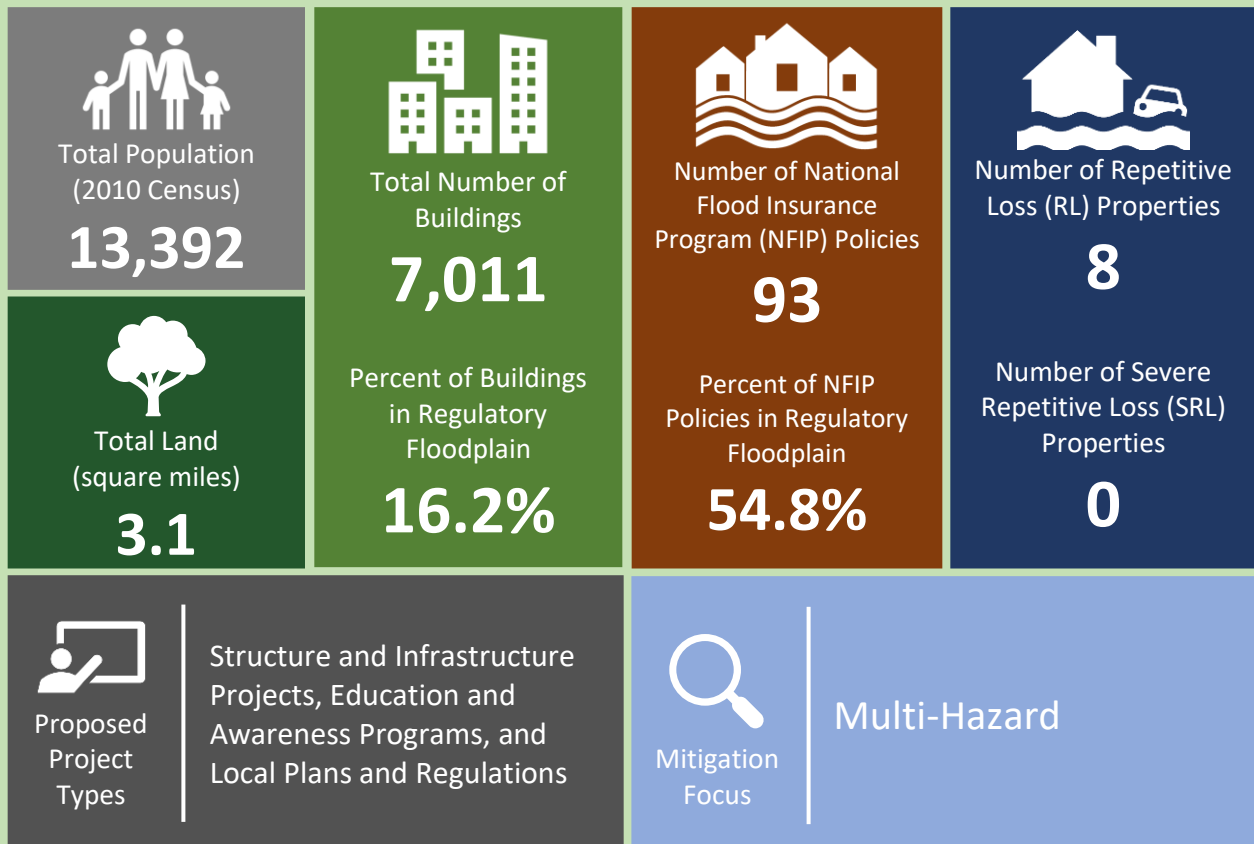




MUNICIPAL ANNEX | Village of Endicott





9.10 Village of Endicott

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

9.10.1 Hazard Mitigation Planning Team

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

Primary Point of Contact	Alternate Point of Contact
Name: Anthony Bates Title: Village Manager Phone Number: 607-757-5337 Address: 1009 East Main Street – Endicott, New York 13760 Email: abates@endicottny.com	Name: Joseph Griswold Title: Fire Chief Phone Number: 607-757-2463 Address: 224 Madison Ave - Endicott, NY 13760 Email: jgriswold@co.broome.ny.us
NFIP Floodplain Administrator	
Name: Joseph Griswold Title: Fire Chief Phone Number: 607-757-2463 Address: 224 Madison Ave - Endicott, NY 13760 Email: jgriswold@co.broome.ny.us	

9.10.2 Municipal Profile

The Village of Endicott is located in the Town of Union in Broome County, NY. For more information on the Town of Union, refer to Section 9.21. The Village is part of the “Triple Cities,” along with Binghamton and Johnson City; and is on the north side of the Susquehanna River and the New York State Route 17. According to the U.S. Census Bureau, the village has a total area of 3.1 square miles, all land. The 2016 estimated population was 13,073, a 2.4% decrease from the 2010 Census (13,392).

Home rule is strong in New York State and thus, each town and village has its own governing body. The Village of Endicott is governed by a Mayor and four Trustees.

Data from the 2016 U.S. Census American Community Survey estimates that 5.9% of the town population is five years of age or younger, and 17.8% is 65 years of age or older.

History and Cultural Resources

The Village of Endicott was named after Henry B. Endicott of the Endicott Johnson Corporation shoe manufacturing company. Originally made up of the Village of Union and the Village of Endicott, the two villages were merged in 1921. Endicott is best known as the birthplace of IBM in 1911 and was the original location of all IBM manufacturing, research, and development from the early 1920s through World War II.



Growth/Development Trends

Table 9.10-1 summarizes major residential/commercial development that as of 2016 and any known or anticipated major residential/commercial development and major infrastructure development that is likely to be occur within the municipality in the next five years.

Table 9.10-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2013 to present					
None					
Known or Anticipated Development in the Next Five (5) Years					
Skyview Heights	Residential	52 units	East Franklin, Groats, and Overton	None	Almost Complete

* Only location-specific hazard zones or vulnerabilities identified.

9.10.3 Hazard Event History Specific to the Village of Endicott

Broome County has a history of natural 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 County and its municipalities. The Village of Endicott’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Broome County. Table 9.10-2 provides details regarding municipal-specific loss and damages the village experienced during hazard events. Information provided in the table below is based on reference material or local sources. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.10-2. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	Broome County Designated?	Summary of Event	Municipal Summary of Damages and Losses
October 27 – November 8, 2012	Hurricane Sandy (EM-3351)	Yes	The remnants of Hurricane Sandy moved over the area bringing high winds and precipitation	Although the County was impacted, the village did not report damages.
June 26 – July 10, 2013	Severe Storms and Flooding (DR-4129)	Yes	The County was impacted by a series of severe storms and flash flood events.	Although the County was impacted, the village did not report damages.
June 14, 2015	Flash Flood	No	warm front stalled across New York and northern Pennsylvania, providing the focus for repeating clusters of thunderstorms in the Finger Lakes and Southern Tier NY regions. A tropical-like airmass was in place allowing for a stripe of 2-4 inches of very heavy rain to fall in a narrow band extending from near Watkins Glen to areas north of Binghamton. Severe flash flooding was encountered with numerous roads and culverts destroyed by raging water.	Although the County was impacted, the village did not report damages.
March 14-15, 2017	Severe Winter Storm and Snowstorm (DR-4322)	Yes	A record snowfall of between 25 and 35 inches of snow fell. Snowfall rates reached up to 5 inches per hour especially during the onset of the storm. The Greater	Although the County was impacted, the village did not report damages.



Dates of Event	Event Type (Disaster Declaration if applicable)	Broome County Designated?	Summary of Event	Municipal Summary of Damages and Losses
			Binghamton Airport broke an all-time daily snowfall record with 32.4 inches and a 2-day snowfall record of 34.9 inches.	
July 23-24, 2017	Flash Flood	No	Heavy rain producing thunderstorms developed during the late afternoon and evening hours as an upper level jet stream punched into the area. Widespread thunderstorms produced swaths of 3 to 4 inches of rain in just a few hours' time during the late evening and overnight hours. Rapid rises of area streams and creeks resulted in severe flash flooding.	Although the County was impacted, the village did not report damages.
August 2018	Severe Storms and Flooding (DR-4397)	Yes	A slow-moving storm tracked north from New Jersey to northern New York. This system triggered several rounds of heavy rain producing thunderstorms which caused severe flash flooding and major damages in several locations.	Although the County was impacted, the village did not report damages.

Notes:

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

9.10.4 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. This section provides a summary of exposure and impacts from significant hazards of concern as identified by the Village of Endicott. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

Hazard Risk Ranking

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

As discussed in Section 5.3 (Hazard Ranking), each participating town or village can have differing degrees of risk exposure and vulnerability compared to Broome County as a whole. Therefore, each municipality ranked the degree of risk to each hazard as it pertains to their community. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Village of Endicott. The Village of Endicott has reviewed the County hazard risk/vulnerability risk ranking table as well as its individual results to reflect the relative risk of the hazards of concern to the community.

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

- The Village changed the hazard ranking for wildfire from medium to low.
- The Village agreed with the remainder of the calculated risk rankings.



