



9.18 Village of Sag Harbor

This section presents the jurisdictional annex for the Village of Sag Harbor.

9.18.1 Hazard Mitigation Plan Point of Contact

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

Primary Point of Contact	Alternate Point of Contact
Name: Brian Gilbride, Mayor Address: 55 Main Street Sag Harbor, NY 11963 Phone Number: 631-725-0222 Fax Number: 631-725-0316 Email address: briang4@optonline.net	Name: Beth Kamper, Clerk Address: 55 Main Street Sag Harbor, NY 11963 Phone Number: 631-725-0222 Fax Number: 631-725-0316 Email address: clerk@sagharborny.gov

9.18.2 Municipal Profile

This section provides a summary of the community.

Population

According to the U.S. Census, the 2010 population for the Village of Sag Harbor was 2,169.

Location

The Village of Sag Harbor is located in the Towns of East Hampton and Southampton. Approximately three-fifths of the Village is in Southampton and two-fifths of the Village is in East Hampton. The Village of Sag Harbor has a total area of 2.5 square miles, of which 1.7 square miles of it is land and 0.8 square miles of it is water.

Brief History

The earliest inhabitants of the Village of Sag Harbor were the Algonquin Indians. They called the Village “Weg-wag-onuch”, meaning “the land or place at the end of the hill”. At this time, the Village was made up of hills, streams, meadows and swamps. The first subdivisions of land took place in 1738 and again in 1745. From this point forward, the Village of Sag Harbor grew. The Village was incorporated on March 26, 1846. The Sag Harbor Village District, which includes the historic whaling port and writer’s colony, is listed on the National Register of Historic Places.

Governing Body Format

The Village Government consists of a Mayor and four Trustees. The village contains its own building department, fire marshal, public works department, police department, emergency medical services, highway department, wastewater treatment plant, and fire department.

Growth/Development Trends

The following table summarizes major residential/commercial development and major infrastructure development that are identified for the next five (5) years in the municipality. Refer to the map in section



9.18.4 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.18-1. Growth and Development

Property Name	Type (Residential or Commercial)	Number of Structures	Location (address and/or Parcel ID)	Known Hazard Zone*	Description / Status
East End Ventures, LLC	Commercial		21 West Water Street Section #903		Under construction
Bulova/Sag Development Partners	Commercial	64	903-3-4-14		Under construction
East End Ventures, LLC	Commercial		1,3,4 Ferry Road 903-2-2-4.2; 4.3; 6.0		Under study
Petroleum Ventures, LLC	Commercial		144 Hampton Street 302-6-8-13		Upgrade Gas Station and add Convenient Store
Havens Beach Storm Water Remediation Project	Recreation		Bay Street		
West Water Street Bulkhead	Flood Control		West Water Street	Coastal Flooding	
DBR	Commercial		302-903-		
Village Docks	Recreation		Bay Street, Long Wharf, West Water Street		

* Only location-specific hazard zones or vulnerabilities identified.

9.18.3 Natural Hazard Event History Specific to the Municipality

The Town of Southampton Planning Area has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the Planning Area and its municipalities. The table below presents a summary of natural events that have occurred to indicate the range and impact of natural hazard events in the community. Information regarding specific damages is included if available based on reference material or local sources. For details of events prior to 2008, refer to Volume I, Section 5.0 of this plan.

Table 9.18-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	EM 3328 DR 4020	Yes – IA and PA	High winds and flooding caused power outages and need for evacuations of the Redwood area. Widespread debris required cleanup, emergency protective measures, and minor damage to municipal equipment. The event cost the Village approximately \$50,000.
March 13-31, 2010	Severe Storms and Flooding	DR 1899	Yes - PA	Severe storms and flooding eroded and scoured West Water Street, damaged sump pumps, and created the need for emergency protective measures. The Event cost the village approximately \$37,000.



9.18.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the Village of Sag Harbor. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Village of Sag Harbor.

Table 9.18-3. Hazard Risk/Vulnerability Risk Ranking

Hazard Ranking	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c, e}	Probability of Occurrence ^b	Risk Ranking Score (Probability x Impact)
4	Coastal Erosion	RCV in CEHA: \$29,106,506	Occasional	22
9	Drought	Damage estimate not available	Rare	4
5	Earthquake	500-Year MRP: \$128,618,913 2,500-Year MRP: \$2,065,631,997	Rare	16
8	Expansive Soils	Damage estimate not available	Rare	6
2	Flood	1% Annual Chance: \$0 0.2% Annual Chance: \$0	Frequent	33
7	Groundwater Contamination (natural)	Damage estimate not available	Rare	10
3	Hurricane	Category 1 SLOSH: \$0 Category 2 SLOSH: \$0 Category 3 SLOSH: \$0 Category 4 SLOSH: \$0	Occasional	32
10	Infestation	No measurable impact to property	None	0
1	Nor'Easter	100-Year RCV: \$1,725,996,479 500-Year RCV: \$1,596,906,895	Frequent	48
1	Severe Storm	100-Year RCV: \$1,725,996,479 500-Year RCV: \$1,596,906,895	Frequent	48
1	Severe Winter Storm	1% of GBS: \$2,905,064 5% of GBS: \$14,525,322	Frequent	48
6	Shallow Groundwater Flooding	Damage estimate not available	Occasional	12
8	Wildfire	Estimated RCV in Interface/Intermix: \$444,350,588	Rare	6

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on the custom inventory developed for Suffolk County and probabilistic modeling results and exposure analysis as discussed in Section 5.
- c. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages and the Tribes within the Town boundary.



- d. Frequent = Hazard event that occurs more frequently than once in 10 years; Occasional = Hazard event that occurs from once in 10 years to once in 100 years, Rare = Hazard event that occurs from once in 100 years to once in 1,000 years; None = Hazard event that occurs less frequently than once in 1,000 years
- e. The estimated potential losses for Nor'Easter and Severe Storm are from the HAZUS-MH probabilistic hurricane wind model results. See footnote c.

