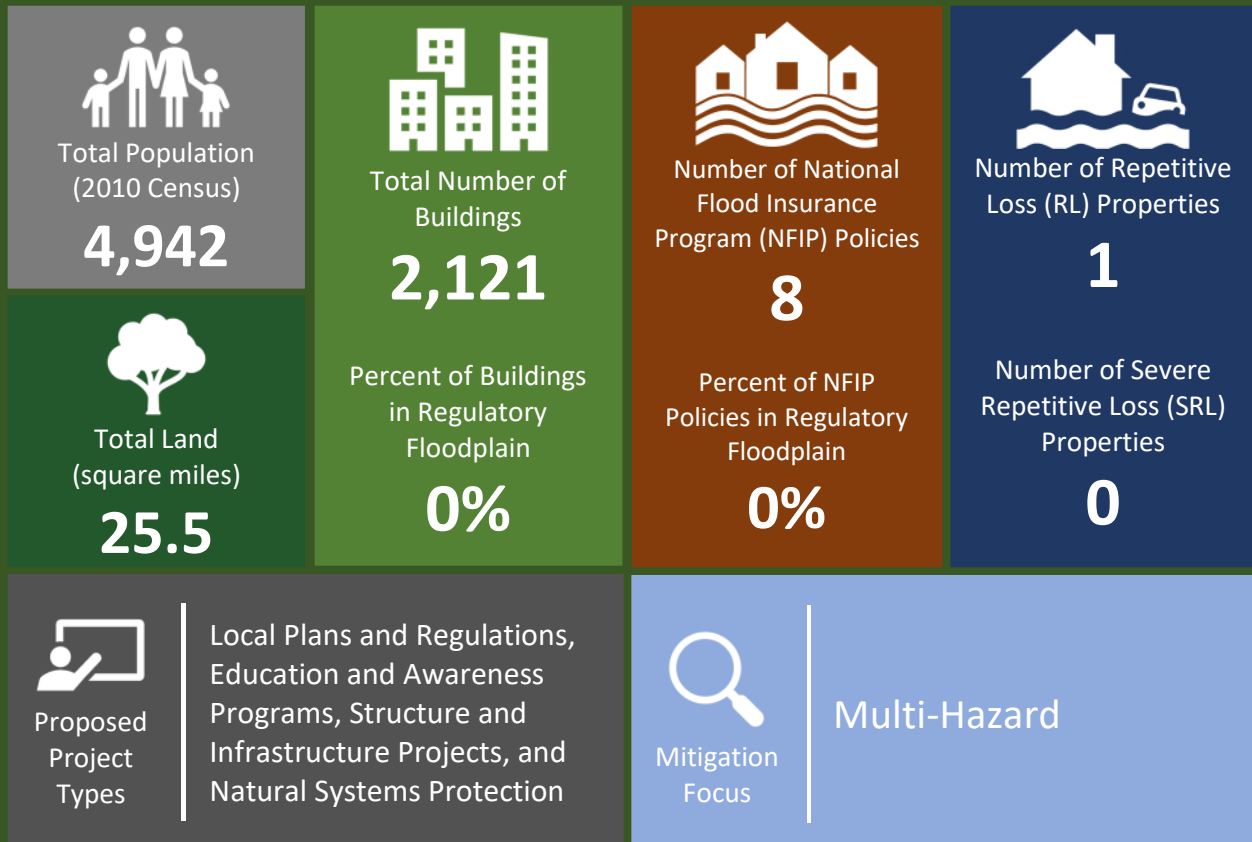




MUNICIPAL ANNEX | Town of Binghamton





9.4 Town of Binghamton

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

9.4.1 Hazard Mitigation Planning Team

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

Primary Point of Contact	Alternate Point of Contact
Name: Nick Pappas Title: Building/Code Inspector Phone Number: 607-772-0357 x12 Address: 279 Park Ave, Binghamton, NY 12903 Email: codeenforcement@townofbinghamton.com	Name: Mike Donahue / John Martin Title: Highway Superintendent / Engineer Phone Number: 607-760-2800 Address: 865 Hawleyton Road, Binghamton, NY 12903 Email: tob1@frontiernet.net / jmartin@clarkpatterson.com
Floodplain Administrator	
Name: Nick Pappas Title: Building/Code Inspector Phone Number: 607-772-0357 x12 Address: 279 Park Ave, Binghamton, NY 12903 Email: codeenforcement@townofbinghamton.com	

9.4.2 Municipal Profile

The Town of Binghamton is located in Broome County, NY and partly encloses the City of Binghamton on the city’s south side. The Town of Binghamton has a total area of 25.5 square miles. The Town of Binghamton is located in Broome County, NY and partly encloses the City of Binghamton on the city’s south side. The town is south of the junction of the Susquehanna River and Chenango River and is in the southern tier of New York State. The Town of Binghamton is bordered on the north by the City of Binghamton, on the east by the Town of Conklin, on the south by the state of Pennsylvania and on the West by the Town of Vestal. Bayless Creek flows north from the northern part of the Town into the Susquehanna River.

The Town includes the communities and hamlets of Orchard Park, Hawleyton, Park Terrace, and Summit Hill. The 2016 estimated population was 4,859, a 1.7% decrease from the 2010 Census (4,942).

Home rule is strong in New York State and thus, each town and village has its own governing body. Towns are made up of a Town Board and Supervisor. Villages generally have a Mayor, Clerk, and Council. Along with town and village roads, any public water and sewer systems are operated by the local municipality, though they may cooperate with County departments. Each municipality has charge over its own planning and zoning and uses the County personnel as a resource.

Data from the 2016 U.S. Census American Community Survey estimates that 4.6% of the town population is five years of age or younger, and 18.0% is 65 years of age or older.