Table 9.10-3. Village of Endicott Municipal Hazard Ranking Input

HAZARD	Drought	Earthquake	Extreme Temperature	Flood	Invasive Species	Severe Storm	Severe Winter Storm	Wildfire
RELATIVE RISK FACTOR	Medium	High	Medium	High	Low	High	Medium	Low

Notes: The scale is based on the following hazard rankings as established in Section 5.3.
 High = Total hazard priority risk ranking score of 5 and above
 Medium = Total hazard priority risk ranking of 3.9 – 4.9
 Low = Total hazard risk ranking below 3.8

Critical Facilities Flood Risk

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

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain and presents Hazards United States (HAZUS) – Multi-Hazards (MH) estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

Table 9.10-4. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		Addressed by Proposed Action
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	
Tri-Cities Airport	Airport	X	X	-	-	V. Endicott-8
George Industries	Hazardous Materials	X	X	-	-	-
JENNIE F. SNAPP MS	School	X	X	0	0	V. Endicott-12
Village of Endicott WWTP	WWTP	X	X	-	-	V. Endicott-4
WELL #28	Potable Well	X	X	30	-	V. Endicott-9
WELL #32, RANNEY	Potable Well	X	X	-	-	V. Endicott-10
WELL #5	Potable Well	X	X	-	-	
Ranney Substation	Substation	X	X	-	-	
Family Child Care	Daycare	X	X	15.99	24.99	-
Village of Endicott	DPW		X	-	-	-
Endicott Square Deal Arch	Historic	X	X	11	78.87	-
Central United Methodist Church	Polling, Shelter	X	X	0	0	V. Endicott-11
Holy Nativity Lutheran Church	Shelter (RC)	X	X	0	0	
Jennie F. Snapp MS	Shelter	X	X	0	0	V. Endicott-12
Saint Paul's Episcopal Church	Shelter (RC)		X	-	-	-
The Cat Doctor	Veterinarian		X	-	-	-





Name	Type	Exposure		Potential Loss from 1% Flood Event		Addressed by Proposed Action
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	
Endicott Municipal Light	Electric	X	X	-	-	

Source: Hazus 4.2

The Village of Endicott reviewed the list of critical facilities and determined that hazardous material facilities, day cares, historic facilities, and veterinarians were not critical for the purpose of essential services. As a result, the Village of Endicott did not develop mitigation actions to protect those facilities to the 500-year flood level.

Identified Issues

The municipality has identified the following vulnerabilities within their community:

- The Village operates two stormwater pump stations. Neither of these two critical facilities have backup power.
- The Village’s wastewater treatment plant electrical power supply is in a flood prone area. The substation has been flooded twice (2006 and 2011). In addition, the emergency generator only provides power for half of the facility and it is old. The generator is still functional, but it is becoming increasingly expensive and hard to find replacement parts.
- The Village has flooding concerns at the locations noted in the Citizen Survey responses below as well as Loder Avenue, East Valley Street, and Mersereau Park.

Specific areas of concern based on resident response to the Broome County Hazard Mitigation Citizen survey include:

- East Franklin Street and Clark Street
- Nanticoke Avenue and Oak Hill Avenue (Under railroad bridge)
- Brixius Creek
- Watson Boulevard
- Pine Street
- Route 17C

Tetra Tech reviewed levee data available to integrate components of the levee accreditation process and identify ways the hazard mitigation process can help to establish a path forward for the levee accreditation process. Information was collected from a combination of the National Levee Database (NLD), FEMA Flood Mapping Products website, NYS DEC Region 7 project details and maps website and the United States Geological Survey (USGS) StreamStats website. The findings for the Village of Endicott showed that their levee system is non-accredited. Section 4 (County Profile) shows additional details about the levee system.

Based on this review, Tetra Tech developed a phased approach to levee certification for the Village of Endicott. This approach allows the village to understand data gaps and what improvements that may be needed to meet FEMA levee certification criteria. Phase 1 is a data needs and engineering assessment phase that is collection of data required to perform engineering analyses to determine if the levee meets design criteria. This phase is broken down into six tasks (Appendix H [Levee Data Summary and Checklist] provides details on each of these tasks):

- Task 1 – data collection and information management
- Task 2 – levee inspection and memorandum
- Task 3 – permitting



- Task 4 – survey and mapping
- Task 5 – engineering analyses and assessment
- Task 6 – prepare FEMA levee certification data needs report

The following table presents a planning level estimate for the levee system in the Village of Endicott, along with a fee breakdown to complete each task.

Table 9.10-5. Endicott Levee System Phase 1 Study Estimate

Task Number	Task	Estimated Fee
1	Data Collection and Information Management	\$15,000
2	Levee Inspection and Memorandum	\$25,000
3	Permitting – 408 Process	\$50,000
4	Survey and Mapping	\$140,000
5	Engineering Analyses and Assessment	\$350,000
6	Prepare FEMA Levee Certification Data Needs Report	\$40,000
TOTAL		\$620,000

9.10.5 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 Endicott.

Table 9.10-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Comprehensive Plan	Yes	Local	Village Board	Comprehensive Plan
Capital Improvements Plan	Yes	Local	Village Board	Capital Improvements Plan
Floodplain Management / Basin Plan	Yes	Local	DEC	Floodplain Management / Basin Plan
Stormwater Management Plan	Yes	Local	Village Engineer, Local Codes Office	Storm Water Management Plan



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Open Space Plan	Yes, 1/1/2012	Local	Codes Office	Open Space Plan
Stream Corridor Management Plan	Yes	Local	Village Engineer	DEC
Watershed Management or Protection Plan	Yes	Local	Village Engineer, DPW	County
Economic Development Plan	Yes	Local	Village Board	Economic Development Plan
Comprehensive Emergency Management Plan	Yes	Local	Police and Fire	Broome County Mutual Aid
Emergency Operation Plan	Yes	Local	Police and Fire	Emergency Operation Plan
Evacuation Plan	No			
Post-Disaster Recovery Plan	Yes	Local	Village Board	Post-Disaster Recovery Plan
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
Regulatory Capability				
Building Code	Yes, 2015	State & Local	Local Codes Office	NY State Building Code.
Zoning Ordinance	Yes, 1/1/12	Local	Local Codes Office	Village Code 300
Subdivision Ordinance	Yes, 1/1/12	State	Local Codes Office	Combined T. of Union and Endicott Ordinance
NFIP Flood Damage Prevention Ordinance	Yes, 11/1/12	Federal, State, Local	Local Codes Office	Village Code 142
NFIP: Cumulative Substantial Damages	Yes, 11/1/11	Local	Local Codes Office	Village Code 142-16-17-18
NFIP: Freeboard	Yes	State, Local	Local Codes Office	State mandated BFE+2 for all construction, both residential and non-residential
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes	Local	Village Planning & Zoning Boards	Planning & Zoning Boards
Stormwater Management Ordinance	Yes	Local	Village Engineer, Local Codes Office	Local Law 3 & 4
Municipal Separate Storm Sewer System (MS4)	Yes	Broome-Tioga Storm Water Coalition	Engineering	Local Law 3 & 4
Natural Hazard Ordinance	No	-	-	-



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	Yes	State	Codes Office	NYS mandate, Property Condition Disclosure Act, NY Code - Article 14 §460-467
Other (Special Purpose Ordinances [i.e., sensitive areas, steep slope])	No	-	-	-

Administrative and Technical Capability

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

Table 9.10-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Meets as needed; 4 times per year
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	Yes	Code Enforcement
Economic Development Commission/Committee	Yes	Village Board
Maintenance programs to reduce risk	Yes	Village of Endicott Street Department
Mutual aid agreements	Yes	County Wide Agreements
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Village Engineer / Fire Chief
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Village Engineer
Planners or engineers with an understanding of natural hazards	Yes	Village Engineer / Fire Chief
NFIP Floodplain Administrator (FPA)	Yes	Fire Chief / Village Engineer
Surveyor(s)	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Warning systems/services	Yes	County Wide
Emergency Manager	Yes	Police & Fire Chiefs



Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Grant writer(s)	Yes	Village Board
Staff with expertise or training in benefit/cost analysis	Yes	Treasurer
Professionals trained in conducting damage assessments	Yes	NY State / Local Code Enforcement

Fiscal Capability

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

Table 9.10-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	Yes
Other	No

Community Classifications

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

Table 9.10-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		-
Building Code Effectiveness Grading Schedule (BCEGS)	NP	ISO: Insurance Services Organization	2015
Public Protection (ISO Fire Protection Classes 1 to 10)	NP	State and County	2016: Class 2
NYSDEC Climate Smart Community	No	-	-
Storm Ready Certification	NP	-	-
Firewise Communities classification	NP	-	-
Natural disaster/safety programs in/for schools	No	-	-
Organizations with mitigation focus (advocacy group, non-government)	Yes	Endicott Proud	2018



Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Public education program/outreach (through website, social media)	Yes	Village Website, Facebook	2015, 2017
Public-private partnership initiatives addressing disaster-related issues	Yes	Unavailable	Unavailable
Other	No	-	-

Note:

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

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 (<https://www.isomitigation.com/bcegs/>)
- The ISO Mitigation online ISO’s Public Protection website at <https://www.isomitigation.com/ppc/>
- New York State Climate Smart Communities (<http://www.dec.ny.gov/energy/56876.html>)
- The National Weather Service Storm Ready website at <https://www.weather.gov/stormready/communities>
- The National Firewise Communities website at <http://firewise.org/>

Self-Assessment of Capability

The table below provides an approximate measure of the Village of Endicott’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.10-10. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and regulatory capability	X – limited funding and staff size		
Administrative and technical capability	X – limited funding and staff size		
Fiscal capability	X – limited funding and staff size		
Community political capability	X – limited funding and staff size		



Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Community resiliency capability	X – limited funding and staff size		
Capability to integrate mitigation into municipal processes and activities	X – limited funding and staff size		

National Flood Insurance Program

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

NFIP Floodplain Administrator (FPA)

Fire Chief Joseph Griswold and Kent Rapp Engineering aide

National Flood Insurance Program (NFIP) Summary

The Village of Endicott maintains a list of properties that have been flood damaged that identifies homeowners who are interested in mitigation. Overall 30 structures have been damaged during flood events and a table of the structures indicating the number of residential, commercial, or industrial can be provided. The insurance companies are responsible for making Substantial Damage estimates with 2 homeowners declaring in a flood event and both being interested in mitigation although none of them have started. Funding for those being mitigated is split between Federal and State funding, 75% Federal and 25% Local/State.

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

Table 9.10-11. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Endicott (V)	93	76	\$3,724,023	8	0	51

Source: FEMA 2018

Notes: Policies, claims, repetitive loss, and severe repetitive loss statistics provided by FEMA Region 2, and current as of May 31, 2018. The total number of repetitive loss properties does not include severe repetitive loss properties

RL Repetitive Loss; SRL Severe Repetitive Loss

Resources

The FPA shares responsibilities of floodplain administration with other staff. The Town does not provide any education or outreach to the community regarding flood hazards/risk and flood risk reduction. The FPA noted the village has access to resources to determine possible future flooding conditions from climate change. The FPA stated that time and money present barriers to running an effective floodplain management program and does not feel adequately supported to fulfill their responsibilities as the municipal floodplain administrator.

The Village of Endicott is assisting in the update of flood plain (FIRM) maps at the Jurisdictional Level. Specific assistance is being provided by attending map update meetings held by FEMA, NYSDEC, and USGS; and by identifying flood-prone areas outside of currently designated flood areas.

Compliance History

The most recent compliance audit (community assistance visit [CAV]) took place on October 26, 2011. The Village continues to participate in the National Flood Insurance Program (NFIP) and plans to apply for



participation in the Community Rating System (CRS) program. The Village maintains compliance with and good-standing in the NFIP through adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community.

Regulatory

Flood Damage Prevention Ordinance: The Village of Endicott Flood Damage Prevention Ordinance (Chapter 142 of the municipal code) was adopted to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- Regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
- Control filling, grading, dredging and other development which may increase erosion or flood damages;
- Regulate the construction of flood barriers which will unnaturally divert floodwaters, or which may increase flood hazards to other lands; and
- Qualify for and maintain participation in the National Flood Insurance Program.

The Ordinance aims:

- To protect human life and health;
- To minimize expenditure of public money for costly flood control projects;
- To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- To minimize prolonged business interruptions;
- To minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, and sewer lines, streets and bridges located in areas of special flood hazard;
- To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- To provide that developers are notified that property is in an area of special flood hazard; and,
- To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

The Village of Endicott satisfies the minimum regulation and ordinance requirements for FEMA and State. Stormwater Local Law 3 and 4 are local ordinances in place that support floodplain management and the planning board considers efforts to reduce flood risk when reviewing variances. Endicott is planning to join the Community Rating System program to reduce flood insurance premiums. The community would be willing to attend a local CRS seminar.

Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures, which is also indicated below.



Planning

Existing Integration

Land Use Plan: The Village of Endicott has a Land-use Plan. The Zoning Board decides what the land can be used for. The Plan includes areas of natural hazard risk. The Plan refers to the County Wide Hazard Mitigation Plan

Stormwater Management Plan: The Village of Endicott is an MS4 Regulated Community and has a formal Stormwater Management Plan. The Plan specifies projects/actions/initiatives to reduce the volume of stormwater, or otherwise mitigate stormwater flooding.

Plan Updates: The Village continues to support and provide input to the Town of Union town-wide plans and studies to further characterize flooding issues including:

- Townwide Comprehensive Long-Term Recovery Plan
- Townwide Comprehensive Drainage Plan
- Townwide Floodplain Management Plan and Ordinance
- Townwide Comprehensive Sewer Infiltration Study
- Townwide Floodproofing Analysis

Emergency Management Plan Review/Updates: The Village of Endicott reviews and updates plans: The Town of Union Multi – Hazard Mitigation, Flood Plain Management, Emergency Operations, and Storm Water Management Plans will be periodically reviewed and updated to provide the most current data possible. The plan reviews shall be conducted with input from personnel associated with the Town of Union, Broome County Emergency Services, Broome County Sheriff Department, New York State Police, Endwell Fire Department, Union Volunteer Emergency Squad, and other community organizations related to emergency response.

Broome County Hazard Mitigation Plan: The Village continues to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.

Comprehensive Emergency Management Plans: The Village of Endicott is completing ongoing updates of Comprehensive Emergency Management Plans.

NYRCR Broome (March 2014): The Village of Endicott was included in the NY Rising Community Reconstruction Program (NYRCR) Plan for Broome County. The plan presented projects to increase resiliency in future flood events. During the HMP planning process, the village reviewed the list of projects included in the NYRCR Plan and identified projects they have completed (see Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy) and are currently working on. Projects not yet started are included in Table 9.10-13.

- Providing flood mitigation for the Endwell and Loder Avenue pump stations and installing a generator at the River Terrace Pump Station
- Providing flood mitigation measures at the wastewater treatment plant

The Village of Endicott has a Re-Development Plan, Growth Plan, Economic Development Plan (part of the Town of Union and Broome County), Open Space Plan, Watershed or Stream Corridor Management Plan, and Local Waterfront Revitalization Plan. The village has a tentative Continuity of Operations/Continuity of Government (COOP/COG) plan. The village is part of Broome County's Comprehensive Emergency Management Plan which refers to the Hazard Mitigation Plan. The village has a Post-Disaster Recovery Plan



which refers to the Hazard Mitigation Plan and includes specific mitigation projects and activities. The village does not have a resilience plan/strategy or Climate Adaptation Plan/strategy.

Opportunities for Future Integration

The Village of Endicott could incorporate resilience into updates to plans.

Regulatory and Enforcement (Ordinances)

Existing Integration

Zoning Ordinance: The Village of Endicott Zoning Ordinance (Chapter 300 of the municipal code) was established for the promote and protect the public health, safety and general welfare and provide for solar access. The Zoning Ordinance implements the goals and objectives of the 2008 Unified Comprehensive Plan, which include:

- Providing a wide variety of living environments for all socioeconomic groups in the population and a diversity of housing densities and types, ranging from rural low density to urban high density.
- Providing a sound commercial base, offering convenience, choice and a wide variety of goods and services.
- Improving the economy by promoting new and expanded industrial enterprises, retaining existing enterprises and redeveloping existing industrial facilities in order to further diversify the economic base and to provide for increased employment on a permanent basis.
- Providing a transportation network which is capable of moving people and goods efficiently and safely.
- Maintaining the infrastructure at a level needed to continue adequate services to Town and Village residents.
- Enriching the lives of all citizens by striving to improve the quality of the environment.
- Accommodating solar energy systems, equipment and access to sunlight.

Stormwater Management and Erosion and Sediment Control Ordinance: The Stormwater Management and Erosion and Sediment Control ordinance (Chapter 213 of the municipal code) established minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within this jurisdiction. This chapter seeks to meet those purposes by achieving the following objectives:

- Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit No. GP-02-02, as amended or revised;
- Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities, GP-02-01, as amended or revised;
- Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and stream bank erosion and maintain the integrity of stream channels;
- Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality;
- Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and



- Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.

Wellhead, Aquifer Recharge, and Watershed Protection Zones Ordinance: The Wellhead, Aquifer Recharge, and Watershed Protection Zones Ordinance (Chapter 242 of the municipal code) was established to minimize the potential for contamination of the aquifer which currently supplies or in the future could supply water to the residents of the Village of Endicott. In promoting the general intent of these regulations, the specific intent is:

- To protect and maintain groundwater quality in the protection districts tributary to the wells that supply water to the residents of the Village of Endicott.
- To protect the general health and safety of the residents of the Village of Endicott.

Parking Ordinance: The Village of Endicott maintains and enforces a parking ordinance for emergency snow removal.

The Village of Endicott's municipal zoning, subdivision regulations, and site plan review process consider natural hazard risk and require developers to take additional actions to mitigate natural hazard risk. The Planning Board/ZBA are provided with GIS Maps, the Flood Insurance Rate Map and Flood Maps to guide their decisions with respect to natural hazard risk management.

