MUNICIPAL ANNEX | Town of Vestal

Total Population (2010 Census)
28,043

Total Land (square miles)
52.6

Total Number of Buildings
9,532

Percent of Buildings in Regulatory Floodplain
8.8%

Number of National Flood Insurance Program (NFIP) Policies
518

Percent of NFIP Policies in Regulatory Floodplain
61.6%

Number of Repetitive Loss (RL) Properties
73

Number of Severe Repetitive Loss (SRL) Properties
1

Proposed Project Types
Structure and Infrastructure Projects and Local Plans and Regulations

Mitigation Focus
Multi-Hazard

9.22 Town of Vestal

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

9.22.1 Hazard Mitigation Planning Team

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

Primary Point of Contact	Alternate Point of Contact
Name: Vernon Myers Title: Town Engineer Phone Number: 607-786-0980 extension 209 Address: 133 Front Street, Vestal, NY 13850 Email: vmyers@vestalny.com	Name: Lincoln Ellis Title: Code Enforcement Officer Phone Number: 607-786-0980 extension 203 Address: 133 Front Street, Vestal, NY 13850 Email: lellis@vestalny.com
NFIP Floodplain Administrator	
Name: Lincoln Ellis Title: Code Enforcement Officer Phone Number: 607-786-0980 extension 203 Address: 133 Front Street, Vestal, NY 13850 Email: lellis@vestalny.com	

9.22.2 Municipal Profile

The Town of Vestal is located in Broome County, NY. The Town includes the hamlets of Ross Corners, Tracy Creek, Twin Orchards, Vestal Center, Willow Center, Four Corners, South Vestal, and Vestal Hills. The Town of Alexander has a total area of 52.6 square miles. The Town of Vestal is located in Broome County, NY. The town lies between the Susquehanna River and the Pennsylvania border. The north town line is defined by the Susquehanna River, the west is bordered by Tioga County, and the south is bordered by Susquehanna County, PA.

New York State Route 17 passes across the north part of the town and intersects north-south highway New York State Route 26 by the Susquehanna River. New York State Route 434, Vestal Parkway, intersects NY-26 south of the NY-17 junction. New York State Route 201 also crosses to the north shore of the Susquehanna River, linking the eastern part of Vestal with the village of Johnson City.

The 2016 estimated population was 28,267, a 0.8% increase from the 2010 Census (28,043).

Home rule is strong in New York State and thus, each town and village has its own governing body. The Town of Vestal is governed by a Supervisor and a Town Council made up of four Council members.

Data from the 2016 U.S. Census American Community Survey estimates that 3.0% of the town population is five years of age or younger, and 16.2% is 65 years of age or older.

History and Cultural Resources

The Town of Vestal was originally part of the township of Union and the first settlers of the town arrived around 1785. The town was formally established in 1823 from the southern half of the Town of Union. Lumbering was the leading industry in the town in the 1840s and 1850s which contributed to its growth and success. During the 20th century, Vestal served as a residential suburb to emerging industries such as Endicott Johnson Corporation, IBM, and Lockheed Martin.

During the 1990s, Vestal became the major retail center of the Southern Tier region of New York, with many large shopping centers such as the Town Square Mall, Parkway Plaza, Shoppes at Vestal, and Campus Plaza being built along the Vestal Parkway (NY Route 434), which became one of the busiest roads in the area. Vestal's historic central business district is located along three blocks of Front Street, still lined with small shops. The Drovers Inn and Round Family Residence and Vestal Central School were listed on the National Register of Historic Places in 2010.

Binghamton University, a SUNY university center, is found in Vestal and has an enrollment of over 17,000 students. The Town has 21 town-operated parks.

Growth/Development Trends

Table 9.22-1 summarizes major residential/commercial development that as of August 2018 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. Refer to the map in 9.22.9 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.22-1. 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					
There were 2313 building permits issued since 1/1/2013					
Known or Anticipated Development in the Next Five (5) Years					
None Identified					

Only location-specific hazard zones or vulnerabilities identified.

9.22.3 Hazard Event History Specific to the Town of Vestal

Broome County has a history of natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The Town of Vestal'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 9.22-2 provides details regarding municipal-specific loss and damages the Town 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 9.22-2. 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 Town 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 Town did not report damages.
June 14, 2015	Flash Flood	No	A 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 Town 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 Binghamton Airport broke an all-time daily snowfall record with 32.4 inches and a 2-day snowfall record of 34.9 inches.	The Town of Vestal's funds expended during the storm were recouped through disaster assistance.
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	Evacuations by emergency services along Choconut Creek. Roads closed at bridge crossings. Damage to existing bank protection with continued erosion of Choconut Creek throughout. Town park infrastructure damaged at Vestal Center Park (Playground, tennis courts, ball fields). Damage to Coleman Street. Sewer line exposed in Choconut creek near Circle Drive. 63 houses and private property assessed for damages along Choconut Creek. State line creek: Overtopped damage along Stateline Road included damage to roadway,

Dates of Event	Event Type (Disaster Declaration if applicable)	Broome County Designated?	Summary of Event	Municipal Summary of Damages and Losses
			hours. Rapid rises of area streams and creeks resulted in severe flash flooding.	shoulders, cross pipes, ditches. Roadway embankment failure threatening closure Stateline road. Damage in Jones Park included service road, trails and culverts. Total infrastructure damages estimated at $651,500.00. FEMA Public Assistance requested with other municipalities through Broome County. No declaration from FEMA.
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 Town did not report damages.

Notes:

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

9.22.4 Hazard Ranking and Jurisdiction-Specific Vulnerabilities

The hazard profiles in Section 5.0 (Risk Assessment) of this plan have detailed information regarding each plan participant's vulnerability to the identified hazards. The following summarizes the hazards of greatest concern and risk to the Town of Vestal. 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 may 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 Town of Vestal. The Town of Vestal 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 Town indicated the following:

- The Town approved the municipal risk rankings.