History and Cultural Resources

The Town of Binghamton is named after U.S. Senator William Bingham from Pennsylvania, who in 1786 bought 32,620 acres of land from New York State. On December 3, 1855, the Town of Chenango was divided, creating the Town of Binghamton which at the time consisted mostly of the east side of the City of Binghamton and the lands south of the Susquehanna and Chenango confluence. The Town of Binghamton, from its inception, has progressed from a dense growth of evergreen forest, to a dairy farming area, to a beautiful residential area easily accessible to the nearby urban area.

Growth/Development Trends

The Town of Binghamton did not note any residential/commercial development that has occurred since 2013 or any planned major residential or commercial development, or major infrastructure development anticipated in the next five years.

Table 9.4-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2013 to present					
None					
Known or Anticipated Development in the Next Five (5) Years					
None					

** Only location-specific hazard zones or vulnerabilities identified.*

9.4.3 Hazard Event History Specific to the Town of Binghamton

Broome County has a history of natural events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. The Town of Binghamton’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 9.4-2 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 9.4-2. 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	Though the County was impacted, the Town did not report losses/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.	Though the County was impacted, the Town did not report losses/damages.
June 14, 2015	Flash Flood	Yes	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	Though the County was impacted, the Town did not report losses/damages.



Dates of Event	Event Type (Disaster Declaration if applicable)	Broome County Designated?	Summary of Event	Municipal Summary of Damages and Losses
			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.	
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 storm required overtime for plowing.
July 23-24, 2017	Flash Flood	Yes	Heavy rain producing thunderstorms developed during the late afternoon and evening hours as an upper level jet stream punched into the area. Widespread thunderstorms produced swaths of 3 to 4 inches of rain in just a few hours' time during the late evening and overnight hours. Rapid rises of area streams and creeks resulted in severe flash flooding.	Though the County was impacted, the Town did not report losses/damages.
August 2018	Severe Storms and Flooding (DR-4397)	Yes	A slow-moving storm tracked north from New Jersey to northern New York. This system triggered several rounds of heavy rain producing thunderstorms which caused severe flash flooding and major damages in several locations.	Though the County was impacted, the Town did not report losses/damages.

Notes:

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

9.4.4 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 Binghamton. 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 Binghamton. The Town of Binghamton 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 identified flooding outside of the floodplain and severe winter storm as the highest hazards of concern.
- The Town agreed with all of the hazard rankings.

Table 9.4-3. Town of Binghamton Municipal Hazard Ranking Input

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

Critical Facilities Flood Risk

New York Department of Environmental Conservation (DEC) Statute 6 CRR-NY 502.4 sets forth floodplain management criteria for State projects located in flood hazard areas. The law states that no such projects related to critical facilities shall be undertaken in a Special Flood Hazard Area (SFHA) unless constructed according to specific mitigation specifications, including being raised 2’ above the Base Flood Elevation (BFE). This statute is outlined at <http://tinyurl.com/6-CRR-NY-502-4>. While all vulnerabilities should be assessed and documented, the State places a high priority on exposure to flooding. Critical facilities located in an SFHA, or having ever sustained previous flooding, must be protected to the 500-year flood event, or worst damage scenario. For those that do not meet this criteria, the jurisdiction must identify an action to achieve this level of protection (NYS DHSES 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 9.4-4. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event	
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage
None identified.					

Source: Hazus 4.2

Identified Issues

The municipality has identified the following vulnerabilities within their community:





- Lack of source at backup power critical town facilities
- Rupture of water mains during extended duration of low temps; a project is currently in progress for Orchard Park water system and have replaced water mains in this section of town
- Collapse/degradation of sanitary mains during severe storm events; this results in interruption of service. The Town has a project in progress to line sanitary sewers in Orchard and South Mountain to help alleviate this problem
- Trees down from ice/snow: Interrupt power service, interrupt traffic flow
- Scouring of bridge culvert structures and erosion of stream banks; Peckam Road had \$300,000 in damages
- September 2011 – culvert replaced on Cynthia Drive (should be identified in the last plan)
- Critical facilities without backup power: town hall and town highway garage

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

- The following areas are vulnerable to flooding:
 - Peckam Road, Maxiam, Morgan Road, and Roberts Road
 - Kattelville Road
 - Siba Place
 - State St, North of Bevier
 - Prentice Road
 - Route 12

9.4.5 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 Binghamton.

Table 9.4-5. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Comprehensive Plan	Yes, 2017	Local	Broome County Planning assisted town planning board	Comprehensive Plan
Capital Improvements Plan	No	-	-	-



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Floodplain Management / Basin Plan	No	-	-	-
Stormwater Management Plan	Yes	Local	Town Board	Stormwater Management Plan
Open Space Plan	Yes, 2017	Local	Town Planning Board	Part of the 2017 Comprehensive Plan
Stream Corridor Management Plan	No	-	-	-
Watershed Management or Protection Plan	No	-	-	-
Economic Development Plan	No	-	-	-
Comprehensive Emergency Management Plan	No	-	-	-
Emergency Operation Plan	No	-	-	-
Evacuation Plan	No	-	-	-
Post-Disaster Recovery Plan	No	-	-	-
Transportation Plan	Yes, 2017	Local	Planning Board	Part of the 2017 Comprehensive Plan
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
Regulatory Capability				
Building Code	Yes	State & Local	Town Board / Code Enforcement Officer	Town clerk certification – NYS Building Code
Zoning Ordinance	Yes	Local	Zoning Board of Appeals / Town Board	Chapter 36 - Zoning
Subdivision Ordinance	Yes	State & Local	Code Enforcement Officer / Planning Board	Chapter 27 – Subdivision of Land
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Code Enforcement Officer	Chapter 18 – Flood Damage Prevention
NFIP: Cumulative Substantial Damages	Yes	Local	Code Enforcement Officer	Chapter 18 – Flood Damage Prevention
NFIP: Freeboard	Yes	State, Local	Code Enforcement Officer	State mandated BFE+2 for all construction, both residential and non-residential
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes	Local	Planning Board / Town Board	Chapter 240-60.1



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.)
Stormwater Management Ordinance	Yes	Local	Code Enforcement Officer	Chapter 188 – Storm Sewers
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Code Enforcement Officer	Chapter 188 – Storm Sewers
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
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 Binghamton.