CEHA = Coastal Erosion Hazard Area

GBS = General building stock

MRP = Mean return period

RCV = Replacement cost value

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Village of Sag Harbor.

Table 9.18-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)	# Policies in 500-Boundary (3)	# Policies Outside the 500-year Flood Hazard (3)
Village of Sag Harbor	345	113	\$1,856,941	5	4	100	190	155

Source: FEMA Region 2, 2013

Note (1): Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of April 30, 2013. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents the number of claims closed by April 30, 2013.

Note (2): Information regarding total building and content losses was gathered from the claims file provided by FEMA Region 2.

Note (3): The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file. FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.

Table 9.18-5. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event			Potential Loss from 0.2% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽²⁾	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽²⁾
Sag Harbor Vol. Ambulance Service/ FD	Fire		X	4.9	5.7	480	6.0	6.8	480
Sag Harbor Village Hwy Dept.	Municipal		X	24.2	23.6	NA	23.3	116.2	NA
Sag Harbor	WW	X	X	-	-	-	-	-	-

Source: HAZUS-MH 2.1

Note (1): HAZUS-MH 2.1 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure



according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

Other Vulnerabilities Identified by the Village:

The Village identifies West Water Street is vulnerable to road erosion during hurricane and storm events.

Localized drainage problems are noted in the following areas:

- Havens Beach
- Rogers Street
- Spring Street and Garden Street
- Spring Street and Bridge Street
- Long Island Avenue
- Bay Street
- Hempstead Street
- Latham and Division
- Redwood area



9.18.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Village of Sag Harbor.

Table 9.18-6. Planning and Regulatory Tools

Regulatory Tools (Codes, Ordinances., Plans)	Do you have this? (Y or N)	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation (Section, Paragraph, Page Number, Date of adoption)
Building Code	Y		Building Dept.	Ch. 92, 2/09
Zoning Ordinance	Y		Building Dept.	Ch. 300, 5/09
Subdivision Ordinance	Y		Building Dept.	Ch. 240, 5/07
NFIP Flood Damage Prevention Ordinance	Y		Building Dept.	Ch. 300-16, 9/09
NFIP - Cumulative Substantial Damages	N			
NFIP - Freeboard	Y	State		State mandated BFE+2 for single and two-family residential construction, BFE+1 for all other
Growth Management	N		Local	
Floodplain Management / Basin Plan	Y		Building Dept.	Ch. 300-16
Stormwater Management Plan/Ordinance	Y		Building Dept.	Ch. 232
Comprehensive Plan / Master Plan/ General Plan	Y		Board of Trustees	7/08
Capital Improvements Plan	N	Local or County		
Site Plan Review Requirements	Y		Building Dept.	Ch. 300-14 5/09
Open Space Plan	N	Local or County		
Stream Corridor Management Plan	N			
Watershed Management or Protection Plan	Y		Building Dept.	LWRP
Economic Development Plan	N			
Comprehensive Emergency Management Plan	Y			Village of Sag Harbor Comprehensive Emergency Management Plan (revised) 9/05,9/06,9/07,9/08
Emergency Response Plan	N			
Post Disaster Recovery Plan	N			
Post Disaster Recovery Ordinance	N			
Real Estate Disclosure Requirement	N	State		State Requirement
Other [Special Purpose Ordinances (i.e., critical or	N			



Regulatory Tools (Codes, Ordinances., Plans sensitive areas)]	Do you have this? (Y or N)	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation (Section, Paragraph, Page Number, Date of adoption)
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Administrative and Technical Capability

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

Table 9.18-7. Administrative and Technical Capabilities

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Rich Warren
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Building Inspector
Planners or engineers with an understanding of natural hazards	N	Rich Warren
NFIP Floodplain Administrator	Y	Building Inspector (currently Timothy Platt)
Surveyor(s)	N	
Personnel skilled or trained in “GIS” applications	N	
Scientist familiar with natural hazards in the municipality.	N	
Emergency Manager	Y	Chief of Police, Thomas Fabiano
Grant Writer(s)	N	
Staff with expertise or training in benefit/cost analysis	N	

Fiscal Capability

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

Table 9.18-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don’t Know)
Community development Block Grants (CDBG)	Y
Capital Improvements Project Funding	N
Authority to Levy Taxes for specific purposes	Y
User fees for water, sewer, gas or electric service	Y
Impact Fees for homebuyers or developers of new development/homes	N
Incur debt through general obligation bonds	Y
Incur debt through special tax bonds	Y
Incur debt through private activity bonds	N
Withhold public expenditures in hazard-prone areas	N
State mitigation grant programs (e.g. NYSDEC, NYCDEP)	N
Other	Y- Beach and Marina Recreational Fees



Community Classifications

The table below summarizes classifications for community program available to the Village of Sag Harbor.

Table 9.18-9. Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	TBD	TBD
Public Protection	TBD	TBD
Storm Ready	NP	N/A
Firewise	NP	N/A

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

National Flood Insurance Program

The following section provides details on the National Flood Insurance Program (NFIP) as implemented within the municipality:

NFIP Floodplain Administrator: Building Inspector (currently Timothy Platt)

History

Village of Sag Harbor joined the NFIP on January 5, 1978, and is currently an active member of the NFIP. The current effective Flood Insurance Rate Maps are dated September 25, 2009. The community Flood Damage Prevention Ordinance (FDPO), found at Chapter 300-16 of the local code, was last updated in September of 2009.