Table 9.22-3. Town of Vestal Municipal Hazard Ranking Input

HAZARD	Drought	Earthquake	Extreme Temperature	Invasive Species	Flood	Severe Storm	Severe Winter Storm	Wildfire
RELATIVE RISK FACTOR	Medium	Low	Medium	Low	High	High	High	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
**The municipality changed the initial ranking of this hazard based on event history, municipal experience, and feedback from the municipality*

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 even, 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 9.22-4. 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	
Vestal Company 1	Fire	X	X	21.67	94.02	T. Vestal-1
CITGO Vestal Terminal	Hazardous Materials		X	-	-	-
SAM'S CLUB #6366	Hazardous Materials		X	-	-	-
Superior Plus Energy Services – Warners*	Hazardous Materials	X	X	-	-	-
Superior Plus Energy Services - Warners	Hazardous Materials		X	-	-	-
Vestal Terminal (BETZL)	Hazardous Materials		X	-	-	-
African Road Pump Station	WW Pump	X	X	-	-	T. Vestal 2
Castle Gardens Pump Station	WW Pump		X	-	-	-
Circle Drive Pump Station	WW Pump	X	X	-	-	T. Vestal 3
Midas Pump Station	WW Pump		X	-	-	-
Myrtle Street Pump Station	WW Pump	X	X	-	-	T. Vestal 4
Pump Station	WW Pump	X	X	-	-	
River Road Pump Station	WW Pump	X	X	-	-	T. Vestal 5
Stage Road Pump Station	WW Pump	X	X	-	-	T. Vestal 6

Name	Type	Exposure		Potential Loss from 1% Flood Event		Addressed by Proposed Action
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	
Sycamore Road Pump Station	WW Pump		X	-	-	-
Third Avenue Pump Station	WW Pump	X	X	-	-	T. Vestal 7
Child Care Center*	Daycare		X	-	-	-
Vestal Volunteer ES	EMS	X	X	8.28	13.13	T. Vestal 8
Drovers Inn*	Historic	X	X	0.12	0.24	-
Rounds House*	Historic	X	X	0.71	1.43	-
Drovers Inn*	Historic	X	X	0.31	0.61	-
Rounds House*	Historic	X	X	0.74	1.48	-
Rounds Coal Company Building*	Historic	X	X	0	0	-
Vestal Center United Methodist Church*	Historic	X	X	0	0	-
Rounds Cemetery*	Historic	X	X	12	92.67	-
Cold Springs Farm House*	Historic	X	X	0	0	-
Mersereau House*	Historic	X	X	1.95	6.49	-
Vestal Mobile Home Park	Mobile Home Park		X	-	-	-
Stewart Four Cities Trailer Park	Mobile Home Park		X	-	-	-
Vestal Fire Company 1	Polling	X	X	3.28	3.75	T. Vestal-1
Vestal Center Methodist Church*	Polling	X	X	0	0	-
Glenwood Elementary School	Shelter	X	X	0	0	T. Vestal-9
Southern Tier Veterinary Associates*	Veterinarian	X	X	0	0.43	-

Source: *Hazus 4.2*
- *No estimated damages calculated by HAZUS-MH*
* *The Town of Vestal reviewed the list of critical facilities and determined that hazardous material facilities, day cares, historic facilities, veterinarians, animal shelters, and polling locations were not critical for the purpose of essential services. As a result, the Town of Vestal 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:

- There are 73 repetitive loss and one severe repetitive loss properties located in the Town.
- Vestal Volunteer EMS is an identified critical facility located in the floodplain.
- Superior Plus Energy Services on Old Vestal Road is an identified critical facility located in the floodplain.
- Multiple pump stations are located in the floodplain.
- Vestal Park Nursing Home is an identified critical facility located in the floodplain.
- Current USACOE study. Flood walls do not meet criteria
- Choconut Creek: Pennsylvania to Susquehanna River
- Dredge confluence of Choconut creek at Susquehanna River threatens Potable well
- Fuller Hollow Creek: Erosion problem at sewer plan; erosion upstream.
- Not enough money in GOSR Projects. Bids Cost high of program.
- Due to flooding of the Town Hall and Police Department building, there have been ongoing talks of relocating.
- Need permanent storm pump station near the flood walls at Roberts Street and Twin Orchards area.
- Need permanent generators to existing storm pump stations at Valley Road and Ethel Place.
- Need crossover pipes and new ditches on country roads that have steep grades, to limit ditch distances.
- Need to build dam and/or detention pond on Fuller Hollow Creek. The Creek has and continues to erode property and has continual maintenance issues because of high flows.

- Fire Station #1 needs to be floodproofed.

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

- Main Street
- Twin Orchards
- Castle Gardens
- State Line Road Vestal
- Vestal Center near the Vestal Center Park
- Reynolds Road, Day Hollow Road
- Old Vestal Road
- Sycamore Road
- Town Square
- Steward Park
- Pierce Hill near African Road
- Vestal Parkway
- Murray Hill Road
- Apalachin
- Rail Trail Areas
- Front Street Vestal
- 4 Corner Vestal (Main & 434)
- Richard's and Tharp
- Court Street
- Route 12
- Country Club Road
- Echo Road

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 Town of Vestal 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 Town of Vestal. 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 Town of Vestal, along with a fee breakdown to complete each task.

Table 9.22-5. Vestal 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	$155,000
5	Engineering Analyses and Assessment	$375,000
6	Prepare FEMA Levee Certification Data Needs Report	$40,000
	TOTAL	$660,000

9.22.5 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 Town of Vestal.

Table 9.22-6. 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	No	-	-	-
Capital Improvements Plan	No	-	-	-
Floodplain Management / Basin Plan	No	-	-	-
Stormwater Management Plan	Yes	Local	Engineering	Vestal Town Code Sec 6 Article VI, 2007
Open Space Plan	No	-	-	-
Stream Corridor Management Plan	No	-	-	-
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	No	-	-	-
Comprehensive Emergency Management Plan	Yes, 3/22/2017	Local	Town/Board/Police/Fire	Comprehensive Emergency 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.)
Emergency Operation Plan	Yes	Local or County	Supervisor	Emergency Plan adopt 3/22/2017
Evacuation Plan	No	-	-	-
Post-Disaster Recovery Plan	No	-	-	-
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
Regulatory Capability				
Building Code	Yes	State & Local	Code Dept.	State Building Code, 2010
Zoning Ordinance	Yes	Local	Code Dept.	Vestal Town Code, 1966
Subdivision Ordinance	Yes	State	Code/Engineering	Vestal Town Code Appendix A, 8/15/06
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Code Dept.	Vestal Town Code Sec 6 / Article IV, 1987
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	Yes	State, Local	Code Dept.	State mandated BFE+2 for all construction, both residential and non-residential Vestal Town Code Sec 6-137(d), 1987
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes	Local	Engineering/Planning Board	Vestal Town Code Sec 24-84, 1966
Stormwater Management Ordinance	Yes	Local	Engineering Dept.	Vestal Town Code Sec 6 Article VI, 2007
Municipal Separate Storm Sewer System (MS4)	Yes	Federal, State, Local	Engineering Dept.	Vestal Town Code Sec 18 Article VI, 2007
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	Yes	State	-	NYS mandate, Property Condition Disclosure Act, NY Code - Article 14 §460-467

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.)
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 Town of Vestal.