Table 9.4-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Maintenance programs to reduce risk	Yes	Highway Department performs routine maintenance
Mutual aid agreements	Yes	With neighboring fire departments
Flood Committee	No	-
Technical/Staffing Capability		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Engineering Services: Clark Patterson Lee 59 Court St. Binghamton, NY 13901
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Clark Patterson Lee 59 Court St. Binghamton, NY 13901
Planners or engineers with an understanding of natural hazards	Yes	Clark Patterson Lee 59 Court St. Binghamton, NY 13901
NFIP Floodplain Administrator (FPA)	Yes	Code Enforcement Officer
Surveyor(s)	Yes	Clark Patterson Lee 59 Court St. Binghamton, NY 13901
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-



Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Scientist familiar with natural hazards	No	-
Warning systems/services	Yes	Utilizes the Broome County reverse 911 system (NY-Alert)
Emergency Manager	Yes	Supervisor
Grant writer(s)	No	-
Staff with expertise or training in benefit/cost analysis	Yes	Clark Patterson Lee 59 Court St. Binghamton, NY 13901
Professionals trained in conducting damage assessments	Yes	Clark Patterson Lee 59 Court St. Binghamton, NY 13901

Fiscal Capability

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

Table 9.4-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes – have applied for them in the past; the main developed portion of the town is not eligible for the USDA-type grants
Capital improvements project funding	Yes – bonding capacity, etc.
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes – water and sewer
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
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 Binghamton.

Table 9.4-8. 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)	No	-	--
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	NEED	NEED
NYSDEC Climate Smart Community	No	-	-



Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Storm Ready Certification	No	-	-
Firewise Communities classification	No	-	-
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)	Yes	Municipal website	-
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 Binghamton’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.4-9. 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 board, code enforcement officer – their needs are totally met



Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Administrative and technical capability			X – planning board, code enforcement officer – their needs are totally met
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)

Nick Pappas, Code Enforcement Officer

National Flood Insurance Program (NFIP) Summary

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

Table 9.4-10. NFIP Summary

Municipality	# Policies	# Claims (Losses)	Total Loss Payments	# RL Properties	# SRL Properties	# Policies in the 1% Flood Boundary
Binghamton (T)	8	6	\$148,564	1	0	0

Source: FEMA 2018

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

RL Repetitive Loss; SRL Severe Repetitive Loss

Resources

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

Compliance History

According to data from NYSDEC, the most recent compliance audit (community assistance visit [CAV]) took place on June 23, 1992. 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.

Regulatory

Flood Damage Prevention Ordinance: The Town of Binghamton Flood Damage Prevention Ordinance (Chapter 132 of the municipal code) was adopted to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:





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

The Ordinance aims:

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

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

Comprehensive Plan: The Town of Binghamton Town updated their Comprehensive Plan in 2017 with assistance from the County Planning Department. It was prepared in accordance with New York Town Law §272-a Town Comprehensive Plan. The Comprehensive Plan discusses floodplains in the town and includes a map showing the SFHA. The Comprehensive Plan refers to the 2013 Broome County Hazard Mitigation Plan. The Comprehensive Plan includes the Town's Open Space Plan.

Stormwater Management Plan: The Town of Binghamton is one of 15 municipalities in Broome and Tioga Counties that have been designated as MS4s under NYS DEC's Phase II Stormwater regulations. The Town complies with the six minimum measures that make up Stormwater Management Plans, to be covered under the SPDES Permit GP-0-10-002:

- MM1: Public Education and Outreach
- MM2: Public Participation and Involvement



- MM3: Illicit Discharge Detection and Elimination (IDDE)
- MM4: Construction Site Runoff Control
- MM5: Post Construction Runoff Control
- MM6: Municipal Good Housekeeping

The Town of Binghamton entered into an agreement to form the Broome-Tioga Stormwater Coalition (<http://broometiogastormwater.com/>) and work together to address local stormwater issues and meet the state and federal stormwater requirements. The Town of Binghamton has been involved in the following public outreach programs, which are related to stormwater management:

- The Town provides pickups for metal items (white goods) at minimal cost to residents.
- The Town, in conjunction with the Sheriff's Dept., has inmates pick up any garbage that has been dumped illegally on Town roads. The trash is then taken to the Broome County landfill for disposal.
- The Town assists the Youth Commission with recycling at Jackson Park.
- The Town seeks volunteers once a year to help clean up the rivers. Residents have been asked to donate nylon bags for river cleanups.
- The Town posts information on Broome County's website for guidance in disposal of hazardous waste.
- Informational handouts are available in the lobby at the Town of Binghamton offices, located at 279 Park Avenue.

Broome County Hazard Mitigation Plan: The Town will continue to support the implementation, monitoring, maintenance, and updating of this Plan.

Comprehensive Emergency Management Plans: The Town continues to update the Comprehensive Emergency Management Plan as necessary.

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

Opportunities for Future Integration

The Town is developing a post-earthquake management plan to address building safety inspections, gas leaks, and other elements to protect public safety.

Regulatory and Enforcement (Ordinances)

Existing Integration

Zoning Ordinance: The Town of Binghamton Zoning Ordinance (Chapter 240 of the municipal code) establishes zoning districts, the Zoning Map, use regulations, the Planned Development District, special uses, site plan review, and other standards.