As of January 31, 2014 there are 381 policies in force, insuring \$124,583,300 of property with total annual insurance premiums of \$465,595. Since January 31, 2014, 149 claims have been paid totaling \$1,908,532. As of January 31, 2014 there are 12 Repetitive Loss and 4 Severe Repetitive Loss properties in the community.

The community is currently in good standing in the NFIP and has no outstanding compliance issues. Village of Sag Harbor has completed Community Assistance Visits (CAV), with the most recent visit completed on August 19, 2010.

Loss History and Mitigation

Since January 31, 2014, 149 claims have been paid totaling \$1,908,532. As of January 31, 2014 there are 12 Repetitive Loss and 4 Severe Repetitive Loss properties in the community.

Planning and Regulatory Capabilities

The community's Flood Damage Prevention Ordinance (FDPO) was last updated in September of 2009, and is found at Chapter 300-16 of the local code.

Minimum FEMA and New York State floodplain management requirements are met by the Village of Sag Harbor. When reviewing permit applications elevation certificates, cost of construction, and a current survey must be provided.

Administrative and Technical Capabilities

The community FDPO identifies the Building Inspector as the local NFIP Floodplain Administrator, currently Timothy Platt, for which floodplain administration is an auxiliary duty.

Duties and responsibilities of the NFIP Administrator are permit review and inspections. It is the NFIP Administrator's duty to ensure permit applications include elevations and current survey, cost of construction, and elevation certificate.

Public Education and Outreach

Duties and responsibilities of the NFIP Administrator are permit review and inspections.

Actions to Strengthen the Program

Staffing is the biggest barrier to running an effective floodplain management program in the Village of Sag Harbor. Additional training and information regarding both floodplain management and Community Rating System (CRS) are welcomed and desired.



Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

It is the intention of this municipality to incorporate hazard mitigation planning and natural hazard risk reduction as an integral component of ongoing municipal operations. The following textual summary and table identify relevant planning mechanisms and programs that have been/will be incorporated into municipal procedures, which may include former mitigation initiatives that have become continuous/ongoing programs and may be considered mitigation “capabilities”:

Emergency Management Planning: The Village intends to continue to develop, enhance and implement existing emergency plans, incorporating the findings and recommendations of this hazard mitigation plan.

GIS, Data Collection and Management Programs: The Village intends to develop a data collection and organization program to improve the documentation of hazard events. This may include recording high-water marks, documenting beach erosion, compiling and archiving loss data. Further, the Village intends to develop and implement a program to collect vulnerable population and (add other types of data), consistent with the Town and Village of East Hampton, and convert into more widely useable and distributable forms, including GIS and electronic spreadsheet (Excel) formats. This effort will be coordinated with Town of East Hampton and Village of East Hampton to develop consistent, comprehensive datasets. Such data will directly support land use planning, vulnerability assessment, and mitigation project identification, evaluation and implementation.



9.18.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community’s mitigation strategy identified in the 2008 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under ‘Capability Assessment’ presented previously in this annex.

Table 9.18-10. Past Mitigation Initiative Status

Description	Status	Review Comments
VSH-1: Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage with repetitive loss and severe repetitive loss properties as priority.	Ongoing	The Village has supported property owners mitigating their properties through the local plan review and permitting process. This action is being carried forward in the updated strategy with some re-wording.
VSH-2: Consider participation in incentive-based programs such as CRS and Storm Ready.	Ongoing	A modified version of this initiative is being carried forward in the updated strategy, identifying Village attendance at a CRS workshop if offered locally.
VSH-3: Continue to support the implementation, monitoring, maintenance and updating of this Plan, as defined in Section 7.0	Ongoing	This initiative is being removed from the updated mitigation strategy as it refers to activities that are an ongoing and normal part of Village operations.
VSH-4: Strive to maintain compliance with and good-standing in the National Flood Insurance program.	Ongoing	This initiative is being removed from the updated mitigation strategy as it refers to activities that are an ongoing and normal part of Village operations. Initiatives that enhance their participation and/or further support their floodplain management capabilities have been identified in the Village’s updated mitigation strategy.
VSH-5: Continue to develop, enhance and implement existing emergency plans.	Ongoing	A modified version of this initiative is being carried forward in the updated strategy, specifically identifying that the Village will incorporate the findings and recommendations of this HMP update into any amendments/updates to their emergency plans.
VSH-6: Create/enhance/ maintain mutual aid agreements with neighboring communities.	Ongoing	This initiative is being removed from the updated mitigation strategy as it refers to activities that are an ongoing and normal part of Village operations.
VSH-7: Support County-wide initiatives identified in Section 9.1 of the County Annex.	Ongoing	A modified version of this initiative is being carried forward, identifying local participation in county-led or county-sponsored mitigation activities (see following initiative).
VSH-8: Consider the development of a post-disaster action plan, including a debris management plan. This to be	Ongoing	A modified version of this initiative is being carried forward, identifying local participation in the pending county-led



Description	Status	Review Comments
incorporated into existing emergency management plans.		debris management planning process.
VSH-9: Develop data collection and organization program to improve the documentation of hazard events. This may include recording high-water marks, documenting beach erosion, compiling and archiving loss data.	In progress (50% complete)	The Village has instituted procedures and programs to collect and maintain hazard event data, including the recent D&B Engineering flood study.
VSH-10: Develop and implement a program to collect vulnerable population and (add other types of data), consistent with the Town and Village of East Hampton, and convert into more widely useable and distributable forms, including GIS and electronic spreadsheet (Excel) formats. This effort should be coordinated with Town of East Hampton and Village of East Hampton to develop consistent, comprehensive datasets.	No Progress, lack of resources	This initiative is being carried forward, incorporating further details on the program with the Town and Village of East Hampton
VSH-11: Dock and water break hardening. Development of a new water break on the south eastern dock faces to inhibit damage from wind driven waves from the northeast.	Completed	The Village installed 490 linear feet of bulk-heading along West Water Street to provide protection (~\$400k), as specified in the Village's LWRP.
VSH-12: Beach runoff mitigation. The area in question is Havens Beach – a community bathing beach. Studies are underway to assess condition pre and post run off.	Completed	
VSH-13: Include a section on earthquakes in emergency management plan	Discontinue	The Village has indicated that it will participate in and support the county-led multi-jurisdictional seismic safety committee. The Village believes that their emergency management plans appropriately address their low risk to earthquake.
VSH-14: Mobile command center available as EOC is inoperable. Retrofit/fix EOC.	Discontinue	This refers to a trailer that is not considered a suitable EOC, with or without improvements.
VSH-15: Review building department standards.	Complete	The Village updated their NFIP FDPO in 2009.
VSH-16: Conduct engineering analysis of critical structures (municipal building, police headquarters, schools) as per emergency plans.	Complete	The Village connected Village Hall to the Police Station's emergency generator.