Table 9.22-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board, meets 1 per month, addresses these issues in development review
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Town Conservation Advisory Committee meet 1 per month
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Maintenance programs to reduce risk	Yes	Highway Department yearly maintenance of storm system. Parks Dept maintenance of buyout properties
Mutual aid agreements	Yes	Water/Sewer Dept/ Highway Dept plowing/Fire/Ambulance
Flood Committee	No	-
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Engineering
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Code and Engineering
Planners or engineers with an understanding of natural hazards	Yes	Code and Engineering
NFIP Floodplain Administrator (FPA)	Yes	Code Director is current Floodplain Administrator
Surveyor(s)	No	-
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	Engineering
Scientist familiar with natural hazards	No	-
Warning systems/services	Yes	Reverse 911 with Broome County, Fire Sirens
Emergency Manager	No	-
Grant writer(s)	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	Code Dept. and Engineering Dept.

Fiscal Capability

The table below summarizes financial resources available to the Town of Vestal.

Table 9.22-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	No
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	No
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other federal or state Funding Programs	Yes
Open Space Acquisition funding programs	No
Other	No

Community Classifications

The table below summarizes classifications for community programs available to the Town of Vestal.

Table 9.22-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	Yes	10	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4-1 and 2 family 3-for all other	9/29/2016
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/4Y	7/25/2016
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)	No	-	-
Public education program/outreach (through website, social media)	No	-	-
Public-private partnership initiatives addressing disaster-related issues	No	-	-
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 Town of Vestal's capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.22-10. 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 (planning)	X (regulatory)
Administrative and technical capability		X	
Fiscal capability		X	
Community political capability		X	
Community resiliency capability			X
Capability to integrate mitigation into municipal processes and activities		X	

National Flood Insurance Program

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

NFIP Floodplain Administrator (FPA)

Lincoln Ellis, Code Enforcement Officer

National Flood Insurance Program (NFIP) Summary

The Town of Vestal informally maintains lists/inventories of properties that have been flood damaged. The lists do not identify property owners who are interested in mitigation. The Town makes Substantial Damage estimates and declared 58 properties as substantially damaged in the flood of 2011. Roughly 50 properties were purchased

in 2011 using federal and state funds but the Town has not received further inquiries for acquisitions or mitigation since that time.

The following table summarizes the NFIP statistics for the Town of Vestal.

Table 9.22-11. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Vestal (T)	518	476	$24,072,693	73	1	319

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

Floodplain administration in the Town of Vestal is completed by the Code Department and Town Engineering staff. NFIP administration services and functions include permit review, inspections, damage assessments, and record keeping. The Town provides education and outreach regarding flood hazards/risk and flood risk reduction with inquiries or permit applications. The FPA noted that the Town does not have access to resources to determine possible future flooding conditions from climate change. The FPA did not feel there are any barriers to running an effective floodplain management program but noted there is no specific funding for training. As such, the FPA would consider attending continuing education and/or certification training on floodplain management if it were offered in the County for all local floodplain administrators.

Compliance History

The Town of Vestal is in good standing in the NFIP. The Town's most recent compliance audit (community assistance visit [CAV]) took place on May 18, 2017.

Regulatory

Flood Hazard Areas Ordinance: The Flood Hazard Area Ordinance (Chapter 6 Article 4 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 flood waters;
- Control filling, grading, dredging and other development which may increase erosion or flood damages;
- Regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards to other lands, and;
- Qualify and maintain for participation in the National Flood Insurance Program.

The objectives of the ordinance are:

- 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, 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 area of special flood hazard assume responsibility for their actions.

The NFIP Flood Damage Prevention Ordinance for the Town of Vestal meets State and Federal standards. The Town maintains 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. Other local ordinances, plans, and programs support floodplain management and the meeting of NFIP requirements. The Town has not considered joining the Community Rating System program but would attend a seminar on the program if it were offered locally.

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

Stormwater Management Plan: The Town of Vestal 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.

Comprehensive Emergency Management Plan: The Town of Vestal's Comprehensive Emergency Management Plan refers to the Broome County Emergency Management Plan but not the Countywide Hazard Mitigation Plan. The Town works to complete ongoing updates to the Plan.

Broome County Hazard Mitigation Plan: The Town of Vestal supports the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0.

The Town of Vestal does not have a Comprehensive Plan, Re-Development Plan, Growth Plan, Economic Development Plan, Open Space Plan, Watershed or Stream Corridor Management Plan, Local Waterfront Revitalization Plan, Continuity of Operations/Continuity of Government (COOP/COG) plan(s), Post-Disaster Recovery Plan, Post-Disaster Redevelopment Plan, Strategic Recovery Plan, resilience plan/strategy, or Climate Adaptation Plan/strategy.

Opportunities for Future Integration

As plans or updated or new plans are written, natural hazard mitigation and resilience could be incorporated as well as references to the Countywide Hazard Mitigation Plan.

Regulatory and Enforcement (Ordinances)

Existing Integration

The Town of Vestal'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 and/or ZBA is provided with training to guide their decisions with respect to natural hazard risk management.

Zoning Ordinance: The Zoning Ordinance for the Town of Vestal (Chapter 24 of the municipal code) was established in order to encourage the most appropriate use of land, conserve the value of property, and promote the health, safety, morals and general welfare of the community; to regulate the location, use and occupancy of buildings and the use of land for trade, industry, residence and other uses; to regulate and limit the height and bulk of buildings and other structures; to regulate and determine the area of yards and other open spaces; to regulate the density of population and for such purpose, to divide the town into districts; to provide for its enforcement and administration; and to prescribe penalties for the violation of its provisions.

Subdivision Regulations: The Subdivision Regulations for the Town of Vestal provide for the orderly growth and coordinated development of the town and to assure the comfort, convenience, safety, health and welfare of its people and further, that the approval of such subdivisions shall be based on the following considerations:

- Conformance with the various parts of the comprehensive plan and the zoning ordinance [chapter].
- Recognition of a desirable relationship to the general land form, its topographic and geologic character, to natural drainage and surface water runoff and to the ground water table.
- Recognition of desirable standards of subdivision design including adequate provision for pedestrian and vehicle traffic, for public water supply and sanitary sewer, for surface water runoff and for suitable building sites for the land use contemplated.
- Provisions for such facilities as are desirable adjuncts to the contemplated use such as parks, recreation areas, school sites, fire stations and off-street parking.
- Review of subdivision plats shall consider general development standards and the guarantee of adequate future street access to other lands through the subdivided property.