Subdivision of Land Ordinance: The Town of Binghamton Subdivision of Land Ordinance (Chapter 195 of the municipal code) establishes that it is the policy of the Town Planning Board to consider land subdivisions as part of a plan for the orderly, efficient and economical development of the Town. Land to be subdivided shall be of such character that it can be used for building purposes without danger to health or peril from fire, flood or other menace. Proper provisions shall be made for drainage, water, sewerage and other needed improvements. The proposed streets shall compose a convenient system, conforming to the Official Map, if any, and shall be



properly related to the proposals shown on the Town Comprehensive Plan, if any, adopted by the Planning Board. Streets shall be of such width, grade and location as to accommodate the prospective traffic, to afford adequate light and air and to facilitate fire protection. In proper cases, park areas of suitable location, size and character for playground or other recreational purposes shall be shown on the subdivision plat.

Storm Sewers: The Town of Binghamton Storm Sewer ordinance (Chapter 188 of the municipal code) was adopted to provide for the health, safety, and general welfare of the citizens of the Town of Binghamton through the regulation of non-stormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This article establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with requirements of the SPDES general permit for municipal separate storm sewer systems. The objectives of this article are:

- To meet the requirements of the SPDES general permit for stormwater discharges from MS4s or as amended or revised;
- To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept, process or discharge non-stormwater wastes;
- To prohibit illicit connections, activities and discharges to the MS4;
- To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this article; and
- To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4

Opportunities for Future Integration

Create a job description for Code Enforcement officer which would include floodplain administration responsibilities.

Operational and Administration

Existing Integration

Planning Board: The Town of Binghamton's Planning Board is comprised of five residents from the Town of Binghamton. The Planning Board is responsible for subdivision approvals, conducting site plan reviews, and other development within the Town. The Planning Board functions under Town Law, Code of the Town of Binghamton (Chapter 48), and the Comprehensive Development Plan, Town of Binghamton. The Town utilizes the Broome County Planning Department. All development is reviewed first by the Planning Board.

Zoning Board of Appeals: The Zoning Board of Appeals for the Town of Binghamton is a five-member, quasi-judicial board whose members are appointed by the Town Board. All ZBA members are Town of Binghamton residents. The ZBA can grant relief from specific requirements in the zoning ordinance when there is a "unique circumstance" relative to the property involved.

Broome-Tioga Stormwater Coalition: The Town of Binghamton entered into an agreement to form the Broome-Tioga Stormwater Coalition (<http://broometiogastormwater.com/>) and work together to address local stormwater issues and meet the state and federal stormwater requirements.

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

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



Restoration/Upgrade Stormwater Infrastructure: The Town continues and is expanding programs to restore and upgrade stormwater drainage infrastructure.

Drain and Culvert Clearing Programs: The Town maintains and enhances comprehensive stormwater drain, catch-basin, and culvert clearing programs.

Roberts Road Assessment: The Town is assessing Roberts Road near Morgan Road for regrading or other options to address seasonal flooding and implement alternative identified by the assessment.

Vegetation Management: The Town is continuing and enhancing programs to keep trees from threatening lives, property, and public infrastructure during storm events.

Retrofitting/Removal of Structures from Hazard Prone Areas: Where appropriate, the Town of Binghamton supports the retrofitting, purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage with repetitive loss and severe repetitive loss properties as priority. The Town works to identify facilities that are viable candidates for each strategy based on cost-effectiveness. Implementation of these actions are based on available funding.

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

Mutual Aid Agreements: The Town of Binghamton works to create/enhance/ maintain mutual aid agreements with neighboring communities for continuity of operations.

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

Damage Assessment Training: The Town of Binghamton is working 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: The Town participates in local, county and/or state level projects and programs to develop improved structure and facility inventories and hazard datasets to support enhanced risk assessment efforts. Such programs may include developing a detailed inventory of critical facilities based upon FEMA's Comprehensive Data Management System (CDMS) which could be used for various planning and emergency management purposes including:

- 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.

The Town of Binghamton does not have any additional Boards or Committees that include functions with respect to managing natural hazard risk. Stormwater Management functions are performed by the Broome-Tioga Stormwater Coalition. NFIP Floodplain Management functions are performed by the Code Enforcement Officer. The contracted engineer for the Town has experience with developing Benefit-Cost Analysis and can perform Substantial Damage Estimates. The Town does not have staff or contract with firms that have experience in preparing grant applications for mitigation projects.

Opportunities for Future Integration

The Town could hire staff or contract with firms that have experience in preparing grant applications for mitigation projects.



Funding

Existing Integration

The Town does not have a Capital Improvements Budget.

Opportunities for Future Integration

The Town could allocate municipal funds and apply for grant funding to support mitigation related projects.

Education and Outreach

Existing Integration

The Town of Binghamton operates a municipal website (<http://www.townofbinghamton.com/>) which has information about Town departments, educational information, and news. The Town of Binghamton conducts and facilitates community and public education and outreach for residents and businesses to include, but is not to 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 develop more outreach programs to educate the public on natural hazards.

Sheltering, Evacuation, and Temporary Housing

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

Temporary and Permanent Housing

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

- Town Parks: three parks where FEMA trailers could be placed. The Hollyton Road site has 10 acres and the Jackson Road site has 20 acres. Water and electricity are available, but no sewer service is available.
- Agricultural land throughout the Town: The locations would need water, electricity, and sewer services.

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 Binghamton designated the following emergency shelters:



- Community Center: The Community Center is ADA compliant but lacks backup power.
- Hawleyton Methodist Church: The Church lacks backup power
- Town Hall: The Town Hall is ADA compliant but lacks backup power.

9.4.6 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.

