoning maps and planning teams. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Westbury. The jurisdiction noted that Hurricane, Severe Winter Weather, and Wind impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Westbury include: **Hurricane, Severe Winter Weather, and Wind.**

Table 2: Village of Westbury Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Community, Housing, Infrastructure
Hail	No Impact
Lightning	Community, Housing
Severe Winter Weather	Community, Infrastructure
Tornados	No Impact
Wind	Community, Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Westbury has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and

development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Westbury. The Village of Westbury maintains several key administrative and technical capabilities to support mitigation, including building codes, community development plans, comprehensive/master plans, site plan review requirements, stormwater management plans, subdivision ordinances, and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Westbury Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Chapter 7 of Village Code
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	Yes	Not formal by code but we have various programs
Comprehensive Plan / Master Plan	Yes	Yes, but not in code and can be viewed at village Clerk's office
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	Yes	Chapter 248, Article XXVIII of the Village Code
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	Chapter 213 of Village Code

Regulatory Tool	Yes / No	Citation (if applicable)
Subdivision Ordinance(s)	Yes	Chapter 218 of Village Code
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Chapter 248

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Westbury. The Village of Westbury's primary administrative and technical capabilities include a GIS analyst and construction practices personnel. The Village can bolster their capabilities in this category by identifying individuals with expertise in emergency management and engineering.

Table 4: Village of Westbury Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	No	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	Yes	Sr. Building Inspector
Personnel trained in construction practices related to buildings/infrastructure	Yes	Sr. building Inspector
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Westbury. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, CDBG programs, and state mitigation grant programs. Village of Westbury should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Westbury Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	Village regularly puts out bonds for road improvement
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	We use CDBG funds for road improvements and to fund senior programs
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	If available

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Westbury. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Westbury Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Westbury and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP).

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village of Westbury is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but the Village will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance was last amended 11/06/2008 and reference of this ordinance is not available.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Westbury. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Install Permanent Generator. It will have sufficient capacity to allow Westbrook Preparatory School to operate with no interruption to services.
Risk Category	High wind events and winter storms have caused the widespread loss of electrical power, including power to Westbrook Preparatory School
Project Status	Completed
Project Status Description	The generator was installed at their location.
Carried Forward to 2020 Plan	No
Required Changes	N/A (Completed)

Proposed Mitigation Actions

Project Number	VWY_1	VWY_2
Project Name	Road Work Project	Tree maintenance program
Goal being met	3	5
Hazards to be mitigated	Sink hole, flooding	Wind, hurricane
Priority Ranking	High	High
Description of the Problem	Village roads experience drainage issues during heavy rainfalls and the road surfaces are degrading due to hazards such as sink holes that cause collapsed roads.	High winds cause trees to fall damaging property and roads and blocking the public right of way
Description of the Solution	Mill and pave approximately 43 miles of village roads. These repairs are programmed and budgeted on annual basis. Research sinkhole prevention and solutions. Install catch basins capable of storing more rainwater so streets will not be flooded. Consult with an engineer to understand options and solutions for mitigating roads against flooding and sinkholes.	Develop a tree mitigation plan to assess and monitor the health of trees, including regular pruning and removal of trees
Critical Facility	No	No
EHP Issues	Yes	Yes
Estimated Timeline	4 Years	Ongoing
Lead Agency	Department of Public Works	Department of Public Works
Estimated Costs	\$200,0000	\$50,000 - /485,000
Estimated Benefits	New Roads	Safe trees
Potential Funding Sources	Grants, CHIPS, bonds	Grants, CHIPS, bonds

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Westbury

NYS DHSES Action Worksheet			
Project Name:	Pavement Management Project		
Project Number:	VWY_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding, sink holes		
Description of the Problem:	Village roads experience drainage issues during heavy rainfalls and the road surfaces are degrading due to hazards such as sink holes that cause collapsed roads.		
Action or Project Intended for Implementation			
Description of the Solution:	Mill and pave approximately 43 miles of Village roads. These repairs are programmed and budgeted on annual basis. Research sinkhole prevention and solutions. Install catch basins capable of storing more rain water so streets will not be flooded. Consult with an engineer to understand options and solutions for mitigating roads against flooding and sinkholes.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Heavy rainstorms and reoccurring sink holes	Estimated Benefits (losses avoided):	Less ponding, flooding
Useful Life:	15-18 years		
Estimated Cost:	\$2,000,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Four years
Estimated Time Required for Project Implementation:	Five years	Potential Funding Sources:	CHIPS, Grant funding, bonds
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Basin Cleaning	\$50,000	Cleaning the basins would help with the flooding but it's a temporary fix. This would take two years.
	Only mill and pave 43 miles of village roads.	\$1,000,000	Does not fully address the repetitive flooding issues.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Westbury