Stormwater Erosion and Sediment Control Ordinance: The Stormwater Erosion and Sediment Control Ordinance (Chapter 6 Article 6 of the municipal code) was adopted to establish 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 or as amended or revised;
- Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01 or as amended or revised;
- Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and 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.

Operational and Administration

Existing Integration

Planning Board: The Planning Board is an independent body comprised of five unpaid volunteer members appointed by the Town Board. Each member serves a five-year term, with one member's term expiring each calendar year. There is no term limit for Planning Board members. Meetings are work sessions and generally held the second Tuesday of each month at 6:00p.m. but may be moved due to Holidays or Election Day. Meetings are open to the Public.

The Planning Board reviews site plans for building construction, additions, rehabilitations, land partitions, change of building use, change of building tenants, and sub-divisions to ensure that the plans comply with the code and law. This Board works closely with the Town Engineer on all projects.

Zoning Board of Appeals: The Zoning Board of Appeals (ZBA), as an administrative body made up of laypersons appointed by the Town Board, does not have any legislative functions; these are the sole province of the Town Board. The ZBA therefore, does not impose zoning, nor does it have the authority to amend the zoning regulations or change the boundaries of the districts where they are applicable. The Zoning Board of Appeals is designed to function as a "safety valve" to relieve the pressure of rigid and inflexible provisions of zoning codes and statutes and encompasses the power, if an appeal is properly taken to the board, to interpret the zoning ordinance or local law and to grant variances.

Conservation Advisory Committee: The Vestal Conservation Advisory Commission (CAC) is charged with providing information and advice to the Vestal Town Board about environmental issues and conservation of natural features in the Town. There are seven (7) members. Alternate members will be appointed. One member is appointed to act as the liaison to the Broome County Environmental Management Council.

Site Plan Review: The Town of Vestal reviews site plans to ensure developments served by private wells have adequate well recharge area.

Crossover Pipes: The Town of Vestal actively adds crossover pipes and new ditches on country roads that have steep grades, to limit ditch distances.

Elevation Certificates: The Town of Vestal obtains and archives elevation certificates.

Mutual Aid Agreements: The Town of Vestal creates, enhances, and maintains Mutual Aid agreements with neighboring communities for continuity of operations.

Post Disaster Procedures: The Town of Vestal works to identify and develop agreements with entities that can provide support with FEMA/SOEM paperwork after disasters and 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 Town of Vestal 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 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:

- 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 Town of Vestal does not have a municipal planner or contract planning firm. Stormwater Management functions in the Town are performed by the Town Engineer/MS4 Stormwater Management Officer. NFIP Floodplain Management functions are performed by Code Enforcement Officer/Floodplain Administrator. The Town has contracted with firms who have experience with developing Benefit-Cost Analysis. The Town has staff and has contracted with firms who can perform Substantial Damage Estimates and have experience in preparing grant applications for mitigation projects. Staff receive training/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 and no staff or Departments participate in associations, organizations, groups or other committees that support natural hazard risk reduction and build hazard management capabilities. The Town has ditch/drainage clearing and stormwater cleaning/maintenance programs.

Opportunities for Future Integration

The Planning Board and ZBA could be provided with the Countywide Hazard Mitigation Plan to assist their decision making.

Funding

Existing Integration

The Town of Vestal's municipal/operating budget includes line items for mitigation projects/activities. The Town's Capital Improvements Budget includes budget for mitigation-related projects such as maintenance or improve of stormwater management/drainage. The Town has been awarded grant funding for mitigation-related projects in the past. $3 million (GOSR Recovery) is being used for a stormwater pump station and a new Ambulance Facility. The Town does not have any additional mechanisms to fiscally support hazard mitigation projects.

Opportunities for Future Integration

The Town can continue to allocate municipal funds and apply for grant funding to support hazard mitigation.

Education and Outreach

Existing Integration

The Town receives stormwater programs through the local Broome County Stormwater Coalition. The Town of Vestal operates a municipal website (https://www.vestalny.com/) which has community news and information.

The Town 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 Town could include more educational information on the municipal website.

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 Town of Vestal has identified the following potential sites for the placement of temporary housing for residents displaced by a disaster:

- Binghamton University Events Center: 4400 Vestal Parkway East Vestal, NY 13850. The capacity is unknown, but the facility was previously used in the 2011 flood.

The Town has not identified potential sites suitable for relocating houses of the floodplain and/or building new homes once properties in the floodplain are acquired.

Evacuation and Sheltering Needs

The Town of Vestal has not identified emergency shelters. Evacuation routes and procedures are directed by the Emergency Managers of the Emergency Operations Plan or through the Emergency Operations Center during an event. Routes and procedures are very dependent on the type, severity and location of emergency situations within the 50 square miles of the Town.

9.22.6 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 may also be found under 'Capability Assessment' presented previously in this annex.

Table 9.22-12. 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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
1.	Continue and/or enhance programs to keep trees from threatening lives, property, and public infrastructure during storm events	Severe Storm	Remove hazardous trees on town owned property	Highway Dept and Utility Company	Ongoing capability	Cost Level of Protection Damages Avoided; Evidence of Success	$10,000/year	1. Discontinue 2. 3. Town adding separate budget line item for tree and damage to Town property
2.	Maintain backup generators and other redundant utilities for Town Hall and radio tower facility and retrofit vulnerable critical facilities including the public water well-field property with secure backup generator.	Severe Storm, Flood	Need for backup power	Engineering and Water Dept	Complete	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Town hall, Tower facility and well fields all have backup generators
3.	Assist in the update of flood plain (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		Engineering and Code	In Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2018 HMP 2. Work with FEMA and NYSDEC on floodwalls and flood maps. USACOE has initiated study of Susquehanna River basin and flood walls. 3.
4.	Complete stormwater outfall mapping in GIS format, to identify needs for enhancements of critical infrastructure.	Flood Severe Storm	Outfalls not previously mapped	Engineering	In Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2018 HMP 2. New regulations may change outfall definition criteria 3.
5.	Continue participation in the National Flood	Flood		Engineering and Code	Ongoing capability	Cost Level of Protection		1. Discontinue 2.