Opportunities for Future Integration

The Planning Board/ZBA could be provided with access to the Broome-Tioga Stormwater Coalition, NY DEC, and United States Army Corps of Engineers.

Operational and Administration

Existing Integration

Planning Board: The Planning Board of Endicott consists of six members. Board members serve a five-year term. The Board has powers conferred upon such Planning Boards by the laws of the state; provided, however, that the Board of Trustees reserves to itself the sole and exclusive right to legislate upon any and all matters pertaining to the zoning ordinances of the village or amendments thereto and/or modifications thereof. The Board is responsible for ensuring that all developments comply with the Floodplain requirements.

Zoning Board of Appeals: The Zoning Board of Appeals for the Village of Endicott is made up of four members. Board members serve a five-year term. The Board is responsible for ensuring that all developments comply with the Floodplain requirements.

Village of Endicott Safety Committee: The Village of Endicott Safety Committee is made up of nine members. The Committee holds semi-annual meetings to review cases of past emergencies. The Committee also undertakes online training.

Board of Water Commissioners: The Village of Endicott Board of Water Commissioners was established for the purpose of operating and maintaining the facilities of the water supply and distribution system of the village. The Board of Water Commissioners consists of five members appointed by the Mayor, subject to approval by the Board of Trustees, each of whom serve a term of five years.



Well Protection: The Village continues to evaluate alternatives to wet-floodproof and provide emergency power to Well #5, Well # 28, and Well #32 as these are prone to flood damage.

National Incident Management System (NIMS): The Village of Endicott conducts training in the National Incident Command System (ICS), under the National Incident Management System (NIMS).

Vegetation Management: The Village of Endicott continues to maintain programs to keep trees from threatening lives, property, and public infrastructure during storm events.

First Responder Site Plan Review: The Village of Endicott continues to encourage fire fighters and emergency service providers to review site plans to ensure that response and capacity exists to support development.

River/Stream Maintenance: The Village of Endicott continues to clean out the river and creeks in the Endicott area.

Non-Structural Flood Mitigation: The Village of Endicott is considering non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss properties, such as acquisition/relocation, or elevation depending on feasibility. The parameters for feasibility for this initiative would be: funding, benefits versus costs and willing participation of property owners.

Mutual Aid Agreements: The Village of Endicott supports and promote interaction with emergency service providers: The Town of Union will continue communicate with various agencies providing emergency services to the planning area regarding their needs and concerns related to maintaining the transportation system in the event of a severe weather occurrence. The village is creating, enhancing, and maintain Mutual Aid agreements with neighboring communities for continuity of operations.

Archive Elevation Certificates: The village will continue to obtain and archive elevation certificates.

Post-Disaster Procedures: The village is identifying and developing agreements with entities that can provide support with FEMA/SOEM paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/SOEM paperwork compilation, submissions, record-keeping.

Damage Assessment Training: The Village of Endicott works with regional agencies (i.e. County and SOEM) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).

Structure/Facility Inventories/Datasets: The Village of Endicott participates in regional, county and/or state level projects and programs to develop improved structure and facility inventories and hazard datasets to support enhanced risk assessment efforts. Such programs might include developing a detailed inventory of critical facilities based upon FEMA's Comprehensive Data Management System (CDMS) which could be used for various planning and emergency management purposes including:

- Support the performance of enhanced risk and vulnerability assessments for hazards including flooding, earthquake, wind, and land failure.
- Support state, county and local planning efforts including mitigation (including updates to the State HMP), comprehensive emergency management, debris management, and land use.

The Village Manager for the Village of Endicott is a municipal planner and is responsible for overseeing functions that relate to natural hazard risk reduction. The village does not have any other Board or Committees that include functions with respect to managing natural hazard risk. Stormwater Management and NFIP



Floodplain Management functions are performed by Fire Chief Joseph Griswold and Kent Rapp (Engineering Aide). The village has staff that have experience with developing Benefit-Cost Analysis and can perform Substantial Damage Estimates. The village contracts with firms that have experience in preparing grant applications for mitigation projects. Village staff get training or continuing professional education which supports natural hazard risk reduction. No staff have job descriptions that specifically include identifying and/or implementing mitigation projects/actions or other efforts to reduce natural hazard risk. Staff participate in the Southern Tier Building Association which supports natural hazard risk reduction and builds hazard management capabilities. The Village has other hazard management programs.

Opportunities for Future Integration

Additional training could continue to develop staff skillsets.

Funding

Existing Integration

The village municipal budget includes line items for mitigation projects/activities and has a Capital Improvements Budget which includes budget for mitigation-related projects. The village has been awarded funding for Loder Avenue Drainage Project through CDBG-DR Funds through the Town of Union Planning Department. The Village also uses tax money to fiscally support hazard mitigation projects.

Opportunities for Future Integration

The village can continue to apply for grant funding to support hazard mitigation projects.

Education and Outreach

Existing Integration

Education and outreach are taken care of at the Broome County level. The Village of Endicott operates a municipal webpage (<http://www.endicottny.com/>) that hosts community news and information. The Village also operates a Facebook page and Twitter account. The Village provides flooding information to residents in high-risk areas: Pamphlets will continue to be mailed to residents in flood prone areas affected by the Susquehanna River, Nanticoke Creek, and Little Choconut Creek. Each pamphlet is tailored in terms of the type of flood warning that residents of each area must be aware of. These pamphlets shall be periodically reviewed and updated to provide the most current data possible.

The Village of Endicott conducts and facilitates community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:

- Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages.
- Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation.
- Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures.
- Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.



Opportunities for Future Integration

The village could develop television commercials that would challenge people to be prepared for specific natural hazards and how to prepare yourself, your family, pets, etc. The village could utilize the website and social media accounts to put out educational information on hazards.

Sheltering, Evacuation, and Temporary Housing

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

Refer to Section 4.6.5 of Volume 1 of this plan for a description of resources identified by the county to support municipalities with the identification of evacuation, sheltering, and temporary and permanent housing.

Temporary and Permanent Housing

The Village of Endicott has not identified locations for temporary and permanent housing but would follow guidance and direction from Broome County.

Evacuation and Sheltering Needs

The Village of Endicott follows Broome County's direction on evacuation and sheltering procedures.

9.10.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2013 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 can also be found under 'Capability Assessment' presented previously in this annex.



Table 9.10-12. Status of Previous Mitigation Actions

Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
1	Continue acquisition of floodprone properties on Loder Street.	Flood		Village Engineering Dept.	Complete	Cost	\$229,000	1. Discontinue 2. - 3. Project has been completed; therefore, it will not be included in the 2019 HMP update.
						Level of Protection	500-year	
						Damages Avoided; Evidence of Success	No more flood damage to homes in this area; creates green space in the village	
2	Continue to address alternatives to wet floodproof utilities in the Jennie F. Snapp Middle School, the Union Presbyterian Church Education Building, the Central Methodist Church.	Flood		Village Engineering Dept.	Complete for the Middle School; Village does not have jurisdiction over churches	Cost		1. Discontinue 2. - 3. The stormwater system that goes to the middle school has been updated; however, the village does not have jurisdiction over the churches and the stormwater systems that go to the churches have not been upgraded.
						Level of Protection		
						Damages Avoided; Evidence of Success		
3	Continue to evaluate alternatives to wet-floodproof and provide emergency power to Well #5, Well # 28, and Well #32 as these are prone to flood damage.	Flood		Village Water Department	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
4	Ensure that all Village facilities have flood insurance, including the pump houses in Endwell and Fairmont Park.	Flood		Village Treasurer	No Progress	Cost	-	1. Discontinue – cannot get flood insurance 2. - 3. The village cannot obtain flood insurance for the equipment at the pump houses because they are below grade (51% is below grade).
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
5		All				Cost	-	1. Discontinue



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Cost	
	Continue to support and provide input to the Town of Union town-wide plans and studies to further characterize flooding issues including: -Town wide Comprehensive Long-Term Recovery Plan -Town wide Comprehensive Drainage Plan -Town wide Floodplain Management Plan and Ordinance -Town wide Comprehensive Sewer Infiltration Study -Town wide Floodproofing Analysis			Village of Endicott Engineering Dept., Town of Union	Ongoing Capability	Level of Protection	-	2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
6 (1.)	Continue to complete ongoing repairs to Endicott Wastewater Plant as a result of 2006 flooding and evaluate wet floodproofing alternatives to protect facility for future flood events per 2012 Hunt Engineering report.	Flood		Village Waste Water Treatment Plant	In Progress	Level of Protection	-	1. Include in 2019 HMP. 2. Wastewater and three pumps – part of NY Rising 3. -
7 (2.)	Continue training in the National Incident Command System (ICS), under the National Incident Management System (NIMS).	All		Village Police Dept.	Ongoing Capability	Level of Protection	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
8 (3.)	Maintain programs to keep trees from threatening lives, property, and public infrastructure during storm events.	Severe Storm		Village DPW	Ongoing Capability	Level of Protection	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
9		All		Village	In Progress	Cost	-	1. Include in 2019 HMP