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

In addition to the above, the Village identifies the following mitigation projects and activities that are complete or in-progress:

- Road and drainage repairs to West Water Street, including the installation of a backflow preventer valve.
- The Village acquired Long Wharf Road from the County and will be able to implement a long-term maintenance plan to maintain the integrity of this vulnerable road.
- The Village hired an engineer firm (D&B Engineers) to assess and make recommendations on four (4) areas that experienced flooding during Hurricane Sandy and a recent rain event that deposited 6-1/4" rain in a 5-1/2 hour period. The study recommendations have been incorporated into the Village's updated mitigation strategy.

This section describes proposed hazard mitigation initiatives, and prioritization.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Village of Sag Harbor identified mitigation initiatives they would like to pursue in the future. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High', 'Medium', or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.18-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.18-11. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
VSH-1	Localized Flood Mitigation. The Village’s contract engineers (D&B Engineers) recently completed an engineering study and identified a number of alternatives to mitigate periodic flood conditions at four locations in the Village, specifically: <ul style="list-style-type: none"> • Rogers Street, between Latham Street and Henry Street • Hempstead Street near the intersection with Liberty Street • The intersection of Spring Street and Garden Street • Redwood road sections The Village, and with their contract engineers, intend to continue to evaluate these alternatives, and implement as technically feasible and as funding is secured. The Village will work to pursue funding to implement eligible projects identified in the study, including related initiatives below. The Village notes that they may work to implement discrete mitigation projects identified in this study as complete implementation may be infeasible both technically and/or fiscally.										
	See above.	Existing	Flood (incl. Hurricane, Nor’Easter, Severe Storm)	3, 16	Engineering (Village and contractual)	High (reduced vulnerability to flooding and damage to structures and infrastructure)	High	Local Budget for continued evaluation; local budget and grants for project implementation	Short (continued evaluation and possible interim projects); longterm DOF for general project implementation	High	SIP
VSH-2 (Sandy HMGP LOI #1404/ #2311)	Sag Harbor Village Stormwater Improvements	See Action Worksheet (VSH-2 - LOI 1413 – 031814)									
VSH-3	Investigate potential solutions to mitigate the flooding problems at the bridge on Redwood and approaches; and implement identified mitigation project(s) as funding is secured.	Existing	Flood (incl. Hurricane, Nor’Easter, Severe Storm)	3, 16	Engineering (Village and contractual)	High (reduced vulnerability to flooding and damage to structures and infrastructure)	High	Local Budget for continued evaluation; local budget and grants for project implementation	Short (continued evaluation and possible interim projects); longterm DOF for general project implementation	Medium	SIP





Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
	Elevation of the bridge has been considered, however it is noted that Glovers Street and portions of West Water Street would likely need to be elevated as well. See also VSH-1 above.										
VSH-4	Investigate the feasibility of extending the sewer system east down Bay Street to eliminate overflow of residential septic systems vulnerable to storm surges. Implement engineered mitigation project(s) as funding is secured.	Existing	Flood, Hurricane, Nor'Easter, Severe Storm, Shallow Groundwater	3, 7, 16	Engineering (Village and contractual)	High (reduced vulnerability to flooding and damage to structures and infrastructure)	High	Local Budget for continued evaluation; local budget and grants for project implementation	Short (continued evaluation and possible interim projects); Longterm DOF for general project implementation	Medium	SIP
VSH-5 (former VSH-1)	Where appropriate, support retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage with repetitive loss and severe repetitive loss	Existing	Flood, Coastal Erosion, Hurricane, Nor'Easter, Severe Storm, Wildfire, Winter Storm	2, 7	Village Engineering via NFIP FPA) with NYSOEM, FEMA support	High (reduced damage to vulnerable structures)	High	Federal and State Mitigation Grant Programs and local budget (or property owner) for cost share	Ongoing (outreach and specific project identification); Long term DOF (specific project application and implementation)	High	SIP



Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
	properties as priority.										
VSH-6 (former VSH-7 and VSH-8)	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1), specifically: <ul style="list-style-type: none"> Mitigation Education for Natural Disasters (natural hazard awareness and personal scale risk reduction/mitigation public education and outreach program) Build Local Floodplain Management and Disaster Recovery Capabilities (enhanced floodplain management, and post-disaster assessment and recovery capabilities) Jurisdictional Knowledge of Mitigation Needs of Property Owners (improved understanding of damages and mitigation interest/activity of private property owners) Create a Multi-Jurisdictional Seismic Safety Committee in Suffolk County (build regional, county and local capabilities to manage seismic risk, both pre- and post-disaster) Alignment of Mitigation Initiatives through all levels of Government (effort to build State and Federal level recognition and support of the County and local hazard mitigation planning strategies identified in this plan). 										
	See above	Both	All Hazards	All Objectives	Suffolk County, as supported by relevant local department leads,	High (comprehensive improvements mitigation and risk-reduction capabilities)	Low-Medium (locally)	Local (staff resources)	Short	High	All types
VSH-7 (former VSH-5)	Continue to develop, enhance and implement existing emergency plans, incorporating the findings and recommendations of this hazard mitigation plan.	NA	All Hazards	12,13,14,15	Town/Village	Medium (improved emergency response and recovery, incl. life safety)	Medium	Town/Village Budget, DHS and EMPG funding	Ongoing	High	LPR
VSH-8 (former VSH-9)	Develop data collection and organization program to improve the documentation of hazard events. This may include recording high-water marks, documenting beach erosion, compiling and archiving loss data.	NA	All hazards	1, 3, 7	County, Town/Village	Medium (improved understanding of hazard risk to support mitigation action identification, evaluation and implementation)	Medium	General fund, County, FEMA Grant funding	On-going/ Long term	High	LPR, EAP



Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category
VSH-9 (former VSH-10)	Develop and implement a program to collect vulnerable population and (add other types of data), consistent with the Town and Village of East Hampton, and convert into more widely useable and distributable forms, including GIS and electronic spreadsheet (Excel) formats. This effort should be coordinated with Town of East Hampton and Village of East Hampton to develop consistent, comprehensive datasets.	NA	All hazards	1, 3, 7	County, Town/Village	Medium (improved understanding of hazard risk to support mitigation action identification, evaluation and implementation)	Medium	General fund, County, FEMA Grant funding	On-going/ Long term	High	LPR, EAP
VSH-10	Work with County and PSEG (formerly LIPA) to identify roads within the municipality that are considered "critical", and to be the first priority for clearing after an event involving downed power lines.	Existing	Severe Storm; Severe Winter Storm; Hurricane; Nor'Easter	3, 7, 13, 14, 15, 16	PSEG, County	High	Low-Medium	Local	Short	High	LRP

Notes:





**Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.*

Acronyms and Abbreviations:

- DPW Department of Public Works
- FEMA Federal Emergency Management Agency
- FMA Flood Mitigation Assistance grant program
- HMA Hazard Mitigation Assistance grant program (including FMA, HMGP, PDM)
- HMGP Hazard Mitigation Grant Program
- N/A Not applicable
- NFIP National Flood Insurance Program
- NYSOEM New York State Office of Emergency Management
- PDM Pre-Disaster Mitigation grant program
- PSEG Public Service Electric and Gas (formerly LIPA)

Costs:

Where actual project costs have been reasonably estimated:

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

Where actual project costs cannot reasonably be established at this time:

- Low = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
- Medium = Could budget for under existing work plan, but would require a reappropriation of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- High = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

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

Where numerical project benefits cannot reasonably be established at this time:

- Low = Long-term benefits of the project are difficult to quantify in the short term.
- Medium = Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
- High = Project will have an immediate impact on the reduction of risk exposure to life and property.

Timeline:

- Short = 1 to 5 years
- Long Term = 5 years or greater
- OG = On-going program
- DOF = Depending on funding

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.





- *Natural Systems Protection (NRP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.*



Table 9.18-12. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
VSH-1	Localized Flood Mitigation – Continued evaluation and implementation of alternatives identified in D&B flood study.	0	1	1	1	1	1	0	1	1	0	1	1	1	1	11	High
VSH-2 (Sandy HMGP LOI #1404/#2311)	Sag Harbor Village Stormwater Improvements	1	1	1	1	1	1	0	1	0	1	1	1	1	1	12	High
VSH-3	Investigate potential solutions to mitigate the flooding at the bridge on Redwood and approaches	0	1	1	0	1	1	0	1	1	0	1	1	1	1	10	Medium
VSH-4	Investigate the feasibility of extending the sewer system east down Bay Street	0	1	1	0	1	1	0	1	1	0	1	1	1	1	10	Medium
VSH-5 (former VSH-1)	Support the mitigation of vulnerable structures	0	1	1	1	1	1	0	1	1	1	1	0	1	1	11	High
VSH-6 (former VSH-7 and VSH-8)	Support and participate in county led initiatives intended to build local and regional mitigation and risk-reduction capabilities (see Section 9.1)	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High





Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
VSH-7 (former VSH-5)	Continue to develop, enhance and implement existing emergency plans.	1	0	1	1	1	1	1	0	1	1	1	1	1	0	11	High
VSH-8 (former VSH-9)	Develop data collection and organization program to improve the documentation of hazard events.	0	1	1	1	1	1	1	0	1	1	1	1	1	1	12	High
VSH-9 (former VSH-10)	Develop and implement a program to collect vulnerable population and (add other types of data), consistent with the Town and Village of East Hampton.	0	1	1	1	1	1	1	0	1	1	1	1	1	1	12	High
VSH-10	Work with County and PSEG (formerly LIPA) to identify roads within the municipality that are considered "critical", and to be the first priority for clearing after an event involving downed power lines.	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.



9.18.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.18.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Village of Sag Harbor that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Village of Sag Harbor has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.18.9 Additional Comments

None at this time.