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Insurance Program (NFIP).					Damages Avoided; Evidence of Success		3. Ongoing capability
6.	Evaluate participation in the CRS.	Flood		Engineering	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2018 HMP 2. Would be beneficial to Town 3.
7.	Consider acquiring flood insurance for Harold Moore Park and the Fire Training Site.	Flood	Continual flood damage at these sites.	Town Board	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3.
8.	Encourage review of site plans by firefighting companies to ensure fire-fighting capacity exists to support development (i.e. tall buildings in w/o access to ladder equipment).	All		Planning Board, Fire Dept.	Complete	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Fire Marshall attends Planning Board meetings
9.	Review current of site plans to that ensure developments served by private wells have adequate well recharge area	Severe Storm, Drought		Engineering	Ongoing capability	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Town has adequate capabilities
10.	In process of closing on demolition of 58 property acquisitions. Continue to participate in or continue to aggressively pursue NFIP flood buyout of flood damaged/flood prone and/or repetitive	Flood		Engineering and Code	Complete	Cost Level of Protection Damages Avoided; Evidence of Success	$4,978,867	1. Discontinue 2. Twin Orchards & Castle Gardens area (2015) 3. Complete

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	loss properties for 14 properties in the Castle Garden /North Road in Vestal.							
11.	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		Engineering and Code	In Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2018 HMP 2. Many properties still in risk zones 3.
12.	Relocate the Town Hall and Police Department building. Due to flooding of the Town Hall and Police Department building, there has been ongoing talks of relocating.	Flood	Flooding of Town Hall 2011	Town Board	In Progress	Cost Level of Protection Damages Avoided; Evidence of Success	$4.5 Million	1. Include in 2018 HMP 2. Relocate Town Court, Police Dept. and Vestal EMS Squad out of floodplain 3.
13.	Relocate Parks Dept buildings. Due to flooding of the Town Hall and Police Department building, there has been ongoing talks of relocating, which would require moving the Parks Building to make room.	Flood		Town Board	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2018 HMP 2. Many properties still in risk zones 3.
14.		Flood				Cost	$850,000	1. Include in 2018 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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Build permanent storm pump station near the flood walls at Roberts Street and Twin Orchards area			Town Board; NYSDEC	In Progress	Level of Protection		2. Convert out of service sewer station to storm water pump station (NY Rising 2014 Funds used as well) 3.
						Damages Avoided; Evidence of Success		
15.	Install 2 permanent generators to existing storm pump stations at Valley Road and Ethel Place	Severe Storms and Flood		Town Board	Complete	Cost	$100,000	1. Discontinue
						Level of Protection		2. Purchased two back-up generators to existing storm water pump stations
						Damages Avoided; Evidence of Success		3. Complete
16.	Add crossover pipes and new ditches on country roads that have steep grades, to limit ditch distances.	Severe Storm and Flood		Vestal Engineering; Vestal Highway Department	Ongoing capability	Cost		1. Discontinue
						Level of Protection		2.
						Damages Avoided; Evidence of Success		3. Ongoing capability
17.	Build dam and/or detention pond on Fuller Hollow Creek. The Creek has and continues to erode property and has continual maintenance issues because of high flows.	Flood, Severe Storm		Vestal Engineering; DEC	No progress	Cost		1. Include in 2018 HMP
						Level of Protection		2. Should add stream restoration as part of downstream impact attenuation.
						Damages Avoided; Evidence of Success		3.
18.	Flood proof Fire Station #1	Flood		Vestal Engineering; Vestal Fire	Complete	Cost	$6,000	1. Discontinue
						Level of Protection		2. Flood-proof critical facilities -Fire Station #3, Ross Corners Installed check valve and purchased mobile flood gate
						Damages Avoided; Evidence of Success		3. Complete
19.	Move Vestal EMS Emergency Squad building out of Twin	Flood		Town Board; Vestal EMS	No progress	Cost		1. Include in 2018 HMP
						Level of Protection		2.

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	Orchards area (see below).					Damages Avoided; Evidence of Success		3.
Flood-1	Purchase, elevate, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates based on cost-effectiveness versus retrofitting. Evaluate options to reduce flood vulnerability of Vestal Company 1 Vestal Volunteer ES, Drovers Inn, and Rounds House. Phase 2: Where 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.	Flood		Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from BCPD, NYSOEM, FEMA	No Progress	Cost Level of Protection Damages Avoided; Evidence of Success		1. Include in 2018 HMP 2. 3. Large scale regional project needed if this moves forward
Flood-2	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	Flood		Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM, FEMA	Ongoing capability	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. Town Code adopted for floodplain development and building regulations 3. Ongoing capability

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. 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.							
Flood-3	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: • 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	Flood		Municipality with support from Planning Partners, BCPD, NYSOEM, FEMA	Ongoing Capability	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	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 Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability
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 Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability
Flood-6	Complete ongoing updates of Comprehensive Emergency Management Plans	Flood		Municipality with support from NYSOEM	Ongoing capability	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability
Flood-7	Create/Enhance/Maintain Mutual Aid agreements with neighboring	All Hazards		Municipality with support from County,		Cost Level of Protection		1. Discontinue 2.

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	communities for continuity of operations			NYSOEM, FEMA and surrounding communities	Ongoing capability	Damages Avoided; Evidence of Success		3. Ongoing capability
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 Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability
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 Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability
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	Flood		Hazard Mitigation Plan Coordinator	Ongoing capability	Cost Level of Protection Damages Avoided; Evidence of Success		1. Discontinue 2. 3. Ongoing capability

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	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 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.							
						Cost		1. Include in 2018 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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. 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 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	Severe Storm		Municipality with support from County, NYSOEM and FEMA	In Progress	Level of Protection Damages Avoided; Evidence of Success		2. Have dedicated space for Town EOC and the Vestal Public library with enhance communication abilities. 3.

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 2018 HMP or Discontinue 2. If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
	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 Level of Protection Damages Avoided; Evidence of Success		1. 2. 3.
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 Level of Protection Damages Avoided; Evidence of Success		1. 2. 3.

Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Town of Vestal 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:

Document	Action	Description	Location	Classification	Status	Cost	Date
Hazard Mitigation Plan (2013)	Stream Bank Stabilization	Improved stream bank protection at multiple creeks	Town-wide; State Line, Fuller Hollow Creek, Sugar Creek, Choconut, Tracy, Raylene and Echo Creeks	Natural Resource Protection	COMPLETE: More information under Soil and Water Conservation section		
Hazard Mitigation Plan (2013)	Pump Station	Flood control pumping station upgrades	Pumphouse Road	Structural Project	IN-PROGRESS: Design complete, project pending funding from DEC		
Hazard Mitigation Plan (2013)	Flood-proofing	Constructed floodwall to protect lower floor Police Station	Town Hall	Structural Project	COMPLETE: 7ft floodwall built on east side of property	$100,000	Sept 2015

- **Building Resiliency (2016):** The Broome County Department of Planning prepared Building Resiliency to document resiliency projects municipalities have completed. The Town of Vestal identified the following completed projects (as of 2016):
    - The Broome County Department of Public Works repaired county-owned bridges and culverts in the Town of Vestal.
    - The U.S. Army Corps of Engineers repaired levees to pre-flood conditions in the Town of Vestal.
    - The U.S. Army Corps of Engineers performed a Levee Safety program in the Town of Vestal.
    - The Broome County Soil and Water Conservation District performed streambank stabilization and stream debris removal in the Town of Vestal.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Town of Vestal 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 9.22-13 summarizes the comprehensive-range of specific mitigation initiatives the Town of Vestal would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 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 9.22-14 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.