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Cost	
(4.)	Maintain existing portable and stationary backup generators for DPW facilities and other critical assets that require such emergency power sources.			Light Department		Level of Protection		2. Maintain existing portable and stationary backup generators. Install generator at the central garage and the street department. 3. -
10 (5.)	Assist in the update of floodplain (FIRM) maps – Jurisdictional Level. Specific assistance can be provided in the area of attending map update meetings held by FEMA, NYDEC and USGS; and identification of flood-prone areas outside of currently designated areas	Flood		FEMA, Village Engineering Dept.	Ongoing Capability	Level of Protection	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the ‘Capability Assessment’ section above.
						Damages Avoided; Evidence of Success	-	
						Cost	-	
11 (6.)	Continue participation in the National Flood Insurance Program (NFIP) and re-join CRS.	Flood		Village Engineering Dept.	Ongoing Capability	Level of Protection	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the ‘Capability Assessment’ section above.
						Damages Avoided; Evidence of Success	-	
						Cost	-	
12 (7.)	Work with Broome County Planning to develop and maintain an inventory of the storm water infrastructure in GIS format.	Flood		Village Engineering Dept.	Ongoing Capability	Level of Protection	-	1. Discontinue 2. - 3. Member of the Broome Tioga Stormwater Coalition – working with; this is an ongoing capability for the village; it is included in the ‘Capability Assessment’ section above.
						Damages Avoided; Evidence of Success	-	
						Cost	-	
13 (8.)	Maintain and enforce parking ordinance for emergency snow removal.	Severe Storm		Village Police Dept.	Ongoing Capability	Level of Protection	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the ‘Capability Assessment’ section above.
						Damages Avoided; Evidence of Success	-	
						Cost	-	
14		All		Village		Cost	-	1. Discontinue



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Cost	
(9.)	Encourage review site plans by firefighting companies to ensure firefighting capacity exists to support development.			Fire Dept.	Ongoing Capability	Level of Protection	-	2. -
						Damages Avoided; Evidence of Success	-	3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
15 (10.)	Consider non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss properties, such as acquisition/relocation, or elevation depending on feasibility. The parameters for feasibility for this initiative would be: funding, benefits versus costs and willing participation of property owners.	Flood		Village Engineering Dept.	Ongoing Capability	Cost	-	1. Discontinue
						Level of Protection	-	2. -
						Damages Avoided; Evidence of Success	-	3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
16 (11.)	Clean out the river and creeks in the Endicott area	Flood		Village Street Dept. or contractor	Ongoing Capability	Cost	-	1. Discontinue
						Level of Protection	-	2. -
						Damages Avoided; Evidence of Success	-	3. Challenge – part of the creeks goes through private property; village and town has completed their part; GOSR is going to access the creek and see what needs to be done; village has identified areas that need stream bank maintenance
17 (12.)	Obtain funding for a 400-kw generator for pumps and motors at South Street Station	Flood		Village Grant Writer/Water Dept.	Complete	Cost	\$100,000	1. Discontinue
						Level of Protection	400 KW	2. -
						Damages Avoided; Evidence of Success	Allows continuity of operations; reduces / eliminates disturbance is service	3. Project completed
18 (13.)	Obtain funding and install generators at the following booster generation stations: Hayes Ave	Flood		Village Grant Writer, OEM	No Progress	Cost	-	1. Include in Plan – install permanent generators at each
						Level of Protection	-	2. Install permanent generators at the following booster substations in the village:



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Neil Road Pine and Robble Taft Heights Lott St. Pheasant Lane							Hayes Ave Neil Road Pine and Robble Taft Heights Lott St. Pheasant Lane
						Damages Avoided; Evidence of Success	-	3. -
19 (14.)	Acquire or elevate structures at 509 and 604 S. Loder Avenue	Flood		Village Engineering Dept.	Complete	Cost	\$220,000	1. Discontinue
						Level of Protection	500-year	2. -
						Damages Avoided; Evidence of Success	Structures no longer experience flood damage	3. Both properties have been acquired; project is complete
20 (15.)	Replace the Storm Sewer Pipe on the 200 Block of Loder Avenue, perhaps as part of the Street Reconstruction Project which will reduce flooding at the Jenny F. Snapp Middle School.	Flood		Village Engineering Dept.	In Progress	Cost		1. Discontinue
						Level of Protection		2. Funded by CDBG-DR funds from Town of Union
						Damages Avoided; Evidence of Success		3. Part of street has been done; rest of the street from 208 house to Main Street needs to be replaced – looking at other alternatives and how it needs to be done
21 (16.)	Assess the undersized Storm Sewer System from Sky Island Drive to Oak Hill Avenue.	Flood		Village Engineering Dept.	In Progress	Cost		1. Include 2019 HMP
						Level of Protection		2. Study done and included a recommendation to take the stormwater sewer from Cornell Ave and bypass around Skye Island Drive – part of NY Rising drainage program
						Damages Avoided; Evidence of Success		3.
22 (17.)	Provide flooding information to residents in high-risk areas: Pamphlets will continue to be mailed to residents in flood prone areas affected by the Susquehanna River, Nanticoke Creek, and Little	Flood		Town of Union Planning Department; Villages of	Ongoing Capability	Cost	-	1. Discontinue
						Level of Protection	-	2. -
						Damages Avoided; Evidence	-	3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						of Success		
	Choconut Creek. Each pamphlet is tailored in terms of the type of flood warning that residents of each area must be aware of. These pamphlets shall be periodically reviewed and updated to provide the most current data possible.			Endicott and Johnson City		of Success		
23 (8.)	Review and update plans: The Town of Union Multi – Hazard Mitigation, Flood Plain Management, Emergency Operations, and Storm Water Management Plans will be periodically reviewed and updated to provide the most current data possible. The plan reviews shall be conducted with input from personnel associated with the Town of Union, Broome County Emergency Services, Broome County Sheriff Department, New York State Police, Endwell Fire Department, Union Volunteer Emergency Squad, and other community organizations related to emergency response.	All		Town of Union Planning and Public Works Departments; NYS Police; Broome County Sheriff; UVES (ambulance); and Endwell, West Corners, West Endicott, Union Center and Choconut Center Fire Departments	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
24 (19.)	Support and promote interaction with emergency service providers: The Town of Union will continue communicate with various agencies providing emergency services to the planning area regarding their needs and concerns related to maintaining the transportation system in the event of a severe weather occurrence.	All		Town of Union Town Board; NYS Police; Broome County Sheriff; UVES (ambulance); and Endwell, West Corners, West Endicott, Union Center and Choconut Center Fire Departments	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
25		Flood		P&CD; DPW		Cost		1. Discontinue



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Level of Protection	Damages Avoided; Evidence of Success	
(20.)	Provide funding to supplement a grant from New York State to prepare a Long-Term Community Recovery Plan for the Town of Union, including the Villages of Endicott and Johnson City. The purpose of the Long-Term Community Recovery Plan is to provide a much more in-depth analysis of the impacts of the September 2011 flood event on the Town's housing and commercial industrial inventory and markets. The plan will also identify potential adaptive re-uses of properties and investigate potential funding sources for catalytic redevelopment activities.				No Progress	Level of Protection		2. - 3. Part of Town of Union – can support but not provide funding; village does not have jurisdiction over the project being completed
26 (21.)	Provide funds to create and integrate the Town's floodplain management update the Town of Union's Floodplain Management Plan. The floodplain development ordinance will also be revised as part of this project. The flood event of September 2011 impacted several areas throughout the Town that have not historically been flooded and are not currently addressed in the Town's Floodplain Management Plan. The new plan will also make recommendations for improving the Town's Floodplain Development Ordinance.	Flood		Town of Union Director of Community Development Planning, (P&CD)	No Progress	Cost		1. Discontinue 2. - 3. No jurisdiction; can support but not provide funding or initiate project
						Level of Protection		
Flood-1	Purchase, relocate, or elevate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority including Loder Ave.	Flood		Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from BCPD,	Complete	Cost	\$220,000	1. Discontinue 2. - 3. Both properties have been acquired; project is complete
						Level of Protection	500-year	
						Damages Avoided; Evidence	Structures no longer experience	