NYS DHSES Action Worksheet			
Project Name:	Tree maintenance program		
Project Number:	VWY_2		
Risk / Vulnerability			
Hazard of Concern:	High winds from thunderstorms and hurricanes		
Description of the Problem:	High winds cause trees to fall damaging property and roads and blocking the public right of way		
Action or Project Intended for Implementation			
Description of the Solution:	Develop a tree mitigation plan to asses and monitor the health of trees, including regular pruning and removal of dangerous trees.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	High winds caused by thunderstorms and hurricanes	Estimated Benefits (losses avoided):	Long lasting healthy trees, good for the environment and safe.
Useful Life:	20-25 years		
Estimated Cost:	\$50,000 - \$85,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	One year
Estimated Time Required for Project Implementation:	Ongoing	Potential Funding Sources:	CHIPS, Grants, Bonds
Responsible Organization:	Department of Public Works	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Education campaign for residents	N/A	Residents can conduct their own research to monitor trees
	Tree planting	\$5,000 - \$10,000	New smaller trees will be planted that do not pose any real serious hazard.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Williston Park Annex

This document presents the Village of Williston Park’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Keith Bunnell, Superintendent Public Works Village of Williston Park 494 Willis Ave Williston Park, NY 11596 publicworks@villageofwillistonpark.org 516-746-2193	Marie Hausner, Village Clerk Village of Williston Park 494 Willis Ave Williston Park, NY 11596 ewillistonclerk@yahoo.com 516-746-0782

Profile

The Village of Williston Park covers approximately 0.63 square miles¹ and has a total population of 7,253 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Williston Park are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Williston Park Demographic Information

Demographic		Demographic	
Below 5 Years Old	5.3%	Black or African American alone	1.9%
Above 65 Years Old	17.0%	American Indian and Alaska Native alone	0.3%
Individuals with Disabilities	4.6%	Asian alone	11.8%
Persons in Poverty	2.7%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	19.5%	Two or More Races	1.7%
Without a High School Diploma	7.1%	White alone, not Hispanic or Latino, percent	75.6%
Without Access to Broadband Internet	13.6%	Hispanic or Latino	8.5%

¹ This is inclusive of land area only.

The Village of Williston Park is experiencing stagnate development with minimal remodeling. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Williston Park. The jurisdiction identified Hurricane as a natural hazard that impacts the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Williston Park include: **Hurricane.**

Table 2: Village of Williston Park Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	Infrastructure
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	Economy
Tornados	No Impact
Wind	Community

Capability Assessment

This section summarizes the capabilities that the Village of Williston Park has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Williston Park. The Village of Williston Park maintains several key administrative and technical capabilities to support mitigation, including emergency response plans and stormwater management plans. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Williston Park Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	No	
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	Yes	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	New York
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	Yes	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	No	

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Williston Park. The Village of Williston's administrative and technical capability is inclusive of emergency management. The Village can bolster their capabilities in this category by identifying individuals with expertise in technical skills and planning.

Table 4: Village of Williston Park Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Williston Park. Funding is often the biggest barrier when implementing mitigation programs. The Village is primarily able to fund mitigation programs by incurring debt through general obligation bonds, utilizing user fees for utility services, CDBG programs, and state mitigation grant programs. Village of Williston Park should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Williston Park Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	Yes	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	Yes	

Resources	Yes / No	Additional Details
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	Yes	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	Yes	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Williston Park. Exploring gaining one or more community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Williston Park Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	No

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Williston Park and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). The Village of Williston Park is in an area of minimal flood hazard, according to FEMA flood insurance rate maps.

The Village does not currently have a designated floodplain manager. The Village did not note any current barriers to running a successful NFIP program. The flood maps for this jurisdiction do not accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village reported that no properties were substantially damaged as a result of recent flood events. The Village of Williston Park is in good standing with the NFIP. Based on documentation received from NYSDEC, a compliance audit (e.g., Community Assistance Visit or Community Assistance Contacts) has not been conducted for the municipality but Williston Park will determine if one is needed in the future and schedule it. There are no NFIP compliance violations that need to be addressed in this jurisdiction.