Table 9.22-13. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Vestal-1	Protect the Vestal Fire Company 1 to the 500-year flood level	1, 3, 5	Flood	The Fire Company is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Fire Department, Town	Staff Time	Fire Station protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-2	Protect the African Road Pump Station to the 500-year flood level	1, 3, 5	Flood	The Pump Station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Facilities manager, Town	Staff Time	Pump station protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-3	Protect the Circle Drive Pump Station to the 500-year flood level	1, 3, 5	Flood	The Pump Station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Facilities manager, Town	Staff Time	Pump station protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-4	Protect the Myrtle Street Pump Station to the 500-year flood level	1, 3, 5	Flood	The Pump Station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Facilities manager, Town	Staff Time	Pump station protected to the 500-year flood level	HMGP	High	SIP	PP

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Vestal-5	Protect the River Road Pump Station to the 500-year flood level	1, 3, 5	Flood	The Pump Station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Post Office, Town	Staff Time	Pump station protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-6	Protect the Stage Road Pump Station to the 500-year flood level	1, 3, 5	Flood	The Pump Station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Facilities manager, Town	Staff Time	Pump station protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-7	Protect the Third Avenue Pump Station to the 500-year flood level	1, 3, 5	Flood	The Pump Station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	Facilities manager, Town	Staff Time	Pump station protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-8	Protect the Vestal Volunteer EMS to the 500-year flood level	1, 3, 5	Flood	The EMS station is located in the 100-year floodplain	The Town will contact the facilities manager and discuss options for protecting the facility to the 500-year flood level	Yes	None	Within 1 year	EMS manager	Staff Time	EMS protected to the 500-year flood level	HMGP	High	SIP	PP
T. Vestal-9	Protect the Glenwood Elementary	1, 2, 3, 5	Flood	The Glenwood Elementary	The Town will contact the facilities	Yes	None	Within 6 months	Town Floodplain Administrator	<$100	Provide outreach to the property	Municipal budget	Medium	EAP	PI

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
	School to the 500-year flood level			School is located in the 100-year floodplain. The Town does not have jurisdiction over the facility and cannot mitigate themselves.	manager and discuss options for protecting the facility to the 500-year flood level				working with facility operators / owners		owner and informing them of potential flood damage and possible solutions				
T. Vestal-10	Update the NFIP Flood Damage Prevention Ordinance	1, 2, 5	Flood	The current flood damage prevention ordinance does not include NYS freeboard requirements.	Flood Damage Prevention Ordinance will be updated to	No	None	Within 6 months of FIRM updates	Floodplain Administrator	<$100	Higher building standards and lower flood exposure	Municipal budget	High	LPR	PR
T. Vestal-11 (former 3)	Assist in the update of flood plain (FIRM) maps	1, 2, 5	Flood	Flood maps are outdated.	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	No	None	Timing based on FEMA schedule	Engineering and Code	<$100	Updated flood maps to demonstrate best available data and protect building to such standards	Municipal budget	Medium	LPR	PR
T. Vestal-12 (former 4)	Complete stormwater outfall mapping	1, 2, 5	Flood	Outfalls not previously mapped	Complete stormwater outfall mapping in GIS format, to identify	No	None	Within 2 years	Engineering	$100,000	Needs for enhancements of critical infrastructure identified.	Municipal budget	Low	LPR	PR

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
					needs for enhancements of critical infrastructure. New regulations may change outfall definition criteria										
T. Vestal-13 (former 6)	Evaluate participation in the CRS.	1, 2,3, 5	Flood	Flood insurance costs are rising.	Evaluate participation benefits and costs and join if favorable.	No	None	Within 1 year	Engineering	Staff Time	Lower flood insurance premiums.	Municipal budget	Medium	LPR	PR
T. Vestal-14 (former 11)	Consider non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss	1, 2, 5	Flood	Repetitive loss properties are continually exposed to flooding.	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,	No	None	Within 1 year	Engineering and Code	Staff Time	Properties removed from hazard zones or elevated above likely flood levels.	HMGP, FMA, PDM	High	SIP	PP

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
					benefits versus costs and willing participation of property owners.										
T. Vestal-15 (former 12and 19)	Relocate the Town Hall, Vestal EMS, and Police Department building.	1, 4, 5	Flood	Flooding of Town Hall 2011	Relocate the Town Hall, Vestal EMS, and Police Department building out of floodplain to site of Parks Building	Yes	None	Within 5 years	Town Board, Vestal EMS	$4.5 million.	Critical facilities removed from floodplain.	HMGP, FMA	High	SIP	PP, ES
T. Vestal-16 (former 13)	Relocate the Parks Department buildings.	1, 5	Flood	Relocation of Town Hall, EMS, and Police would mean Parks Dept buildings would need to move to make space.	Due to flooding of the Town Hall and Police Department building, there has been ongoing talks of relocating, which would require moving the Parks Building to make room.	No	None	Within 5 years	Town Board	$3 million	Critical facilities removed from floodplain and Parks buildings maintained.	HMGP, FMA	High	SIP	PP
T. Vestal-17 (former 14)	Build permanent storm pump station at Roberts Street and Twin Orchards area	1, 5	Flood	Stormwater pumps are needed to deal with Stormwater flooding.	Convert out of service sewer station to storm water pump station (NY Rising 2014 Funds used as well)	Yes	None	Within 5 years	Town Board: NYSDEC	$850,000	Reduction in Stormwater flooding	CDBG, HMGP	High	SIP	SP