Figure 9.18-1. Village of Sag Harbor Hazard Area Extent and Location Map 1

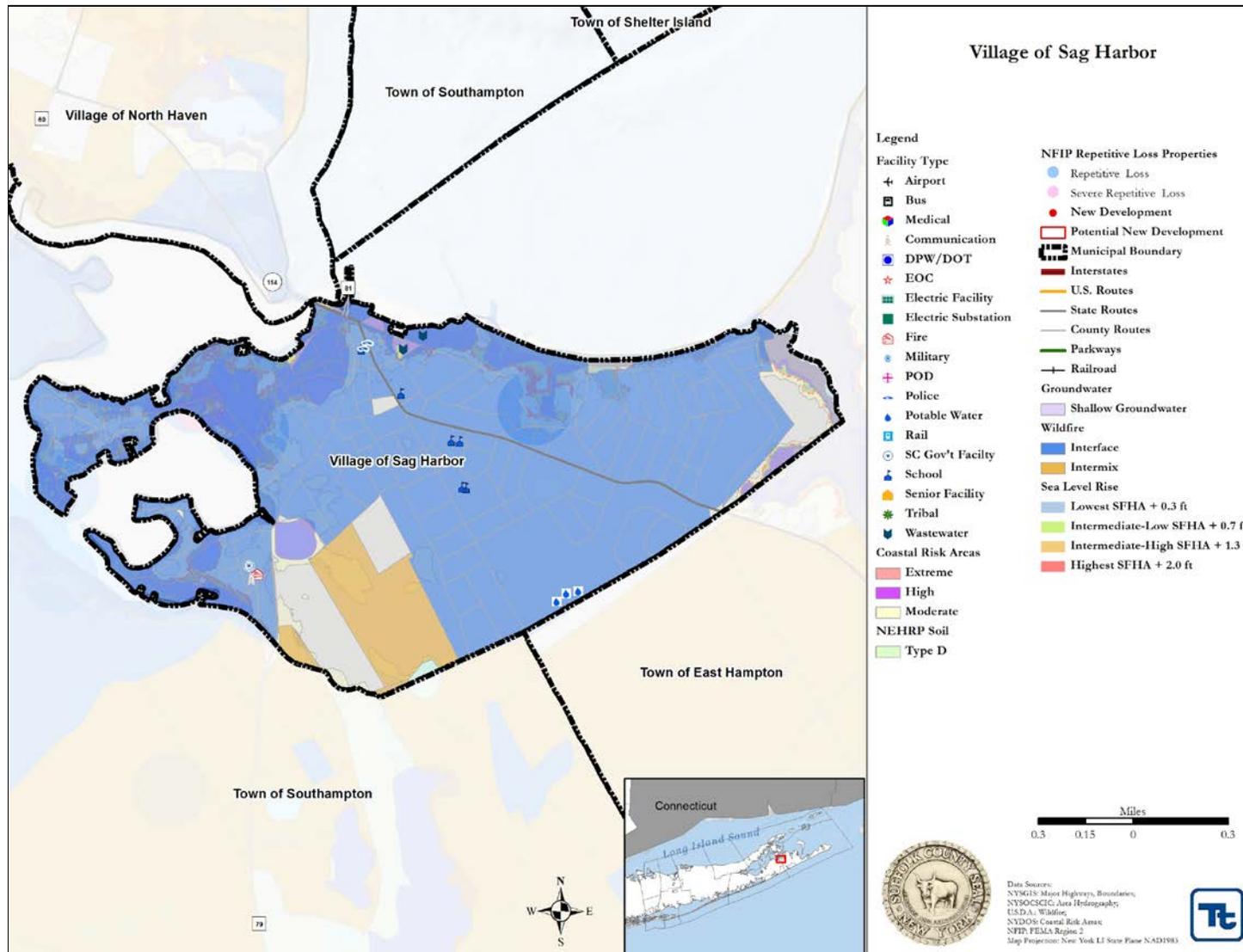
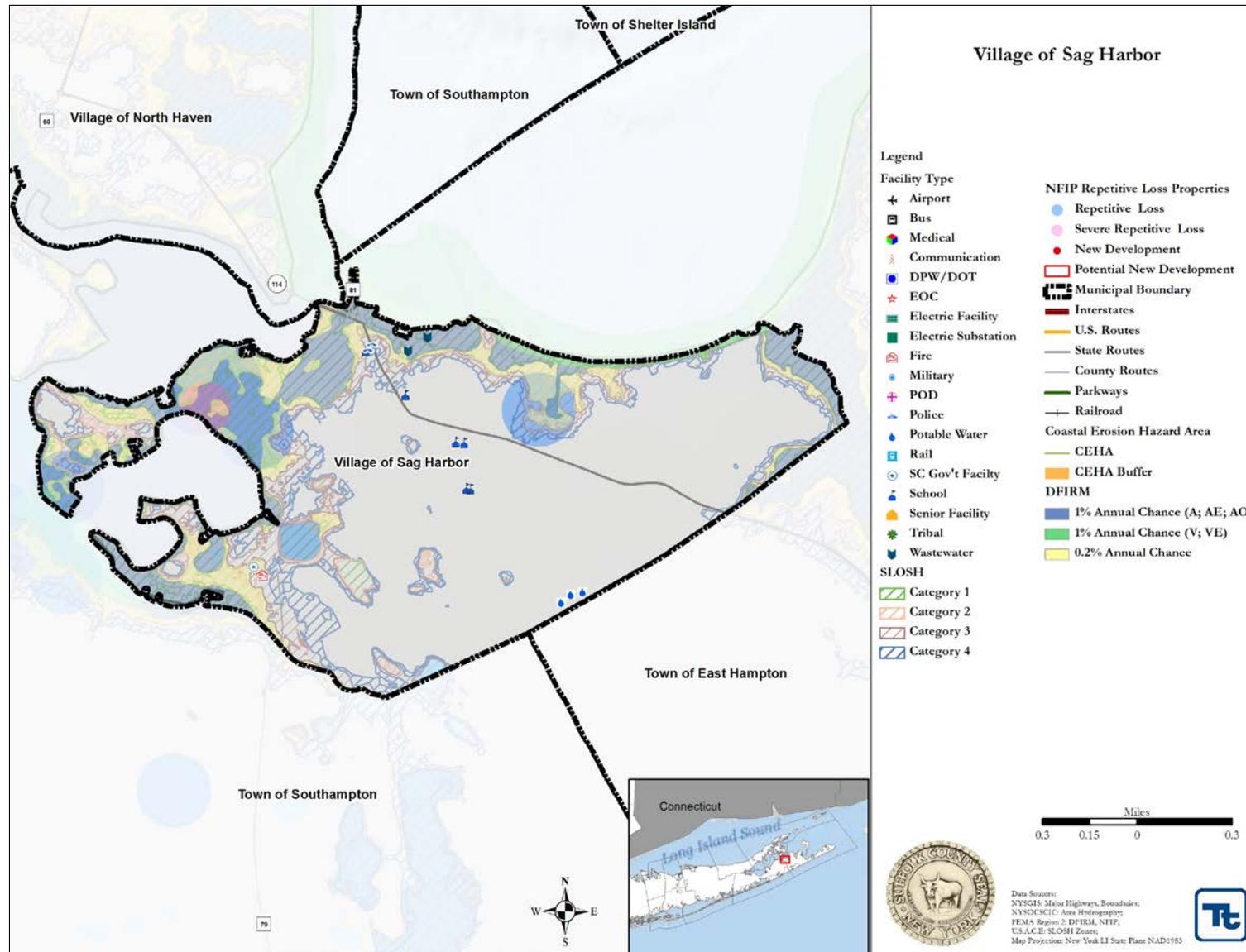