The Flood Damage Prevention Ordinance was last amended 12/01/2014 and can be referenced in Chapter 102, Village Code, L.L. No. 5-2014.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Williston Park. It provides an overview of the jurisdiction's previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

Action	Village Hall, Fire Department, Well #4 - The project seeks to provide the Village Hall, Fire Department and Well #4 with fixed, emergency generators to ensure continued service at each critical facility during a storm or emergency event and the installation of underground power lines
Risk Category	Frequent power outages
Project Status	Project in progress
Project Status Description	Fire House generator installed - looking for funding for additional items
Carried Forward to 2020 Plan	Yes
Required Changes	No

Proposed Mitigation Actions

Project Number	VWP_1	VWP_2	VWP_3
Project Name	Emergency Generator Installations	Radio Communication Upgrade	Tree Monitoring & Maintenance Program
Goal being met	2, 3	2	3, 5
Hazards to be mitigated	All hazards that cause power outages	All hazards	Straight-line wind, hurricane
Priority Ranking	High	High	High
Description of the Problem	There are frequent power outages at the Village Hall, Fire Department, and Well #4	Poor communication leads to delayed response in an emergency	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Recently, during Tropical Storm Isaias, the Village suffered many downed branches and trees.
Description of the Solution	Village Hall, Fire Department, Well #4 - The project seeks to provide the Village Hall, Fire Department and Well #4 with fixed, emergency generators to ensure continued service at each critical facility during a storm or emergency event and the installation of underground power lines. The fire house generator has been installed - looking for funding for additional items.	Replacement of Radios	The Village will develop a tree monitoring and maintenance program that will assess trees throughout the years and plan mitigation measures to limit future damage caused by tropical storms, nor'easters, hurricanes and any other high wind events that bring down limbs and trees.
Critical Facility	Yes	Yes	No
EHP Issues	No	No	No
Estimated Timeline	1 Year	3 Years	1 Year
Lead Agency	Village of Williston Park	Public Works	Village of Williston Park
Estimated Costs	To be determined	\$40,000	\$20,000 - \$30,000
Estimated Benefits	Continued service at each critical facility during a storm or emergency event and the installation of underground power lines.	Ensure reliability for future problems avoiding breakdown in communication during a disaster	Property, building, infrastructure, and vehicle damage, as well as life safety.
Potential Funding Sources	FEMA HMGP	Various Government Agencies	Municipal budget, FEMA HMA grants, NYS grants

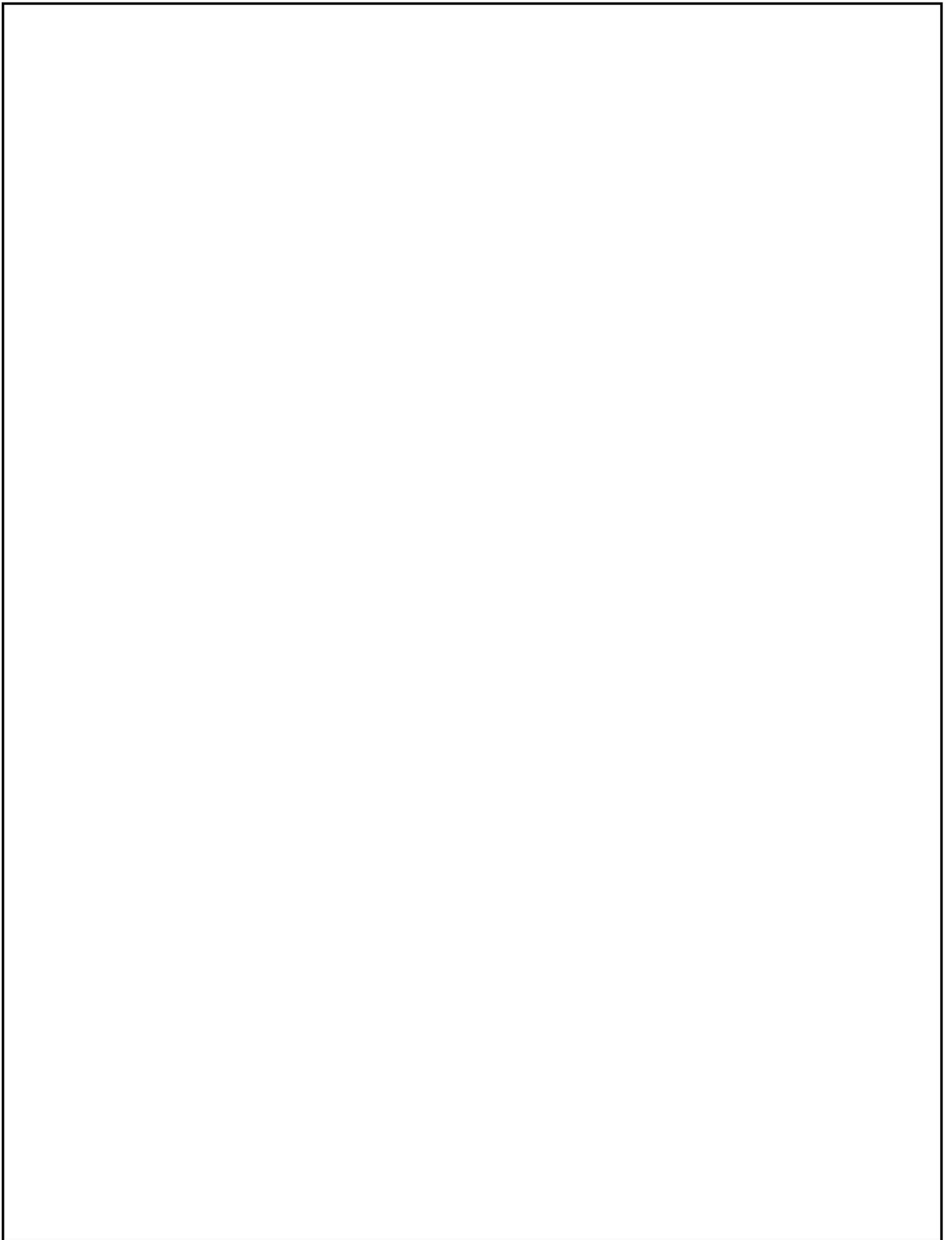
Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Village of Williston Park