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Vestal-18 (former 17)	Build dam and/or detention pond on Fuller Hollow Creek	1, 5	Flood, Severe Storm	The Creek has and continues to erode property and has continual maintenance issues because of high flows.	Build dam and or detention pond on Fuller Hollow Creek. Stream restoration as part of downstream impact attenuation.	No	None	Within 5 years	Vestal Engineering; NYSDEC	>$5 million	Reduction in erosion and flooding	USACE, CDBG, HMGP	High	SIP	SP
T. Vestal-19 (former Severe Storm-1)	Enhance the County/community resilience to severe storms (incl. severe winter storms) by joining the NOAA "Storm Ready" program	2, 4	Severe Storm, Severe Winter Storm, Flood	The public needs to be better notified of severe storms. The Town has already dedicated space for Town EOC and the Vestal Public library with enhance communication abilities.	Participation in the NOAA "StormReady" program shall include providing information on the "StormReady" program, facilitating public outreach and awareness programs, and supporting community storm risk reduction activities as appropriate. Specific actions addressed by "StormReady" participation include establishing a 24-hour	Yes	None	Within 5 years	Municipality with support from County, NYSOEM and FEMA	Staff Time	"StormReady" communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness.	Municipal budget	Medium	LPR	ES

Project Number	Project Name	Goals Met	Hazard(s) to be Mitigated	Description of Problem	Description of Solution?	Critical Facility (Yes/No)	Environmental and Historic Preservation (EHP) Issues	Estimated Timeline	Lead Agency	Estimated Costs	Estimated Benefits	Potential Funding Sources	Priority	Mitigation Category	CRS Category
					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.										

Notes:
Not all acronyms and abbreviations defined below are included in the table.
Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:
CAV Community Assistance Visit
CRS Community Rating System
DPW Department of Public Works

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:

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*

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

CRS Category:

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

Critical Facility:

- Yes 💧 - *Critical Facility located in 1% floodplain*

Table 9.22-14. 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	Total	High / Medium / Low
T. Vestal 1	Protect the Vestal Fire Company 1 to the 500-year flood level	1	1	1	1	1	1	1	1	1	0	0	1	1	1	12	High
T. Vestal 2	Protect the African Road Pump Station to the 500-year flood level	1	1	1	1	1	1	1	1	1	0	0	1	1	1	12	High
T. Vestal 3	Protect the Circle Drive Pump Station to the 500-year flood level	1	1	1	1	1	1	1	1	1	0	0	1	1	1	12	High
T. Vestal 4	Protect the Myrtle Street Pump Station to the 500-year flood level	1	1	1	1	1	1	1	1	1	0	0	1	1	1	12	High
T. Vestal 5	Protect the River Road Pump Station to the 500-year flood level	0	1	1	1	1	1	1	1	1	0	0	1	1	1	11	High
T. Vestal 6	Protect the Stage Road Pump Station to the 500-year flood level	0	1	1	1	1	1	1	1	1	0	0	1	1	1	11	High
T. Vestal 7	Protect the Third Avenue Pump Station to the 500-year flood level	0	1	1	1	1	1	1	1	1	0	0	1	1	1	11	High
T. Vestal 8	Protect the Vestal Volunteer EMS to the 500-year flood level	0	1	1	1	1	1	1	1	1	0	0	1	1	1	11	High
T. Vestal 9	Protect the Glenwood Elementary School to the 500-year flood level	0	1	0	1	1	1	0	1	1	0	0	0	1	1	8	Medium
T. Vestal 10	Update the NFIP Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
T. Vestal 11 (former 3)	Assist in the update of flood plain (FIRM) maps	0	1	1	0	1	0	1	1	1	0	0	0	1	1	8	Medium
T. Vestal 12 (former 4)	Complete stormwater outfall mapping	1	1	0	0	0	1	0	0	0	0	0	0	1	0	4	Low

Table 9.22-14. 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	Total	High / Medium / Low
T. Vestal 13 (former 6)	Evaluate participation in the CRS.	1	1	1	0	0	1	1	1	1	0	0	0	0	1	8	Medium
T. Vestal 14 (former 11)	Consider non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
T. Vestal 15 (former 12 and 19)	Relocate the Town Hall, Vestal EMS, and Police Department building.	1	1	0	1	1	1	0	1	1	1	1	0	1	1	11	High
T. Vestal 16 (former 13)	Relocate the Parks Department buildings.	0	1	0	1	1	1	0	1	1	1	1	0	1	1	10	High
T. Vestal 17 (former 14)	Build permanent storm pump station at Roberts Street and Twin Orchards area	0	1	0	1	1	1	0	1	1	1	1	1	1	1	11	High
T. Vestal 18 (former 17)	Build dam and/or detention pond on Fuller Hollow Creek	1	1	0	0	1	0	0	0	1	1	1	1	1	1	9	High
T. Vestal 19 (former Severe Storm-1)	Enhance the County/community resilience to severe storms (incl. severe winter storms) by joining the NOAA "Storm Ready" program	1	0	0	1	1	1	1	1	1	0	1	0	0	0	8	Medium

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

9.22.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.22.8 Staff and Local Stakeholder Involvement in Annex Development