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						of Success	flood damage	
	<p>Phase 1: Identify appropriate candidates based on cost-effectiveness versus retrofitting.</p> <p>Phase 2: Where it is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>			NYSOEM, FEMA				
Flood-2	<p>Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community.</p> <p>Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified as Initiatives below.</p>	Flood		Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM, FEMA	Ongoing Capability	Cost	-	1. Discontinue
						Level of Protection	-	2. -
						Damages Avoided; Evidence of Success	-	3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
Flood-3	<p>Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:</p> <ul style="list-style-type: none"> Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. Prepare and distribute informational letters to flood 	Flood		Municipality with support from Planning Partners, BCPD, NYSOEM, FEMA	Ongoing Capability	Cost	-	1. Discontinue
						Level of Protection	-	2. -
						Damages Avoided; Evidence of Success	-	3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
	vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. • Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.							
Flood-4	Obtain and archive elevation certificates	Flood		NFIP Floodplain Administrator	Ongoing Capability	Cost -	Level of Protection -	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
Flood-5	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	Flood		Municipality with support from Planning Partners, BCPD, NYSOEM, FEMA	Ongoing Capability	Cost -	Level of Protection -	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
Flood-6	Complete ongoing updates of Comprehensive Emergency Management Plans	Flood		Municipality with support from NYSOEM	Ongoing Capability	Cost -	Level of Protection -	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						of Success		
Flood-7	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	All Hazards		Municipality with support from County, NYSOEM, FEMA and surrounding communities	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
Flood-8	Identify and develop agreements with entities that can provide support with FEMA/SOEM paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/SOEM paperwork compilation, submissions, record-keeping	Flood		Municipality with support from County, NYSOEM and FEMA	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
Flood-9	Work with regional agencies (i.e. County and SOEM) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	Flood		Municipality with support from County, NYSOEM and FEMA	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	
Flood-10	Participate in local, county and/or state level projects and programs to develop improved structure and facility inventories and hazard datasets to support enhanced risk assessment efforts. Such programs may include developing a detailed inventory of critical facilities based upon FEMA's Comprehensive Data Management System (CDMS) which could be used for various planning and emergency management purposes including:	Flood		Hazard Mitigation Plan Coordinator	Ongoing Capability	Cost	-	1. Discontinue 2. - 3. This is an ongoing capability for the village; it is included in the 'Capability Assessment' section above.
						Level of Protection	-	
						Damages Avoided; Evidence of Success	-	



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps
	<ul style="list-style-type: none"> Support the performance of enhanced risk and vulnerability assessments for hazards of concern. Support state, county and local planning efforts including mitigation (including updates to the State HMP), comprehensive emergency management, debris management, and land use. Improved structural and facility inventories could incorporate flood, wind and seismic-specific parameters (e.g. first floor elevations, roof types, structure types based on FEMA-154 "Rapid Visual Screening of Buildings for Potential Seismic Hazards" methodologies). It is recognized that these programs will need to be initiated and supported at the County and/or State level, and will require training, tools and funding provided at the county, state and/or federal level. 							<ol style="list-style-type: none"> Project to be included in 2019 HMP or Discontinue If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
Severe Storm-1	Enhance the County/community resilience to severe storms (incl. severe winter storms) by joining the NOAA "Storm Ready" program and supporting communities in joining the program. "StormReady" communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. Participation in the NOAA "StormReady" program shall include providing information on the "StormReady" program, facilitating public outreach and awareness programs, and supporting community storm	Severe Storm		Municipality with support from County, NYSOEM and FEMA	No Progress	Cost		1. Discontinue
						Level of Protection		2. -
						Damages Avoided; Evidence of Success		3. Support county's storm ready but at this time they will not join themselves; therefore, this action will not be included in the 2018 plan update



Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 2019 HMP or Discontinue 2. If including action in the 2019 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						Cost	Level of Protection	
	risk reduction activities as appropriate. Specific actions addressed by "StormReady" participation include establishing a 24-hour Warning Point, increase number of ways EOC receives NWS warnings, increase number of ways to disseminate warnings, monitoring hydrometeorological data, providing annual weather safety talks, train weather spotters, create a formal hazardous weather plan, host annual visits by NWS to communities, etc.							
Earthquake-1	Obtain training and conduct rapid screening assessment of critical facilities for earthquake vulnerability.	Earthquake		Municipal Emergency Management, Fire, PD with support from County, NYSOEM	No Progress	Cost		1. Discontinue 2. - 3. Earthquake is not a high hazard of concern for the village; therefore, training is not necessary for municipal staff. Therefore, this action will be removed from the mitigation strategy for the village.
						Level of Protection		
						Damages Avoided; Evidence of Success		
Earthquake-2	Develop a post-earthquake management plan to address building safety inspections, gas leaks, and other elements to protect public safety.	Earthquake		Municipal Emergency Management, Fire, PD with support from County, NYSOEM	No Progress	Cost		1. Discontinue 2. - 3. Earthquake is not a high hazard of concern for the village; therefore, a post-earthquake management plan is not necessary. Therefore, this action will be removed from the mitigation strategy for the village.
						Level of Protection		
						Damages Avoided; Evidence of Success		



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Village of Endicott has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2013 Plan:

- The Village of Endicott was included in the NY Rising Community Reconstruction Program (NYRRCR) plan for Broome County in March 2014. During the NY Rising process, the village identified mitigation projects that would make the village more resilient to future storms. During the plan update process, the village identified the following completed projects:
 - Created additional access to potable water in the event the existing water supply is unavailable due to power outage or flooding of the existing well fields.
 - Completed a stormwater management study to evaluate the alternatives at the G.W. Johnson and J.F. Snapp ballfields. The village is currently implementing the study.
- The Village of Endicott has performed ongoing maintenance projects to reduce the impact of flooding but has not identified specific mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2013 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Village of Endicott participated in a mitigation action workshop on October 17, 2018 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013).

Table 9.10-13 summarizes the comprehensive-range of specific mitigation initiatives the Village of Endicott would like to pursue in the future to reduce the effects of hazards. Some of these initiatives can be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 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 9.10-14 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.10-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
V. Endicott-1	Brixius Creek erosion protection	<p>Problem: Brixius Creek has two 90 degree turns in the village. These turns result in heightened erosion that compromises the Creek bank, increasing the risk of the banks being overtopped, flooding the village.</p> <p>Solution: The village will install Ready Rock at the two 90 degree turns in Brixius Creek. Ready Rock will be installed atop geotextile mattresses if necessary to support the weight of the rock.</p>	Flood	1, 5	No	Yes, permitting necessary	Engineering	\$1 million	Erosion of Creek banks reduced. Flooding risk in the village reduced.	Within 1 year	HMGP	High	SIP	SP
V. Endicott-2 (former 21)	East Franklin & Robble Stormwater Upgrades	<p>Problem: Undersized Storm Sewer System from Skye Island Drive to Oak Hill Avenue.</p> <p>Solution: Three underground storage tanks will be constructed. A 24” storm sewer will be built to bypass from Cornell to Skye Island Drive.</p>	Flood	1, 5	No	None	Engineering	\$1 million	Reduction in Stormwater flooding	Project on hold until funding is secured. Within 1 year of funding being secured.	NY Rising, HMGP	High	SIP	SP
V. Endicott-3	South Street Pump Station for outfall pipe.	<p>Problem: The South Street outfall pipe flows into the Susquehanna River. The end of the outfall pipe is protected by a flapper valve. However, the river elevation is usually above the elevation of the outfall pipe, resulting in the valve being closed and the outfall pipe not being functional and the storm sewer backing up and causing flooding.</p>	Flood	1, 5	No	None	Engineering	\$1.2 million	Reduction in stormwater flooding in South Street area	Within 2 years	CDBG, HMGP	High	SIP	SP



Project Number	Project Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
		Solution: The village will install a Stormwater pump station at South Street to ensure stormwater moves through the end of the outfall pipe and into the Susquehanna River.												
V. Endicott-4 (former 6)	Repairs to Endicott Wastewater Plant and three pumps.	<p>Problem: 2006 flooding event caused damages to the Wastewater Plant.</p> <p>Solution: Continue to complete ongoing repairs to Endicott Wastewater Plant and three pumps as a result of 2006 flooding and evaluate wet floodproofing alternatives to protect facility for future flood events per 2012 Hunt Engineering report. Endicott Wastewater Plant and three pumps will be repaired and protected to 500-year flood level.</p>	Flood	1	Yes 💧	None	Village Waste Water Treatment Plant	\$150,000	Wastewater Plant and pumps repaired and functional and protected to the 500-year flood level to prevent future damages.	Within 1 year	CDBG, FEMA HMGP	High	SIP	PP
V. Endicott-5 (former 9)	Maintain existing portable and stationary back-up generators	<p>Problem: Critical assets require backup power.</p> <p>Solution: Maintain existing portable and stationary back-up generators at DPW facilities and other critical assets.</p>	All Hazards	1, 4	Yes	None	Village Light Department	\$15,000	Generators are functional, and loss of critical facility services is avoided	Within 2 years	Municipal Budget	Medium	SIP	ES
V. Endicott-6 (former 18)	Install permanent generators booster substations in the village	<p>Problem: Booster stations require generators to function properly during power outages and flooding events.</p> <p>Solution: Install permanent generators at the following booster substations in the village:</p> <ul style="list-style-type: none"> Hayes Ave 	All hazards	1	Yes	None	Village Grant Writer, OEM	\$750,000-\$1 million	loss of critical facility services is avoided	Within 1 year of receiving funding	FEMA PDM and HMGP	Medium	SIP	ES