NYS DHSES Action Worksheet			
Project Name:	Emergency Generator Installations		
Project Number:	VWP_1		
Risk / Vulnerability			
Hazard of Concern:	Straight-line wind, hurricane		
Description of the Problem:	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Recently, during Tropical Storm Isaias, the Village suffered many downed branches and trees.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will develop a tree monitoring and maintenance program that will assess trees throughout the years and plan mitigation measures to limit future damage caused by tropical storms, nor'easters, hurricanes and any other high wind events that bring down limbs and trees.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Reduced risk from events ranging from minor annual events to major events.	Estimated Benefits (losses avoided):	Property, building, infrastructure, and vehicle damage, as well as life safety.
Useful Life:	~10 years		
Estimated Cost:	\$20,000 - \$30,000		
Plan for Implementation			
Prioritization:	Leave Blank	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	6 Months	Potential Funding Sources:	Municipal budget, FEMA HMA grants, NYS grants
Responsible Organization:	Village of Williston Park	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	One-time hazardous tree removal and pruning	Unknown	No known external/easily accessible funding sources for this type of project; no long-term risk reduction.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Instructions

(Name of Jurisdiction)

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	— <i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Williston Park

NYS DHSES Action Worksheet			
Project Name:	Tree Monitoring & Maintenance Program		
Project Number:	VWP_3		
Risk / Vulnerability			
Hazard of Concern:	Straight-line wind, hurricane		
Description of the Problem:	Trees in the community present hazards to roads, residents and facilities during high wind and rain situations several times a year. Recently, during Tropical Storm Isaias, the Village suffered many downed branches and trees.		
Action or Project Intended for Implementation			
Description of the Solution:	The Village will develop a tree monitoring and maintenance program that will assess trees throughout the years and plan mitigation measures to limit future damage caused by tropical storms, nor'easters, hurricanes and any other high wind events that bring down limbs and trees.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	High	Estimated Benefits (losses avoided):	Property, building, infrastructure, and vehicle damage, as well as life safety.
Useful Life:	10 Years		
Estimated Cost:	\$20,000 - \$30,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	2021
Estimated Time Required for Project Implementation:	1 Year	Potential Funding Sources:	Municipal budget, FEMA HMA grants, NYS grants
Responsible Organization:	Village of Williston Park	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Cut down all dangerous trees	\$25,000-\$50,000 Annually	Only provides short-term risk reduction
	Do not replace any trees that are diseased or fall	\$0	Provides very slow risk-reduction; difficult to implement (how do you prevent private residents from replacing downed trees?)
Progress Report (for plan maintenance)			
Date of Status Report:	New Project		
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provide the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Williston Park

NYS DHSES Action Worksheet			
Project Name:	Radio Communication		
Project Number:	VWP_2		
Risk / Vulnerability			
Hazard of Concern:	Poor Communication during Natural hazard disasters		
Description of the Problem:	The Village has old equipment that needs to be updated. The Village has been fortunate to date there has not been an incident we want to be able to mitigate future problems to avoid a catastrophic emergency event.		
Action or Project Intended for Implementation			
Description of the Solution:	New equipment would be purchased depending upon technology at time of purchase. The Village would need to purchase three base stations and approximately 20 truck stations. Cost based upon state bids available or bids at time of purchase.		
Is this project related to a Critical Facility?		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 worst damage scenario, whichever is greater.)			
Level of Protection:	High	Estimated Benefits (losses avoided):	Ensure reliability avoiding future problems where a breakdown of communications might occur
Useful Life:	20 Years		
Estimated Cost:	\$40,000		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	3 Years
Estimated Time Required for Project Implementation:	3 Years	Potential Funding Sources:	Budget and Grants
Responsible Organization:	Village of Williston Park	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Cell Phones		Cell phones might not work during a natural disaster
	Emergency alarm system		Would not be helpful in communicate with individual departments.
Progress Report (for plan maintenance)			
Date of Status Report:	Current		
Report of Progress:	1st stages of planning		
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Village of Woodsburgh Annex

This document presents the Village of Woodsburgh’s annex to the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*.