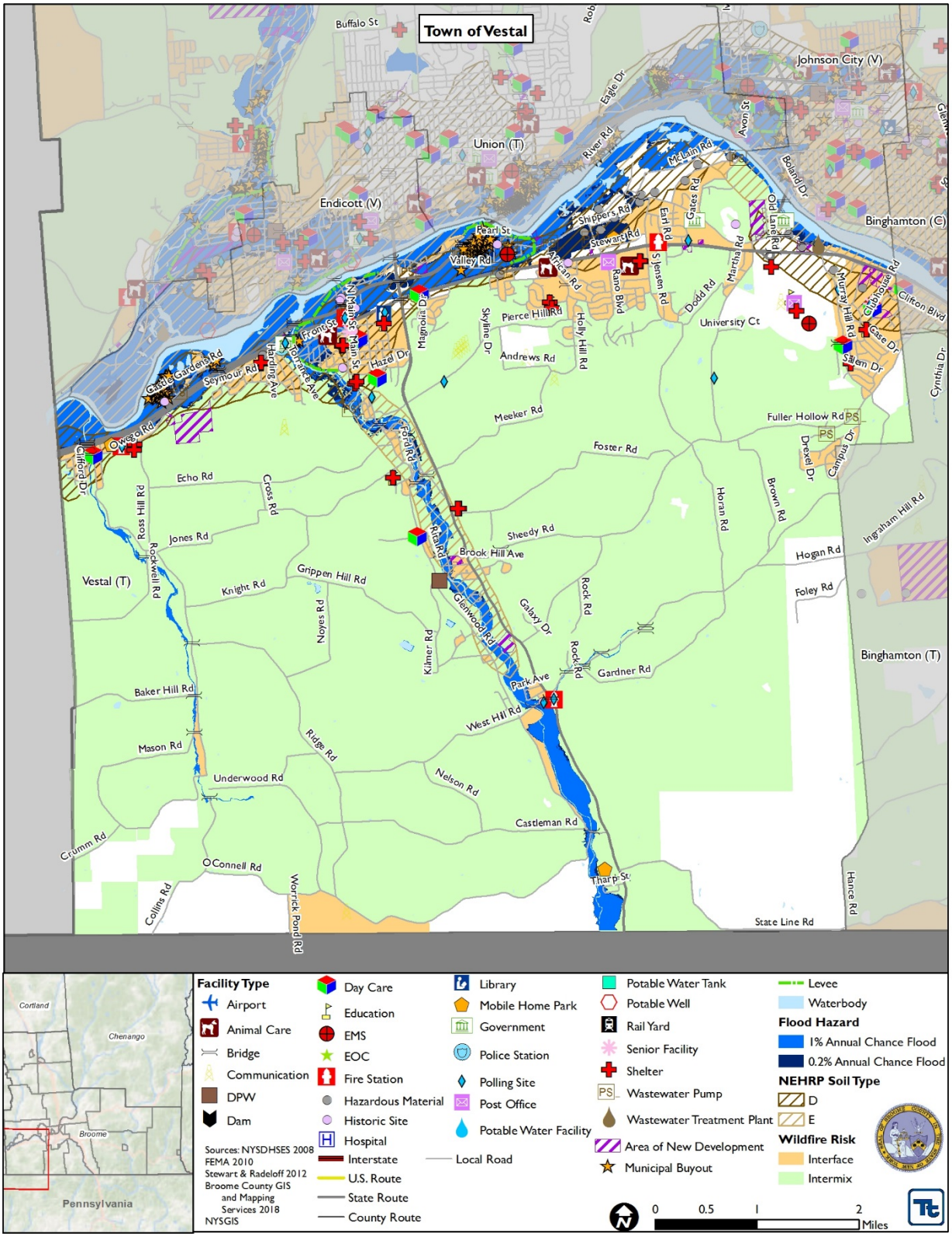
The Town of Vestal followed the planning process described in Section 3 (Planning Process) in Volume I of this plan update. This annex was developed over the course of several months with input from many Village departments, including: the Town Engineer and Code Enforcement. The Town Engineer represented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

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

9.22.9 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Town of Vestal that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Town of Vestal has significant exposure. A map of the Town of Vestal hazard area extent and location is provided on the following page. This map indicates the location of the regulatory floodplain as well as identified critical facilities within the municipality.

Figure 9.22-1. Town of Vestal Hazard Area Extent and Location Map



Town of Vestal Action Worksheet			
Project Name:	Protect the Vestal Fire Company 1 to the 500-year flood level		
Project Number:	T. Vestal-1		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The Vestal Fire Department Company 1 located at 116 North Main Street is in the 100-year floodplain. The facility needs to be protected to the 500-year flood level. The Town of Vestal does not have jurisdiction over this facility.		
Action or Project Intended for Implementation			
Description of the Solution:	Notify the facility owner, informing them the facility is located in the 100-year floodplain and may be susceptible to flood damage. Provide a list of mitigation activities the facility owner can do to protect the facility to the 500-year flood event or worst-case scenario.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☒	No ☐	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-Year	**Estimated Benefits (losses avoided):**	Educate property owner of benefits of mitigating property
Useful Life:	20 Years	**Goals Met:**	1
Estimated Cost:	<$10,000	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Municipal budget
Responsible Organization:	Town Board, Floodplain Administrator	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate structure	$1 million	Facility cannot be elevated; elevation may impact the operation of the facility
	Build new facility outside of the floodplain	$5 million	Too costly; not feasible

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Protect the Vestal Fire Company 1 to the 500-year flood level	
Project Number:	T. Vestal-1	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	0	Flood protection would allow for continued operation of emergency service during severe weather events.
Property Protection	1	Flood protection would reduce damage sustained to structure during severe weather.
Cost-Effectiveness	1	Flood protection would be cost effective than repeated repairs from flood damage.
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	

Town of Vestal Action Worksheet			
Project Name:	Protect the African Road Pump Station to the 500-year flood level		
Project Number:	T. Vestal-2		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Storm		
Description of the Problem:	The African Road Pump Station Street is in the 100-year floodplain. The facility needs to be protected to the 500-year flood level. The Town of Vestal does not have jurisdiction over this facility.		
Action or Project Intended for Implementation			
Description of the Solution:	Notify the facility owner, informing them the facility is located in the 100-year floodplain and may be susceptible to flood damage. Provide a list of mitigation activities the facility owner can do to protect the facility to the 500-year flood event or worst-case scenario.		
Is this project related to a Critical Facility?	Yes ☒	No ☐	
Is this project related to a Critical Facility located within the 100-year floodplain?	Yes ☒	No ☐	
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	500-Year	**Estimated Benefits (losses avoided):**	Educate property owner of benefits of mitigating property
Useful Life:	20 Years	**Goals Met:**	1
Estimated Cost:	<$10,000	**Mitigation Action Type:**	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	**Desired Timeframe for Implementation:**	6 months
Estimated Time Required for Project Implementation:	Within 1 year	**Potential Funding Sources:**	Municipal budget
Responsible Organization:	Town Board, Floodplain Administrator	**Local Planning Mechanisms to be Used in Implementation if any:**	Hazard Mitigation

Three Alternatives Considered (including No Action)			
Alternatives:	**Action**	**Estimated Cost**	**Evaluation**
	No Action	$0	Problem continues.
	Elevate structure	$1 million	Facility cannot be elevated; elevation may impact the operation of the facility
	Build new facility outside of the floodplain	$5 million	Too costly; not feasible

Progress Report (for plan maintenance)	
Date of Status Report:	
Report of Progress:	
Update Evaluation of the Problem and/or Solution:	

Action Worksheet		
Project Name:	Protect the Vestal Fire Company 1 to the 500-year flood level	
Project Number:	T. Vestal-1	
Criteria	**Numeric Rank (-1, 0, 1)**	**Provide brief rationale for numeric rank when appropriate**
Life Safety	1	Flood protection would allow for continued operation of emergency service during severe weather events.
Property Protection	1	Flood protection would reduce damage sustained to structure during severe weather.
Cost-Effectiveness	1	Flood protection would be cost effective than repeated repairs from flood damage.
Technical	1	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	1	
Administrative	0	
Multi-Hazard	0	
Timeline	1	
Agency Champion	1	
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	