Project Number	Project Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
		<ul style="list-style-type: none"> Neil Road Pine Street and Robble Avenue Taft Heights Lott St. Pheasant Lane 												
V. Endicott-7 (former 21)	Stormwater System Bypass	<p>Problem: Undersized Storm Sewer System from Skye Island Drive to Oak Hill Avenue.</p> <p>Solution: Take the stormwater sewer from Cornell Ave and bypass around Skye Island Drive Bypass will be constructed.</p>	Flood	1	No	None	Village Engineering Dept.	Entire project cost is \$2.7 million. This is a component of a larger project.	Stormwater flood risk is reduced.	Within 1 year of receiving funding	HMGP, NY Rising, CDBG	Medium	SIP	SP
V. Endicott-8	Protect the Tri-Cities Airport to the 500-year flood level.	<p>Problem: The Airport is in the 100-year floodplain.</p> <p>Solution: The village will continue to raise electrical components. The village will floodproof the fuel tanks to the 500-year flood level.</p>	Flood	1, 3, 5	Yes 💧	None	Village, facilities manager	\$100,000 for raising electrical components, \$100,000 for floodproofing fuel tanks.	Airport protected to the 500-year flood level	3 years.	FEMA HMGP, Municipal Budget	High	SIP	PP
V. Endicott-9	Protect Well #28 and #5 to the 500-year flood level.	<p>Problem: The Wells are in the 100-year floodplain and the protective floodwall has been overtopped previously.</p> <p>Solution: Village will raise the floodwall along the creek to the 500-year flood level, protecting the wells</p>	Flood	1, 3, 5	Yes 💧	None	Village Engineering	\$5 million	Well #28 and #5 protected to the 500-year flood level	Within 2 years of receiving funding	FEMA HMGP, Municipal Budget	High	SIP	PP
V. Endicott-10	Protect Well #32, Ranney to the 500-year flood level.	<p>Problem: The Well is in the 100-year floodplain.</p> <p>Solution: The village will build a floodwall around the Well, built to the 500-year level</p>	Flood	1, 3, 5	Yes 💧	None	Village Engineering	\$3 million	Well #32 protected to the 500-year flood level	Within 2 years of receiving funding	FEMA HMGP, Municipal Budget	High	SIP	PP
V. Endicott-11	Protect Central United Methodist	<p>Problem: The Church is a sheltering location and is in the 100-year floodplain.</p>	Flood	1, 3, 5	Yes 💧	None	Village Floodplain Administrator working with	<\$100	Provide outreach to the property	Within 6 months	Municipal budget	Medium	EAP	PI



Project Number	Project Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
	Church to the 500-year flood level.	Solution: The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year level					facility operators / owners		owner and informing them of potential flood damage and possible solutions					
V. Endicott-12	Protect Jennie F. Snapp Middle School to the 500-year flood level.	<p>Problem: The School is a sheltering location in the 100-year floodplain. The Village does not have jurisdiction over the facility and cannot mitigate themselves.</p> <p>Solution: The village will contact the facilities manager and discuss options for protecting the facility to the 500-year level</p>	Flood	1, 3, 5	Yes 💧	None	Village Floodplain Administrator working with facility operators / owners	<\$100	Provide outreach to the property owner and informing them of potential flood damage and possible solutions	Within 6 months	Municipal Budget	Medium	EAP	PI
V. Endicott-13	Update the NFIP Flood Damage Prevention Ordinance	<p>Problem: The current flood damage prevention ordinance (1998) does not include NYS freeboard requirements.</p> <p>Solution: Flood Damage Prevention Ordinance will be updated to include freeboard.</p>	Flood	1	No	None	Floodplain Administrator	<\$100	Higher building standards and lower flood exposure	Within 1 year. Will update again when FIRMs are updated.	Municipal budget	High	LPR	PR
V. Endicott-14	Backflow Preventer Program	<p>Problem: During Tropical Storm Lee, the infiltration and inflow of stormwater into the Village of Endicott's sanitary sewer system caused localized backups of sewage into residential homes.</p> <p>Solution: Install backflow preventer valves in approximately 45 residences</p>	Flood, Severe Storm	1, 5	No	None	Village Wastewater Treatment	\$135,000	Prevent stormwater and raw sewage from entering homes	6 months	NY Rising, CDBG, FEMA HMGP and PDM, Municipal budget	Medium	SIP	PP



Project Number	Project Name	Description of Problem and Solution	Hazard(s) to be Mitigated	Goals Met	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
V. Endicott-15	Redundant Power Supply	Problem: Ranney Well currently does not have backup power. During a power outage or flooding event, the well cannot function properly Solution: Install redundant power supply at Ranney Well	All hazards	1, 5	No	None	Village Water	\$20,000	Continuity of operations	1 year	NY Rising, CDBG, FEMA HMGP and PDM, Municipal budget	Medium	SIP	PP
V. Endicott-16	Protect the Ranney Substation to the 500-year flood level	Problem: The substation is in the 100-year floodplain. Solution: The village will explore options to protect the substation to the 500-year level and carry out the most cost effective option.	Flood	1, 3, 5	Yes ●	None	Village Engineering	TBD	Substation protected to the 500-year flood level	TBD	FEMA HMGP, Municipal Budget	High	SIP	PP
V. Endicott-17	Protect the Holy Nativity Lutheran Church to the 500-year flood level	Problem: The Church is a sheltering location and is in the 100-year floodplain. Solution: The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year level	Flood	1, 3, 5	Yes ●	None	Village Floodplain Administrator working with facility operators / owners	<\$100	Provide outreach to the property owner and informing them of potential flood damage and possible solutions	Within 6 months	Municipal budget	Medium	EAP	PI
V. Endicott-18	Protect the Endicott Municipal Light to the 500-year flood level	Problem: Endicott Municipal Light is in the 100-year floodplain. Solution: The village will explore options to protect Endicott Municipal Light to the 500-year level and carry out the most cost effective option.	Flood	1, 3, 5	Yes ●	None	Village Engineering	TBD	Endicott Municipal Light protected to the 500-year flood level	TBD	FEMA HMGP, Municipal Budget	High	SIP	PP

Notes:

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





Acronyms and Abbreviations:

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

Potential FEMA HMA Funding Sources:

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

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

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

Mitigation Category:

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

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR) - Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities

Critical Facility:

- Yes  - Critical Facility located in 1% floodplain



Table 9.10-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
V. Endicott-1	Brixius Creek erosion protection	1	1	1	1	1	0	0	0	1	1	0	1	1	1	10	High
V. Endicott-2 (former 21)	East Franklin Street & Robble Avenue Stormwater Upgrades	0	1	1	1	1	1	0	1	1	1	0	0	1	1	10	High
V. Endicott-3	South Street Pump Station for outfall pipe.	0	1	1	1	1	1	0	1	1	1	0	1	1	1	11	High
V. Endicott-4 (former 6)	Continue to complete ongoing repairs to Endicott Wastewater Plant and three pumps as a result of 2006 flooding and evaluate wet floodproofing alternatives to protect facility for future flood events per 2012 Hunt Engineering report.	0	1	1	1	1	1	0	1	1	1	1	0	1	1	11	High
V. Endicott-5 (former 9)	Maintain existing portable and stationary back-up generators at DPW facilities and other critical assets.	1	1	0	1	1	1	0	1	1	0	1	0	0	0	8	Medium
V. Endicott-6 (former 18)	Install permanent generators at the following booster substations in the village: •Hayes Ave •Neil Road •Pine and Robble •Taft Heights •Lott St. Pheasant Lane	0	1	0	0	1	1	0	1	1	1	1	0	0	1	8	Medium
V. Endicott-7 (former 21)	Take the stormwater sewer from Cornell Ave and bypass around Sky Island Drive	1	1	0	1	1	1	0	1	1	1	0	0	1	1	10	High



Table 9.10-14. Summary of Prioritization of Actions

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
V. Endicott-8	Protect the Tri-Cities Airport to the 500-year flood level.	1	1	0	1	1	1	0	1	1	1	0	0	1	1	10	High
V. Endicott-9	Protect Well #28 and #5 to the 500-year flood level.	1	1	0	1	1	1	0	1	1	1	0	0	1	1	10	High
V. Endicott-10	Protect Well #32, Ranney to the 500-year flood level.	0	1	1	0	1	0	1	1	1	0	0	1	1	0	8	Medium
V. Endicott-11	Protect Central United Methodist Church to the 500-year flood level.	0	1	1	0	1	0	1	1	1	0	0	1	1	0	8	Medium
V. Endicott-12	Protect Jennie F. Snapp Middle School to the 500-year flood level.	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
V. Endicott-14	Backflow Preventer Program	1	1	1	1	0	0	0	0	1	1	1	1	0	0	8	Medium
V. Endicott-15	Redundant Power Supply	1	1	1	1	0	0	0	0	1	1	1	1	0	0	8	Medium

Note: Refer to Section 6, which conveys guidance on prioritizing mitigation actions.