Hazard Mitigation Plan Points of Contact

The individuals below have been identified as this jurisdiction’s points of contact for the hazard mitigation plan. These individuals are members of the Planning Committee that met regularly for the update of this plan and will continue to meet in the years ahead to implement it.

Primary Point of Contact	Alternate Point of Contact
Lee Israel, Mayor Village of Woodsburgh 30 Piermont Avenue Hewlett, NY 11557 mayor@woodsburghny.com 516-295-1400	Francois Tenenbaum, Fire Commissioner Village of Woodsburgh 30 Piermont Avenue Hewlett, NY 11557 fire@woodsburghny.com 516-295-1400

Profile

The Village of Woodsburgh covers approximately 0.36 square miles¹ and has a total population of 793 according to the American Community Survey 5-year 2018 Estimates. Some of the demographics of the Village of Woodsburgh are summarized in Table 1. This information supported the development of mitigation actions that account for the needs of the most vulnerable individuals in the community.

Table 1: Village of Woodsburgh Demographic Information

Demographic		Demographic	
Below 5 Years Old	3.0%	Black or African American alone	0.5%
Above 65 Years Old	22.6%	American Indian and Alaska Native alone	0.0%
Individuals with Disabilities	Information not provided	Asian alone	0.6%
Persons in Poverty	4.4%	Native Hawaiian and other Pacific Islander alone	0.0%
Renters	51.0%	Two or More Races	0.8%
Without a High School Diploma	1.6%	White alone, not Hispanic or Latino, percent	96.6%
Without Access to Broadband Internet	0.0%	Hispanic or Latino	0.0%

¹ This is inclusive of land area only.

The potential development of the former Woodmere Club into residences is pending review. By understanding these development trends and how they intersect with hazard-prone areas, this allows for current and future vulnerabilities to be planned for and avoided.

Refer to the **County Profile** section of this plan for additional information related to current and future conditions of the County’s vulnerable population and the natural environment. This information provides important context for understanding hazard mitigation planning.

Hazard Vulnerability

This section summarizes how the natural hazards profiled in Section 4 of this plan impact the Village of Woodsburgh. The jurisdiction identified Flooding and Wind as natural hazards that impact the community. Table 2 shows the sectors of the community that are most likely to be impacted by each hazard. The categories that were considered included the community, economy, health and social services, housing, infrastructure, natural and cultural resources, or no impact. No impact indicates that the jurisdiction did not identify a noticeable impact from the hazard over the past five years, even if the hazard occurs. This information was used to develop a relevant and effective mitigation strategy for the jurisdiction. Detailed hazard event histories, critical facility exposure, and additional vulnerability information can be found in each hazard profile in Section 4 of this plan.

The hazards that most impact the Village of Woodsburgh include: **Flooding, and Wind.**

Table 2: Village of Woodsburgh Hazard Impacts

Hazard	Impact Categories
Coastal Hazards	No Impact
Drought	No Impact
Extreme Temperatures	No Impact
Flooding	No Impact
Ground Failure	No Impact
Hurricane and Tropical Storms	No Impact
Hail	No Impact
Lightning	No Impact
Severe Winter Weather	No Impact
Tornados	No Impact
Wind	Infrastructure

Capability Assessment

This section summarizes the capabilities that the Village of Woodsburgh has in place that can support hazard mitigation. These capabilities include plans, ordinances, staff, financial resources, and program participation. This Capability Assessment was used to help drive the identification and development of the projects presented in the Mitigation Strategy to make sure that they are appropriate in scope and achievable to implement.

Legal and Regulatory Capability Assessment

Table 3 lists the assessment of existing legal and regulatory tools for the Village of Woodsburgh. The Village of Woodsburgh maintains several key administrative and technical capabilities to support mitigation, including building codes and zoning ordinances. These capabilities are critical to consider as tools in developing and implementing mitigation strategies. To further enhance their mitigation capabilities, the Village can consider the capabilities in the table below that the Village currently does not have. These additional capabilities would either support creating a legal framework or strategy for implementing a diversity of mitigation actions.