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Table 9.4-11. 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	
						Cost	Damages Avoided; Evidence of Success	1.	2.
1	Consider submittal of a letter of intent for acquiring repetitive loss property located on Conklin Road. Review potential funding sources for 25% match.	Flood		Town NFIP Administrator	No progress	Cost		1.	Keep in 2018 plan.
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	
2	Consider-Analyze Maxian Road Culvert size increase. Existing culvert overtops during heavy rain which can damage the roadway.	Flood, Severe Storm		Town Engineer/NFIP Administrator	No progress	Cost		1.	Keep in 2018 plan.
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	
3 (1.)	Continue training in the National Incident Command System (ICS), under the National Incident Management System (NIMS).	All		Town police, fire, EM departments	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	
4 (2.)	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, NYSDEC and USGS; and identification of flood-prone areas outside of currently designated areas	Flood		Town FEMA USACE	In progress	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	
5 (3.)	Continue participation in the National Flood Insurance Program (NFIP).	Flood		Town FEMA	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided;		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	
						Evidence of Success		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).
6 (4.)	Encourage review of site plans by local fire fighting and emergency service providers to ensure response capability and capacity exists to support development.	All		Town	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
7 (5.)	Continue/expand programs to restore/upgrade stormwater drainage infrastructure (i.e. cobbles and riprap in roadside ditches).	Flood and Stormwater		Town	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
8 (6.)	Maintain/enhance comprehensive stormwater drain, catch-basin and culvert clearing programs.	Flood and Stormwater		Town	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
9 (7.)	Develop options for repair/replacement of timber bridge at Maxian Road to prevent loss of service.	Flood and Stormwater		Town	Complete	Cost	Approx. \$500,000	1.	Discontinue
						Level of Protection	Designed to pass a 50-year storm with routing for 100-year storm around it.	2.	
						Damages Avoided; Evidence of Success	No longer deteriorating as it is concrete instead of wood.	3.	Complete
10 (8.)	Assess Roberts Road near Morgan Road for re-grading or other options	Flood and Stormwater		Town	Ongoing	Cost		1.	Discontinue
						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.	
	to address seasonal flooding and implement alternative identified by the assessment.					Damages Avoided; Evidence of Success		3.	Ongoing capability
11 (9.)	Continue and/or enhance programs to keep trees from threatening lives, property, and public infrastructure during storm events	All		Town	Ongoing	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
12 (10.)	Consider adoption of local ordinances that ensure developments served by private wells have adequate well recharge area.	All		Town	Discontinue	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	This is covered by State Sanitary Code and County Health Department.
13 (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		Town	In progress	Cost		1.	Discontinue.
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Refer to project #1.
Flood-1	Purchase, relocate, or elevate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe	Flood		Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from BCPD,	Ongoing	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		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	
								<ol style="list-style-type: none"> Project to be included in 2018 HMP or Discontinue If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why. 	
	repetitive loss properties as priority. Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.			NYSOEM, FEMA					
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 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		Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from NYSOEM, FEMA	Ongoing Capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
Flood-3	Conduct and facilitate community and public education and outreach	Flood		Municipality with support from Planning	Ongoing Capability	Cost		1.	Discontinue
						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
	for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction: <ul style="list-style-type: none"> • Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. • Prepare and distribute informational letters to flood 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. 			Partners, BCPD, NYSOEM, FEMA		Damages Avoided; Evidence of Success		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	
						Cost		1.	2.
Flood-4	Obtain and archive elevation certificates	Flood		NFIP Floodplain Administrator	Ongoing Capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		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	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
Flood-6	Complete ongoing updates of Comprehensive Emergency Management Plans	Flood		Municipality with support from NYSOEM	Ongoing capabilities	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
Flood-7	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	All Hazards		Municipality with support from County, NYSOEM, FEMA and surrounding communities	Ongoing capabilities	Cost		1.	Discontinue
						Level of Protection		2.	
						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 capabilities	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability
Flood-9		Flood				Cost		1.	Discontinue





Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps 1. Project to be included in 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.	
	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).			Municipality with support from County, NYSOEM and FEMA	Ongoing capability	Level of Protection		2.	
						Damages Avoided; Evidence of Success		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 Management System (CDMS) which could be used for various planning and emergency management purposes including: <ul style="list-style-type: none"> Support the performance of enhanced risk and vulnerability assessments for hazards of concern. Support state, county and local planning efforts including mitigation (including updates to the State HMP), comprehensive 	Flood		Hazard Mitigation Plan Coordinator	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		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
								<ol style="list-style-type: none"> Project to be included in 2018 HMP or Discontinue If including action in the 2018 HMP, revise/reword to be more specific (as appropriate). If discontinue, explain why.
	<p>emergency management, debris management, and land use.</p> <p>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.</p>							
Severe Storm-1	<p>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.</p> <p>"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</p>	Severe Storm		Municipality with support from County, NYSOEM and FEMA	Complete	Cost	NEED	1. Discontinue
						Level of Protection	NEED	2.
						Damages Avoided; Evidence of Success	NEED	3. Project has been completed and will not be included in the 2018 HMP Update





Project #	Project	Hazard(s) Addressed	Brief Summary of the Original Problem	Responsible Party	Status (In Progress, Ongoing, No Progress, Complete)	Evaluation of Success (if project status is complete)		Next Steps	
								<ol style="list-style-type: none"> 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. 	
	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 weather plan, host annual visits by NWS to communities, etc.								
Earthquake-1	Obtain training and conduct rapid screening assessment of critical facilities for earthquake vulnerability.	Earthquake		Municipal Emergency Management, Fire, PD with support from County, NYSOEM	No progress	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Not applicable
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	Ongoing capability	Cost		1.	Discontinue
						Level of Protection		2.	
						Damages Avoided; Evidence of Success		3.	Ongoing capability



Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

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

- The Town of Binghamton has performed ongoing maintenance projects to reduce the impact of flooding but has not identified specific mitigation projects/activities that have been completed but were not identified in the previous mitigation strategy in the 2013 Plan.
- **Building Resiliency (2016):** The Broome County Department of Planning prepared Building Resiliency to document resiliency projects municipalities have completed. The Town of Binghamton identified the following completed projects (as of 2016):
 - Broome County Soil and Water Conservation District performed streambank stabilization in the Town of Binghamton.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Town of Binghamton 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 9.4-12 summarizes the comprehensive-range of specific mitigation initiatives the Town of Binghamton 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 9.4-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.4-12. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Description of the Problem	Description of the Solution	Hazard(s) Mitigated	Goals Met	Critical Facility?	EHP Issues?	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Binghamton-1	Generator for Binghamton Community Center	The Binghamton Community Center lacks a backup power source. The Community Center is used as a sheltering location when necessary and can shelter 100 people.	The Town will purchase and install a generator at the Community Center, including necessary electrical hookup components.	All Hazards	1, 4, 5	Yes	None	Code Enforcement	\$100,000	Community Center able to be used as a shelter	Within 1 year	HMGP	High	SIP	PP, ES
T. Binghamton-2	Generator for Binghamton Communications Center	The Binghamton Communications Center lacks a backup power source. The Communications Center is used as a sheltering location when necessary and can shelter 100 people.	The Town will purchase and install a generator at the Communications Center, including necessary electrical hookup components.	All Hazards	1, 4, 5	Yes	None	Code Enforcement	\$50,000	Communications Center able to be used as a shelter	Within 1 year	HMGP	High	SIP	PP, ES
T. Binghamton-3	Generator for Binghamton Town Hall	The Binghamton Town Hall lacks a backup power source. The Town Hall is used as a sheltering location when necessary and can shelter 100 people.	The Town will purchase and install a generator at the Town Hall, including necessary electrical hookup components.	All Hazards	1, 4, 5	Yes	None	Code Enforcement	\$150,000	Town Hall able to be used as a shelter	Within 1 year	HMGP	High	SIP	PP, ES



Table 9.4-12. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Description of the Problem	Description of the Solution	Hazard(s) Mitigated	Goals Met	Critical Facility?	EHP Issues?	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Binghamton-4 (former 2)	Maxian Road Culvert size increase	Existing culvert overtops during heavy rain which can damage the roadway.	Analyze Maxian Road Culvert size increase. The culvert is roughly 300 ft downstream of Agwaterra Pond (source) and as a consequence debris mitigation may play a role, but is likely not enough to fix the problem alone.	Flood	5	No	Stream impacts	Town Engineer/NFIP Administrator	\$200,000	Reduced flooding at Maxian Road	Within 3 years	Municipal Budget, HMA grants	High	SIP	SP
T. Binghamton-5	Sanitary Sewer Improvement	Sanitary Sewer is susceptible to collapse and I&I	Step 1: Use existing video analysis combined with additional analysis of sewer infrastructure conditions to determine what locations are most susceptible to collapse and I&I. Step 2: Carry out sewer line restoration/replacement via traditional replacement methods and/or a new pipe lining program. Some of this has been started	Flood	5	No	None	Engineering and DPW	\$750,000	Prevent future collapse, inundation, and infiltration of sanitary sewer system.	4 years	Municipal budget, HMGP	High	SIP	PP
T. Binghamton-6	Replace and augment susceptible structures and portions of stream bank	Stream bank is unstable in areas.	Initiate an analysis/monitoring program and carry out projects to replace and augment susceptible structures and portions of stream bank.	Flood	5	No	May require permitting	DPW	\$500,000	Stream bank strengthened to lessen erosional and flooding impacts.	5 years	HMGP	High	NSR, SIP	NR, PP





Table 9.4-12. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Description of the Problem	Description of the Solution	Hazard(s) Mitigated	Goals Met	Critical Facility?	EHP Issues?	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Binghamton-7	Replace Water Mains at deeper pipe depth.	Water mains are prone to rupture due to shallow depth.	Identify areas susceptible to rupture; carry out projects to replace water mains at a deeper pipe depth.	Extreme Temperature, Severe Winter Storm	1, 5	No	None	DPW	\$200,000	Water mains protected from rupture.	2-3 years	HMGP	High	SIP	PR, SP
T. Binghamton-8	Peckham Road culvert upgrade	Culvert is undersized.	Culvert will be replaced with a larger size.	Flood, Severe Storm	1, 5	No	None	DPW	\$200,000	Flooding from undersized culvert eliminated	Within 3 years	HMGP	High	SIP	SP
T. Binghamton-9	Morgan and Roberts Road Intersection Culvert	Culvert is in need of replacement.	Culvert will be repaired/replaced.	Flood, Severe Storm	1, 5	No	None	DPW	\$200,000	Flooding from undersized culvert eliminated	Within 3 years	HMGP	High	SIP	SP
T. Binghamton-10 (former 1)	Outreach to repetitive loss properties	Repetitive loss property is in danger of future flood damage.	Submittal of a letter of intent for acquiring repetitive loss property located on Conklin Road. Review potential funding sources for 25% match.	Flood	1	No	None	Town NFIP Administrator	<\$100	Rep loss property will be moved towards removal.	Within 6 months.	FMA	High	EAP, SIP	PI, PP
T. Binghamton-11	Assist in the update of flood plain (FIRM) maps	FIRMs are outdated.	– 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	2, 3	No	None	Town NFIP Administrator	<\$100	FIRM maps will be updated to allow for proper planning, development, and construction decisions.	Until FEMA FIRM maps are complete	Municipal budget	High	LP, R	PR



Table 9.4-12. Proposed Hazard Mitigation Initiatives

Project Number	Project Name	Description of the Problem	Description of the Solution	Hazard(s) Mitigated	Goals Met	Critical Facility?	EHP Issues?	Lead and Support Agencies	Estimated Cost	Estimated Benefits	Estimated Timeline	Potential Funding Sources	Priority	Mitigation Category	CRS Category
T. Binghamton-12	Update the NFIP Flood Damage Prevention Ordinance	The current flood damage prevention ordinance (1987) does not include NYS freeboard requirements.	Flood Damage Prevention Ordinance will be updated to	Flood	1	No	None	Floodplain Administrator	<\$100	Higher building standards and lower flood exposure	Within 6 months	Municipal budget	High	LPR	PR

Notes:

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

Acronyms and Abbreviations:

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

Potential FEMA HMA Funding Sources:

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

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

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

Mitigation Category:

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

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.