9.10.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.10.8 Staff and Local Stakeholder Involvement in Annex Development

The Village of Endicott followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: the Engineer and Fire Chief. The Engineer represented the community on the Broome County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

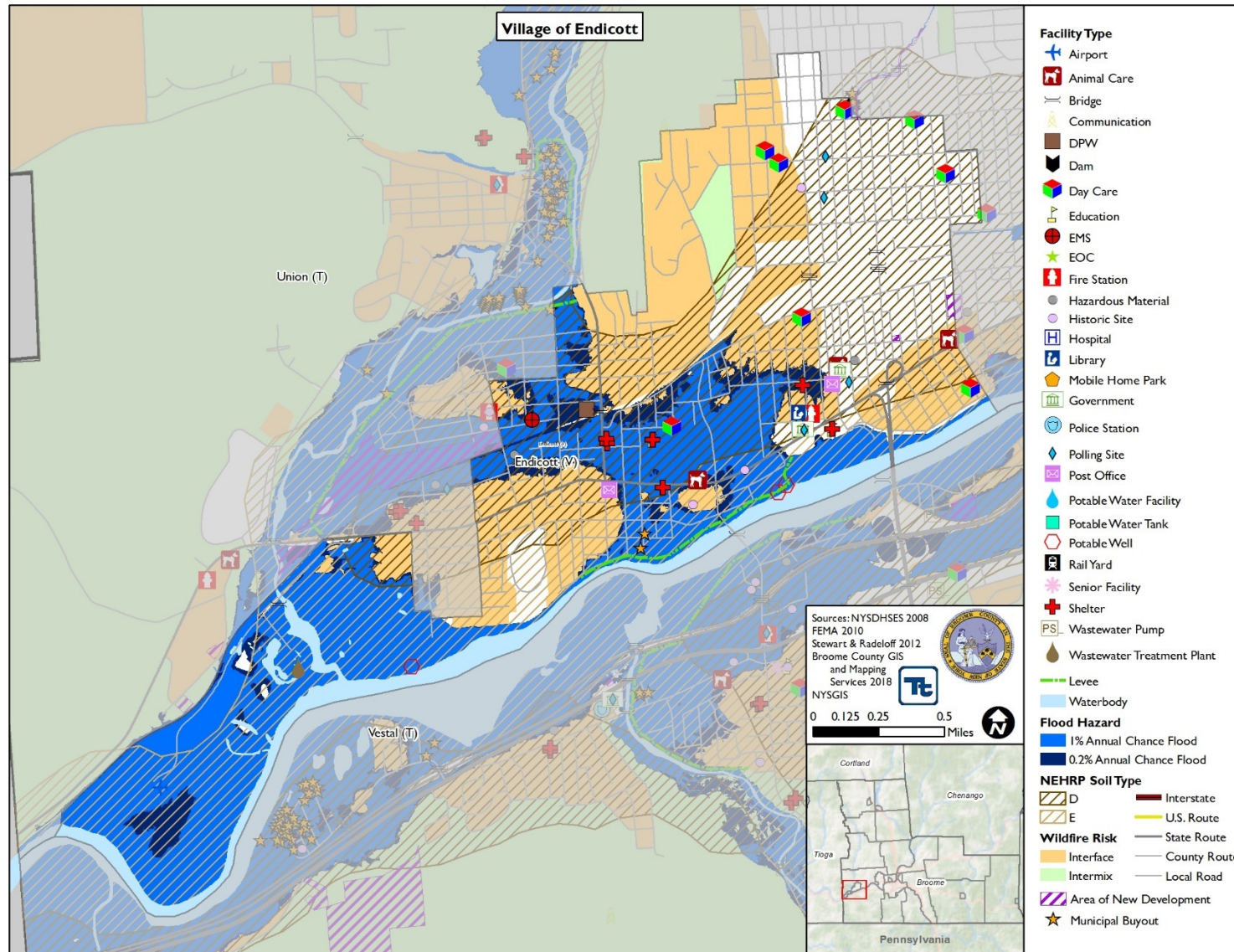
Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meetings).

9.10.9 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Village of Endicott that illustrate the probable areas impacted within the municipality. These maps are based on the best 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 Endicott has significant exposure. These maps are illustrated below.



Figure 9.10-1. Village of Endicott Hazard Area Extent and Location Map





Village of Endicott Action Worksheet			
Project Name:	Brixius Creek erosion protection		
Project Number:	V. Endicott-1		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	Heavy Rain that effects Brixius Creek by eroding the banks on both sides, resulting in trees falling in or across the creek. Brixius Creek is in need of Stream Bank Maintenance. The property on 1602 or 1604 Pine Street is affected.		
	Affected properties are located at McKinley Ave to west N Roosevelt Ave to east and the creek runs between the 2 streets and there is visual bank erosion along the inside and outside turns of the creek.		
	Location: On private property. This goes through residential property and makes 2 90 degree turns and now trees are fallen and need streambank restoration.		
Action or Project Intended for Implementation			
Description of the Solution:	The village will install Ready Rock at the two 90 degree turns in Brixius Creek. Ready Rock will be installed atop geotextile mattresses if necessary to support the weight of the rock.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Creek banks hardened and protected from erosion; 50-year event	Estimated Benefits (losses avoided):	Erosion of Creek banks reduced. Flooding risk in the village reduced.
Useful Life:	50 years	Goals Met:	1, 5
Estimated Cost:	\$1 million	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 1 year
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Dredge the Creek	\$1 million	Erosion likely to continue. Permitting issues.
	Vegetate the Creek Banks	\$5,000	Strong flooding events would be capable of overwhelming the vegetation.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Brixius Creek erosion protection	
Project Number:	V. Endicott-1	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Properties near the creek protected from flooding
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	The project will require NYS DEC
Fiscal	0	The project will require grant funding
Environmental	0	The natural creek bank would be hardened
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	1	
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Village of Endicott Action Worksheet			
Project Name:	East Franklin Street & Robble Avenue Stormwater Upgrades		
Project Number:	V. Endicott-2 (former 21)		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	<p>Road closes with heavy rain. Often for up to an hour. Last month (Tuesday 9/18/18 and 9/21/18) the street was closed twice due to flooding. This intersection is on the west side of the Huron campus and affects their business as the flooding makes the road impassable and cars have been stuck there. The catch basin is over the 48" pipe overflows into the intersection when there is high water. This is a main intersection for traffic from Nanticoke south. Anderson Equipment is considering moving its business because of flood issues. Their building has been flooded also. West of intersection the water retention area is undersized and get runoff from park. There have been 2 engineering studies to address the situation, but a mitigation project has not been implemented.</p> <p>Location: East Franklin Street/Robble Avenue Intersection</p>		
Action or Project Intended for Implementation			
Description of the Solution:	3 underground storage tanks will be constructed. A 24" storm sewer will be built to bypass from Cornell Avenue to Skye Island Drive. This project is part of a larger NY Rising project that totals \$2.7 million but this portion has not been completed and is currently unfunded.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	50-year event	Estimated Benefits (losses avoided):	Reduction in Stormwater flooding
Useful Life:	50 years	Goals Met:	1, 5
Estimated Cost:	Part of a larger NY Rising project that totals \$2.7 million	Mitigation Action Type:	Structural and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Project on hold until funding is secured.
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	NY Rising, HMGP
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Stormwater Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Buyout properties impact by flooding	\$750,000	Expensive, intersection still prone to flooding
	Raise roadway	\$150,000	Buildings still flood
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	East Franklin Street & Robble Avenue Stormwater Upgrades	
Project Number:	V. Endicott-2 (former 21)	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Property in the area will be protected from Stormwater flooding.
Cost-Effectiveness	1	
Technical	1	
Political	1	The public is supportive of the project
Legal	1	
Fiscal	0	Project is part of a larger NY Rising project but lacks funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	0	Timeline is now dependent on funding availability
Agency Champion	1	Engineering
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Village of Endicott Action Worksheet			
Project Name:	South Street Pump Station for outfall pipe.		
Project Number:	V. Endicott-3		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood		
Description of the Problem:	The South Street outfall pipe flows into the Susquehanna River The end of the outfall pipe is protected by a flapper valve. However, the river elevation is usually above the elevation of the outfall pipe, resulting in the valve being closed and the outfall pipe not being functional and the storm sewer backing up and causing flooding.		
Action or Project Intended for Implementation			
Description of the Solution:	The village will install a Stormwater pump station at South Street to ensure stormwater moves through the end of the outfall pipe and into the Susquehanna River.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	Stormwater	Estimated Benefits (losses avoided):	Reduction in stormwater flooding in South Street area and on Broad Street from Washington Avenue to Cleveland Avenue.
Useful Life:	50 years	Goals Met:	1, 5
Estimated Cost:	\$1.2 million	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 2 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	CDBG, HMGP
Responsible Organization:	Engineering	Local Planning Mechanisms to be Used in Implementation if any:	Stormwater Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Dredge Susquehanna River to lower elevation and make outfall pipe functional	\$25 million	Massive undertaking. May not have an appreciable impact. Would require permitting.
Raise Stormwater pipe and system	N/A	Not feasible due to elevation of South Street area vs. Susquehanna River.	
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	South Street Pump Station for outfall pipe.	
Project Number:	V. Endicott-3	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	Although property will be protected, Stormwater flooding in the area is not a life safety threat.
Property Protection	1	Surrounding properties will be protected from Stormwater flooding
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Village has the legal authority to construct a pump station.
Fiscal	0	Project would require funding support.
Environmental	1	The construction of a pump station is a more environmentally friendly project than existing alternatives.
Social	1	
Administrative	1	
Multi-Hazard	0	Flood
Timeline	1	
Agency Champion	1	Engineering Department
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	