Table 3: Village of Woodsburgh Existing Legal and Regulatory Capabilities

Regulatory Tool	Yes / No	Citation (if applicable)
Access and Functional Needs Plan	No	
Building Code	Yes	Chapter 55: Building construction
Capital Improvement Plan	No	
Climate Action Plan	No	
Community Development Plan	No	
Comprehensive Plan / Master Plan	No	
Economic Development Plan(s)	No	
Emergency Response Plan(s)	No	
Floodplain Management Plan(s)	No	
Growth Management Plan(s)	No	
NFIP Flood Damage Prevention Ordinance(s)	No	
Open Space Plan(s)	No	
Post Disaster Recovery Ordinance(s)	No	
Post Disaster Recovery Plan(s)	No	
Real Estate Disclosure Requirements	No	
Resilience Plan(s)	No	
Site Plan Review Requirement(s)	No	
Small Area Development Plan(s)	No	
Special Purpose Ordinance(s)	No	
Stormwater Management Plan(s)	No	
Subdivision Ordinance(s)	No	
Transportation Plan(s)	No	
Zoning Ordinance(s)	Yes	Chapter 150: Zoning

Administrative and Technical Capability Assessment

Table 4 lists the assessment of existing administrative and technical tools for the Village of Woodsburch. The Village of Woodsburch's administrative and technical capability is inclusive of emergency management. The Village can bolster their capabilities in this category by identifying individuals with expertise in technical skills and planning.

Table 4: Village of Woodsburch Existing Staff / Personnel Resource

Staff / Personnel Resource	Yes / No	Details
Emergency Manager(s)	Yes	Lee Israel, Mayor; Francois Tenenbaum, Fire commissioner; Ilan Mosery, Police commissioner
Engineer(s) trained in construction practices related to buildings/infrastructure	No	
Engineer(s) with an understanding of natural and/or human caused hazards	No	
Engineer(s) with knowledge of land development and land management practices	No	
Grant Writers	No	
Personnel skilled or trained in Geographic Information Systems	No	
Personnel trained in construction practices related to buildings/infrastructure	No	
Planner(s) with an understanding of natural hazards	No	
Planner(s) with knowledge of land development and land management practices	No	
Scientist(s) familiar with natural hazards	No	
Surveyors	No	

Fiscal Capability Assessment

Table 5 lists the assessment of existing fiscal tools for the Village of Woodsburgh. Funding is often the biggest barrier when implementing mitigation programs. The Village identified no fiscal capabilities to support mitigation. Village of Woodsburgh should consider explore additional fiscal capabilities in order to gain access to additional funding for mitigation.

Table 5: Village of Woodsburgh Existing Fiscal Capabilities

Resources	Yes / No	Additional Details
Ability to incur debt through general obligation bonds	No	
Ability to incur debt through private activity bonds	No	
Ability to incur dept through special tax bonds	No	
Authority to levy taxes for specific purposes	No	
Authority to utilize user fees for utility services	No	
Authority to withhold public expenditures in hazard prone areas	No	
Capital improvements project funding	No	
Community Development Block Grants (CDBG)	No	
Impact fees for home buyers and/or developers	No	
State mitigation grant programs	No	

Community Classification Assessment

Table 6 lists the assessment of existing community classifications for the Village of Woodsburgh. Participation in the Climate Smart Communities program demonstrates increased capabilities of the Village related to mitigation. Exploring gaining additional community classifications will guide the Village's mitigation programs and support capacity building.

Table 6: Village of Woodsburgh Community Classifications

Classification	Yes/No (or Status)
Building Code Effectiveness Grading Schedule (BCEGS)	No
Public Protection Classification Program	No
Community Rating System (CRS)	No
Other Classifications	Climate Smart Community

National Flood Insurance Program Summary

This section provides a summary of the floodplain management capabilities for Village of Woodsburgh and how the jurisdiction is meeting the requirements of the National Flood Insurance Program (NFIP). Flood-prone areas in the Village of Woodsburgh include the former Woodmere Golf Club and the Rockaway Hunting Club, and a few at-risk residences.

The Village does not currently have a designated floodplain manager. The NFIP is administered through the review and issuance of building permits. Resources, in the form of staff and education, are the biggest barrier to running a successful NFIP program in the Village. The flood maps for this jurisdiction accurately portray the current flood risk. There are currently no RiskMAP projects ongoing in this jurisdiction.

The Village reported that no properties were substantially damaged as a result of recent flood events. The Village of Woodsburgh is in good standing with the NFIP. Based on documentation received from NYSDEC, the Village had its last Community Assistance Contact on 06/30/2020 and its last Community Assistance Visit on 09/19/2006. There are no NFIP compliance violations that need to be addressed in this jurisdiction to-date.