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

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Table 9.4-13. 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. Binghamton-1	Generator for Binghamton Community Center	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
T. Binghamton-2	Generator for Binghamton Communications Center	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
T. Binghamton-3	Generator for Binghamton Town Hall	1	1	1	1	1	1	0	1	1	1	1	1	1	1	13	High
T. Binghamton-4 (former 2)	Maxian Road Culvert size increase	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
T. Binghamton-5	Sanitary Sewer Improvement	0	1	1	1	1	1	0	1	1	1	0	1	1	1	11	High
T. Binghamton-6	Replace and augment susceptible structures and portions of stream bank	1	1	0	1	1	0	0	0	1	1	0	1	1	1	9	High
T. Binghamton-7	Replace Water Mains at deeper pipe depth.	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
T. Binghamton-8	Peckham Road culvert upgrade	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
T. Binghamton-9	Morgan and Roberts Road Intersection Culvert	0	1	1	1	1	1	0	1	1	1	1	1	1	1	12	High
T. Binghamton-10 (former 1)	Outreach to repetitive loss properties	1	1	1	1	1	1	1	1	1	1	1	1	0	1	13	High
T. Binghamton-11	Assist in the update of flood plain (FIRM) maps	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
T. Binghamton-12	Update the NFIP Flood Damage Prevention Ordinance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High

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





9.4.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.4.8 Staff and Local Stakeholder Involvement in Annex Development

The Town of Binghamton 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: Building/Code Official, Highway Superintendent, and Engineer. The Building/Code Official 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.

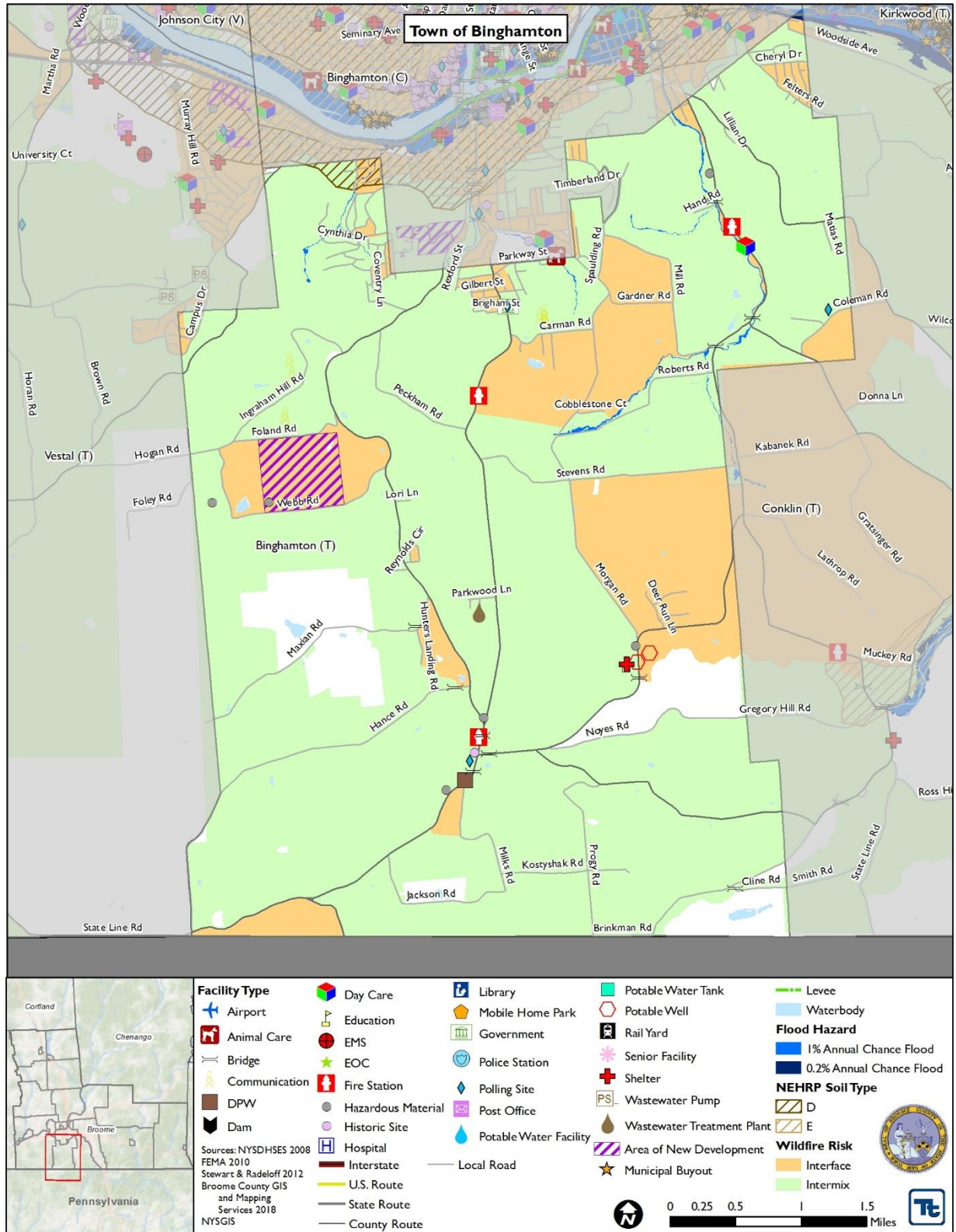
Additional documentation on the municipality's planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meetings).