Figure 9.18-2. Village of Sag Harbor Hazard Area Extent and Location Map 2





Mitigation Action Worksheet

Please complete one sheet per action/project with as much detail as possible, using the guidance beginning on page 3 and examples provided by FEMA.

Name of Jurisdiction: Village of Sag Harbor

Number: VSH-2 (Sandy HMGP LOI #: 1404, State #2311)

Mitigation Action/Initiative: Sag Harbor Village Stormwater Improvements

Assessing the Risk	
Hazard(s) addressed:	Flooding, Hurricane, Nor'Easters, Severe Storms, Severe Winter Storm, Shallow Groundwater
Specific problem being mitigated:	<p>Location overview: Midpoint of Bridge Street flood area: Lat: 41.000662 Long: -72.297485 Water Street/Long Island Avenue Pumping station: Lat: 41.001002 Long: -72.298453 Midpoint of Redwood Road area: Lat: 40.997553 Long: -72.312098 Midpoint of Rogers Street flood area: Lat: 40.996476 Long: -72.292753</p> <p>Geographic overview: The Village of Sag Harbor is a coastal community of varied terrain located on the north shore of the South Fork of Long Island, in Suffolk County, New York. The Village is bordered by the Peconic Bay on the north, and has many freshwater and tidal wetlands within its boundaries. The Village is located on the side of steeply sloping terrain, with the southern portion of the Village being the high ground. The Village is located partly within the Town of Southampton and partly within the Town of East Hampton.</p> <p>Problem: The portion of the Village that is the subject of this mitigation action is an area of several acres consisting of several municipal parking lots, residential properties and commercial properties. It is bounded on the north by Long Island Avenue, the east by Meadow Street, the west by Garden Street, and the south by the intersection of Main Street with Garden Street. Bridge Street and Spring Street and the municipal parking lots located on those streets comprise the portion of the project area most severely affected by the flood hazard.</p> <p>The project area is essentially a topographic depression in one of the lowest points of the Village which receives stormwater runoff from much of the Village upstream. Stormwater flowing downhill becomes trapped in this depression because Long Island Avenue, the vicinity of natural outflow, is at higher elevation than this area. So this area is subject to repetitive effects from all types of natural hazards that include rain events – Nor'Easters, Severe Storms, etc.</p> <p>To compound the problem, this locale suffers from both the Coastal Flooding hazard and the Shallow Groundwater Hazard. As pictured in aerial photography available upon request, one can see persistent floodwaters on Bridge and Spring Streets – this water is actually groundwater. The high groundwater in this locale exacerbates the depression receiving stormwater, because there is no natural ability of the land to absorb stormwater. Furthermore, this portion of the Village is located within a Coastal Flood Hazard Zone (AE Base Flood Elevation 6) and can be subjected to inflows from storm surge during Coastal Flooding events.</p> <p>Refer to the FEMA approved Suffolk County Multi-Jurisdictional Natural Hazard Plan for further descriptions of these natural hazards, their frequency, and a history of significant events and the damages resulting from them. This area is located directly adjacent to the Village of Sag Harbor's primary commercial area which is a picturesque, thriving downtown which houses retail and professional businesses which provide for the everyday needs of year-round residents and during three seasons of the year, support a robust tourist economy. The municipal parking lots located along Bridge Street and Spring Street are a crucial</p>