Steps have not been taken recently to mitigate future losses at these properties. The Flood Damage Prevention Ordinance for the Village of Woodsburgh meets minimum requirements. The ordinance was last amended 07/13/2009 and can be referenced in Chapter 77: Flood Damage Prevention.

Mitigation Strategy

The following section provides an overview of the mitigation strategy for Village of Woodsburgh. It provides an overview of the jurisdiction’s previous mitigation actions, proposed actions, and the NYS mitigation worksheets.

Previous Mitigation Actions

This jurisdiction did not participate in the 2014 hazard mitigation plan. However, the Village has

Completed Mitigation Actions

Project Name	Implementation of first vision plan	Rockaway Hunting Club Bulkhead
Goal being met	6	3
Hazards to be mitigated	Flooding	Flooding, Coastal Hazards
Description of the Problem	The Village until this point had no vision plan to protect, maintain and balance the Village’s historic community character and existing recreational and open space resources.	There was no protection along the shore this golf course that makes up the bulk of the Village’s shoreline
Description of the Solution	A Vision Plan was prepared in accordance with Section 7-722 of the New York State Village Law and was adopted by the Village of Woodsburgh Board of Trustees on December 16, 2019. One of the main points was addressing natural disasters threats caused by the nature of our low lying coastal areas and high water table. As the plan was just adopted, little or no action has been taken yet.	A bulkhead was erected along the shoreline by the golf club, further protecting the Village’s shore from erosion and wave action.
Critical Facility	No	No
EHP Issues	To protect coastline and open space	
Estimated Timeline	0 – 5 Y ears	Completed during the last 5-year period
Lead Agency	Inc Village of Woodsburgh	Rockaway Hunting Club
Estimated Costs		
Estimated Benefits		Erosion, surges and wave action protection
Potential Funding Sources		

Proposed Mitigation Actions

Project Number	VWB_1	VWB_2
Project Name	Woodmere Boulevard S. Drainage	Coastal Zoning District
Goal being met	1	6
Hazards to be mitigated	Flooding	Flooding
Priority Ranking	High	High
Description of the Problem	Woodmere Blvd. / Browers Point Branch/Pond Ln. Regular flooding occurs at this intersection after a heavy rainfall. This is a main access road to the Village of Woodsburgh and Hewlett Neck, as well as, to the Woodmere Docks.	Relatively vulnerable, low lying coastal area, well within Special Flood Hazard Area (100-year floodplain) where the Woodmere Club golf course once stood is being considered for housing development, which could result in new flooding issues, if not properly managed, and destruction of important natural coastal habitats.
Description of the Solution	Reach out to Nassau County to coordinate efforts to solve a recurring flooding issue. The street borders the Village of Woodsburgh, but the road itself is a Nassau County road.	Creation of a new zoning district with the hope of making any new housing development sustainable. To find a balance between protecting existing coastal and natural drainage areas, while allowing for new residences to be built
Critical Facility	No	No
EHP Issues	No	No
Estimated Timeline	0 – 5 Years	1 Year
Lead Agency	NC DPW	TOH, Lawrence. & Woodsburgh Boards
Estimated Costs	To be determined	To be determined
Estimated Benefits	To Keep a main access road accessible at all times	To protect future and existing residences from increased flood threats
Potential Funding Sources	NC/FEMA	TOH, Lawrence & Woodsburgh

Mitigation Action Worksheets

The following pages contain mitigation action worksheets that provide additional detail some of the jurisdiction's proposed mitigation actions.

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Woodsburgh |

NYS DHSES Action Worksheet			
Project Name:	Woodmere Boulevard S. Drainage		
Project Number:	VWB_1		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	Regular flooding occurs at the intersection of Woodmere Blvd. / Browers Point Branch / Pond Ln. after heavy rainfall. This is a main access road to the Village of Woodsburgh and Village of Hewlett Neck, and to the Woodmere docks.		
Action or Project Intended for Implementation			
Description of the Solution:	Reach out to Nassau County to coordinate efforts to solve the recurring flooding issue. While the street borders the Village of Woodsburgh, the road is under the jurisdiction of Nassau County. The goal is to create a multi-jurisdictional round table or task force to investigate the flooding and implement potential solutions.		
Is this project related to a Critical Facility?	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 worst damage scenario, whichever is greater.)			
Level of Protection:	Regular flash flooding following a heavy rain	Estimated Benefits (losses avoided):	Keep a main access road usable at all times.
Useful Life:	Ongoing		
Estimated Cost:	Unknown (Low)		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Zero to Five Years
Estimated Time Required for Project Implementation:	> One Year	Potential Funding Sources:	Nassau County, FEMA, Village of Woodsburgh
Responsible Organization:	Nassau County Department of Public Works, Village of Woodsburgh	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Drywells / Detention Tanks	To be determined, estimated to be low to moderate cost	Relatively simple and inexpensive to implement.
	Modifications to the sewer system.	Unknown- High	Would require a considerable amount of time and resources.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		

Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Name of Jurisdiction: Inc. Village of Woodsburgh

NYS DHSES Action Worksheet			
Project Name:	Coastal Zoning District		
Project Number:	VWB_2		
Risk / Vulnerability			
Hazard of Concern:	Flooding		
Description of the Problem:	The land where the Woodmere Club Golf Course was once located is in a relatively vulnerable, low lying coastal area that is within the 100-year floodplain Special Flood Hazard Area. This area is being considered for a housing development which would result in new flooding issues and the destruction of important natural coastal habitats if not properly managed.		
Action or Project Intended for Implementation			
Description of the Solution:	Create a new zoning district in hopes of making any new housing development sustainable. Find a balance between protecting existing coastal and natural drainage areas, while allowing the new residences to be built.		
Is this project related to a Critical Facility?		Yes	No <input checked="" type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	100 Year Flood	Estimated Benefits (losses avoided):	Protect future and existing residences from increased flooding threats.
Useful Life:	Long term		
Estimated Cost:	Unknown- Low		
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	This project is already in the planning stages.
Estimated Time Required for Project Implementation:	One Year	Potential Funding Sources:	Town of Hempstead, Village of Lawrence, Village of Woodsburgh
Responsible Organization:	Town and Village boards	Local Planning Mechanisms to be Used in Implementation, if any:	
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Create a regional park	Unknown- High	Parking, access, crowd management, finances, and potential resident oppositions are challenges.
	Restoration of naturally occurring wetlands.	Unknown-High	Requires heavy planning and work. Loss of usable land for community and developers.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			

Instructions

(Name of Jurisdiction) _____

NYS DHSES Action Worksheet			
Project Name:	Each action must have a unique project number referenced here and in the Action Tables.		
Project Number:	Each action must have a unique project name referenced here and in the Action Tables.		
Risk / Vulnerability			
Hazard of Concern:	Identify the hazard being addressed with this action.		
Description of the Problem:	Provide a detailed narrative of the problem. Describe the natural hazard you wish to mitigate, its impacts to the jurisdiction, past damages and loss of service, etc. Include the street address of the property/project location (if applicable), adjacent streets, and easily identified landmarks such as water bodies and well-known structures, and end with a brief description of existing conditions (topography, terrain, hydrology) of the site.		
Action or Project Intended for Implementation			
Description of the Solution:	Provide a detailed narrative of the solution. Describe the physical area (project limits) to be affected, both by direct work and by the project's effects; how the action would address the existing conditions previously identified; proposed construction methods, including any excavation and earth-moving activities; where you are in the development process (e.g., are studies and/or drawings complete), etc., the extent of any analyses or studies performed (attach any reports or studies).		
Is this project related to a Critical Facility?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
(If yes, this project must intend to protect to the 500-year flood event or the actual worst damage scenario, whichever is greater.)			
Level of Protection:	Identify the level of protection the proposed project will provide. Ex. 100-year (1%) flood.	Estimated Benefits (losses avoided):	Identify the benefits that implementation of this project will provide. If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.
Useful Life:	Identify the number of years the project will provide protection against the hazard.		
Estimated Cost:	Identify all estimated costs associated with implementation.		
Plan for Implementation			
Prioritization:	Identify the priority based on the prioritization method agreed upon.	Desired Timeframe for Implementation:	Identify the desired start time for this project. Ex. Within 6 months.
Estimated Time Required for Project Implementation:	Provided the estimated time required to complete the project from start to end.	Potential Funding Sources:	Multiple sources of potential funding should be listed when appropriate.
Responsible Organization:	Identify the name of a department or agency responsible for implementation, not the jurisdiction.	Local Planning Mechanisms to be Used in Implementation, if any:	Consider the use of local planning mechanisms that will be used to implement this project.
Three Alternatives Considered (including No Action)			
Alternatives:	<i>Action</i>	<i>Estimated Cost</i>	<i>Evaluation</i>
	No Action	\$0	
	Alternative 1 Brief Description		Include a description of pros/cons of Alternative 1.
	Alternative 2 Brief Description		Include a description of pros/cons of Alternative 2.
Progress Report (for plan maintenance)			
Date of Status Report:	This section should be completed during plan maintenance/evaluation.		
Report of Progress:	Describe what progress, if any, has been made on this project. If it has been determined the jurisdiction no longer wishes to pursue implementation, state that here and indicate why.		
Update Evaluation of the Problem and/or Solution:	Provide an updated description of the problem and solution, and what has happened since initial consideration/development.		