9.4.9 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Town of Binghamton 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 Binghamton has significant exposure. A map of the Town of Binghamton 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 9.4-1. Town of Binghamton Hazard Area Extent and Location Map





Town of Binghamton Action Worksheet			
Project Name:	Generator for Binghamton Community Center		
Project Number:	T. Binghamton-1		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	The Binghamton Community Center lacks a backup power source. In the event of a power outage, the Center is unable to function or provide essential services to the community. The Community Center is used as a sheltering location when necessary and can shelter 100 people. Although the Town of Binghamton has not needed to shelter its own residents often, surrounding municipalities are often impacted by flooding and the Town of Binghamton provides sheltering. The Community Center is already ADA compliant.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will purchase and install a generator at the Community Center, including necessary electrical hookup components. The Town will continue to improve the Community Center's sheltering capability.		
Is this project related to a Critical Facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	No power loss	Estimated Benefits (losses avoided):	Community Center able to be used as a shelter.
Useful Life:	30 years	Goals Met:	1, 4, 5
Estimated Cost:	\$100,000	Mitigation Action Type:	Structure and Infrastructure Project.
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 1 year
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP
Responsible Organization:	Code Enforcement	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Solar Panels	\$10,000	Weather dependent.
	Build a microgrid to reduce chances of power loss	\$1 million	Cost prohibitive.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Generator for Binghamton Community Center	
Project Number:	T. Binghamton-1	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Community Center serves as a shelter when necessary
Property Protection	1	Community Center's critical functions protected
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Town has the legal authority to install a generator
Fiscal	0	The project will require funding assistance.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All Hazards
Timeline	1	Generator could be installed in a short time frame
Agency Champion	1	Code Enforcement
Other Community Objectives	1	The Town wishes to designate the Community Center as a shelter
Total	13	
Priority (High/Med/Low)	High	



Town of Binghamton Action Worksheet			
Project Name:	Generator for Binghamton Communications Center		
Project Number:	T. Binghamton-2		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	The Binghamton Communications Center lacks a backup power source. In the event of a power outage, the Center is unable to function or provide essential services to the community. The Communications Center is used as a sheltering location when necessary and can shelter 100 people. Although the Town of Binghamton has not needed to shelter its own residents often, surrounding municipalities are often impacted by flooding and the Town of Binghamton provides sheltering.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will purchase and install a generator at the Communications Center, including necessary electrical hookup components. The Town will continue to improve the Communications Center's sheltering capability.		
Is this project related to a Critical Facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	No power loss	Estimated Benefits (losses avoided):	Community Center able to be used as a shelter.
Useful Life:	30 years	Goals Met:	1, 4, 5
Estimated Cost:	\$5,000	Mitigation Action Type:	Structure and Infrastructure Project.
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 1 year
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP
Responsible Organization:	Code Enforcement	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Solar Panels	\$10,000	Weather dependent.
	Build a microgrid to reduce chances of power loss	\$1 million	Cost prohibitive.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Generator for Binghamton Communications Center	
Project Number:	T. Binghamton-2	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Communications Center serves as a shelter when necessary
Property Protection	1	Communications Center's critical functions protected
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Town has the legal authority to install a generator
Fiscal	0	The project will require funding assistance.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All Hazards
Timeline	1	Generator could be installed in a short time frame
Agency Champion	1	Code Enforcement
Other Community Objectives	1	The Town wishes to designate the Communications Center as a shelter
Total	13	
Priority (High/Med/Low)	High	



Town of Binghamton Action Worksheet			
Project Name:	Generator for Binghamton Town Hall		
Project Number:	T. Binghamton-3		
Risk / Vulnerability			
Hazard(s) of Concern:	All Hazards		
Description of the Problem:	The Binghamton Town Hall lacks a backup power source. In the event of a power outage, municipal departments are unable to function or provide essential services to the community. The Town Hall is used as a sheltering location when necessary and can shelter 100 people. Although the Town of Binghamton has not needed to shelter its own residents often, surrounding municipalities are often impacted by flooding and the Town of Binghamton provides sheltering. The Town Hall is already ADA compliant.		
Action or Project Intended for Implementation			
Description of the Solution:	The Town will purchase and install a generator at the Town Hall, including necessary electrical hookup components. The Town will continue to improve the Town Hall's sheltering capability.		
Is this project related to a Critical Facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
(If yes, this project must intend to protect the 500-year flood event or the actual worse case damage scenario, whichever is greater)			
Level of Protection:	No power loss	Estimated Benefits (losses avoided):	Community Center able to be used as a shelter.
Useful Life:	30 years	Goals Met:	1, 4, 5
Estimated Cost:	\$150,000	Mitigation Action Type:	Structure and Infrastructure Project.
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 1 year
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP
Responsible Organization:	Code Enforcement	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation Planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Solar Panels	\$10,000	Weather dependent.
	Build a microgrid to reduce chances of power loss	\$1 million	Cost prohibitive.
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Generator for Binghamton Town Hall	
Project Number:	T. Binghamton-3	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Town Hall serves as a shelter when necessary
Property Protection	1	Town Hall's critical functions protected
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Town has the legal authority to install a generator
Fiscal	0	The project will require funding assistance.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All Hazards
Timeline	1	Generator could be installed in a short time frame
Agency Champion	1	Code Enforcement
Other Community Objectives	1	The Town wishes to designate the Town Hall as a shelter
Total	13	
Priority (High/Med/Low)	High	