	<p>part of the Village's economy – without these parking areas, tourists will travel to neighboring towns and villages instead, and residents also have no where to park.</p> <p>As such, the Village of Sag Harbor has invested in a permanent system of pumping stations which augment stormwater conveyance throughout their village. The permanent pump stations are necessary because of the steep terrain which contains areas of depressions, like the one that is the subject of this application, in which stormwater and coastal flood waters can become trapped with no natural outlet. Stormwater and flood waters are funneled to the pump stations through underground drainage pipes. The pumps then pump the water through discharge pipes which are at a higher elevation than the incoming pipes, so to facilitate area drainage by essentially propelling water against gravity.</p> <p>Naturally, these pumps are powered by electricity. Thus during severe storms and other power outages, the pumps do not function, resulting in severe flooding. Pump stations are currently located throughout the neighborhood containing Redwood Road, Harvard Road, Cornell Road and Princeton Road, and on the south side of Long Island Avenue between Bridge Street and Garden Street.</p> <p>The Village of Sag Harbor is also struggling with several other areas of localized flooding which are causing damages to adjacent residents a minimum of twice each year. One such area is located between Rogers Street and Division Street. This residential neighborhood is the low point of a drainage area which does not have a natural outlet. The stormwater received in the area currently travels to a small recharge basin, surrounded by residential properties. During severe storm events, this recharge basin overflows and causes damages to adjacent residents. Because it is surrounded on all sides by residential development, there is not any readily available way to expand its capacity.</p> <p>In summation, because of the unique terrain of the Village, which is characterized by steep slopes and changes in grade, there are several areas of topographical depressions throughout the Village of Sag Harbor which are subject to repetitive flooding caused by a variety of natural events. These areas have no natural drainage outlets, which exacerbates the flooding and magnifies the repetitive damages residents and tourists experience.</p>
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	<ol style="list-style-type: none"> 1. No action: Should the Village not act at all, this area will continue to be frequently flooded, residents and visitors will continue to experience personal property damages, and Main Street businesses will continue to suffer repetitive economic losses. The Village will continue to suffer repetitive equipment and labor costs. 2. The Village could invest in a permanent generator installation to power the existing pump station located on Long Island Avenue just to the west of Bridge Street. This option would ensure that the 4000 gpm pump station would never fail due to power outage, but this would not give the Village the flexibility to augment their stormwater conveyance system's pumping capacity in multiple locations, even within the same storm event. Installing a permanent generator in this location within the flood plain would be a costly effort. A concrete platform, sufficient in strength to withstand hurricane winds, would have to be constructed with top at least 3' above the base flood elevation, which would be a minimum of 5' high. The generator would have to be installed in an enclosure which would be both flood-proof and wind-proof. Land to locate this structure on would have to be acquired. Environmental permits, including NYSDEC tidal wetlands permits, might be difficult to obtain. It is estimated this installation would cost at least \$150,000, if not more. 3. Design and implement structural drainage improvements in the areas of Bridge Street, Redwood Road, and Rogers Street that would provide increases in stormwater storage capacity and reduce reliance on electric-powered pump





	<p>stations. The combined design fees alone on three projects of this nature would in all likelihood exceed the cost of the proposed pump. Geographical constraints, like the natural ridge in the vicinity of Long Island Avenue which will always be a barrier to drainage outflow and the shortage of undeveloped property in the vicinity of the Rogers Street recharge basin, will make any proposed solution both costly and difficult to implement. Typical drainage projects of this nature can range in cost from \$75,000 to \$450,000, and to provide the same benefits as the pump, the Village would need to undertake three different projects in three locations. Environmental review and permitting for structural drainage improvements will also be time consuming and costly, delaying the much-needed economic relief that the Village's business owners and residents both need and deserve.</p>
<p>Action/Project Intended for Implementation</p>	
<p>Description of Selected Action/Project</p>	<p>The Village of Sag Harbor proposes to purchase a 6" Heavy Duty Trash Pump, that is trailer-mounted and protected by an enclosure. The pump will be capable of pumping 1500 gpm, and handling solids up to 3" in size. The pump would be selfpriming and capable of performing well in tough flooding conditions. Its capacity would be augmented by a 25' suction hose and a 50' high pressure discharge hose. All together, the pump would become a permanent part of the Village's stormwater conveyance network. The pump will add capacity to the Village's stormwater system by being able to transport both overland stormwaters and coastal flood waters rapidly away from a variety of topographical depressions located throughout the Village as described throughout this application.</p> <p>The Village of Sag Harbor has completed an engineering study to document and analyze its municipal separate storm sewer system (MS 4). Included in this study is the mapping of the stormwater conveyance system, and detailed analysis of some of the areas subjected to repetitive flood damages throughout the Village. Two areas of primary study are the Bridge Street area and the Rogers Street area. Available information allows engineers to concur that the proposed pump purchase would be a permanent increase to the Village's stormwater capacity, and that the pump would mitigate many of the repetitive damages currently being experienced throughout the Village.</p> <p>Because the pump would be diesel fuel-powered and trailer-mounted, unlike the existing pump stations which are stationary and electric-powered, the Village Public Works staff would be able to use the pump in several locations throughout a storm event, weather conditions allowing. As the most economic and repetitive flood damages are associated with the Bridge Street area, in the case all three areas were flooded simultaneously, (as is likely), the pump would be first deployed to the Bridge Street area to get the flooding in the business district under control. Though the pump and associated hoses are very heavy and difficult to move, it is possible for the Village Public Works staff to move the pump to additional inundated areas to then clear those areas of flood waters quicker than they would have been cleared should the Village not be able to obtain the funds to purchase this pump. Most importantly, the diesel-powered pumps will be able to function during any natural weather event, even if there are power outages. Thus, the proposed pump is a very cost-effective solution to the Village's flooding problems, reducing damages in multiple locations for a much smaller amount of money than any type of structural drainage improvements or permanent generator installations would cost.</p>
<p>Mitigation Action/Project Type</p>	<p>Structure and Infrastructure Project (SIP)</p>
<p>Objectives Met</p>	<p>2, 13, 16</p>
<p>Applies to existing structures/infrastructure, future, or not applicable</p>	<p>Existing</p>





Benefits (losses avoided)	Damages associated with the excess surface water includes loss of use of public roadways, road closure, damage to flooded structures and vehicles, and the labor and equipment cost of the Village including its Public Works department and Fire Department to monitor the water level and to pump water away from the area when necessary.
Estimated Cost	\$57,999
Priority*	
Plan for Implementation	
Responsible Organization	Village of Sag Harbor: Beth Kamper, Village Clerk
Local Planning Mechanism	Village of Sag Harbor
Potential Funding Sources	HMGP; Local Match
Timeline for Completion	Short (depending on funding availability)
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)





Prioritization

Number: VSH-2 (Sandy HMGP LOI #: 1413)

Mitigation Action/Initiative: Sag Harbor Village Stormwater Improvements

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	0	
Administrative	1	
Multi-Hazard	1	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	