



9.15 TOWNSHIP OF JEFFERSON

This section presents the jurisdictional annex for the Township of Jefferson. The annex includes a general overview of the Township of Jefferson; an assessment of the Township of Jefferson’s risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.15.1 Hazard Mitigation Planning Team

The following individuals are the Township of Jefferson’s identified HMP update primary and alternate points of contact and NFIP Floodplain Administrator.

Table 9.15-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name / Title: Ed Mangold, Emergency Management Coordinator Address: 1033 Weldon Rd., Lake Hopatcong, NJ Phone Number: 973-534-0284 Email: emangold@jeffersonpolice.com	Name / Title: Paul Castimore, Deputy EM Coordinator Address: 1033 Weldon Rd., Lake Hopatcong, NJ Phone Number: 973-208-6147 Email: pcastimore@jeffersonpolice.com
NFIP Floodplain Administrator	
Name / Title: Tom Mahoney, Construction/Zoning Officer Address: 1033 Weldon Rd., Lake Hopatcong, NJ Phone Number: 973-208-6111 Email: tmahoney@jeffersontownship.net	

9.15.2 Jurisdiction Profile

The Township of Jefferson is the northernmost municipality in Morris County. It has a total area of 43.11 square miles, of which, 39.14 square miles is land and 3.98 square miles is water. The Township can be divided into two halves, Milton and Lake Hopatcong. Each half has its own first aid squad, fire department station, and elementary schools. Lake Swannanoa is an unincorporated community located within the Township. Several major roads pass through the Township: Green Pond Road (County Route 513), State Route 15, State Route 23, State Route 181, and Interstate 80). The Township of Jefferson is bordered to the west by Sparta Township (Sussex County), the Borough of Hopatcong (Sussex County) to the east, the Township of West Milford (Passaic County) and Hardyston to the north, the Township of Rockaway to the east, and the Borough of Mount Arlington and the Township of Roxbury to the south. According to the U.S. Census, the 2010 population for the Township of Jefferson was 21,314.

Major streams in the Township include the Rockaway, Pequannock, and Musconetcong Rivers and their tributaries. There are 10 named lakes in Jefferson Township that range in size from 2.9 acres to 2,658 acres. A large portion of Lake Hopatcong, the largest lake in New Jersey, is located within the Township's boundaries. It is nine miles in length and covered by 2,500 acres of freshwater. Lake Hopatcong was originally created as part of the Morris Canal and was the canal’s major source of water. The Lake is the largest freshwater body in New Jersey. It was created by damming and flooding two ponds, Great Pond and Little Pond, and the Musconetcong River. Currently, it is mainly a residential lake with few public access points.

The Township is also located in the New Jersey Highlands Region, one of the 88 municipalities protected by and subject to the provisions of the Highlands Water Protection and Planning Act. The Township Preservation Area encompasses nearly all of the Township of Jefferson (24,080 acres or 87.9%).



According to the U.S. Census, the 2010 population for the Township of Jefferson was 21,314. The estimated 2017 population was 21,440, a 0.6% increase from the 2010 Census. Data from the 2017 U.S. Census American Community Survey indicate that 4.0% of the population is 5 years of age or younger and 14.2% is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

9.15.3 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. Table 9.15-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figures 9.15-1 and 9.15-2 at the end of this annex illustrate the geographically-delineated hazard areas and the location of potential new development.

Table 9.15-2. Recent and Expected Future Development

Type of Development	2014	2015	2016	2017	2018
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single Family	5	9	6	8	12
Multi-Family	0	0	0	0	0
Other (commercial, mixed-use, etc.)	0	0	0	0	0
Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zone(s)*	Description / Status of Development
Recent Major Development and Infrastructure from 2015 to Present					
Prospect Point Boat Yard	Comm.	1	Brady Road	None	Complete
Rt 23 Fitness Center	Comm.	1	Route 23	None	Complete
Quick Check	Comm.	1	Route 15	None	Complete
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Former Pathmark - medical center and Wawa	Commercial	2 buildings	715 Route 15 B: 273.03; L: 1	None	In Progress
Shaw Property	Residential	60+ units	B: 273.01; L: 2.061	None	In Progress
Lake Hopatcong Marina	Commercial	1 building	Howard Blvd.	None	In Progress

* Only location-specific hazard zones or vulnerabilities identified.

9.15.4 Capability Assessment

The Township of Jefferson performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 5 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Information on National Flood Insurance Program (NFIP) compliance.
- Classification under various community mitigation programs.
- The community’s adaptive capacity for the impacts of climate change.



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, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized below. The Township of Jefferson identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.

PLANNING, LEGAL AND REGULATORY CAPABILITY

The table below summarizes the legal and regulatory tools that are available to the Township of Jefferson and where hazard mitigation has been integrated.

Table 9.15-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes-how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes	State & Local	Yes	-	-
<i>Comment: State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)</i>					
Zoning Code	Yes	Local, Zoning Off	Yes	Yes	-
<i>Comment: Chapter 490 (Zoning) adopted by the Township Council on 7/10/1996 and amended where applicable. The Zoning Ordinance is adopted pursuant to the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq. The purpose of this code is to encourage municipal action to guide the appropriate use or development of all lands in the Township, in a manner which will promote the public health, safety, morals and general welfare. The Township has several zoning districts that include overlays and regulation zones.</i>					
Subdivisions	Yes	Local, Planning Board	Yes	Yes	-
<i>Comment: Chapter 435 (Subdivision of Land) – adopted by Township Council on 6/15/1959 and amended where applicable. The purpose of this code is to provide rules, regulations and standards to guide land subdivision in Jefferson Township in order to promote the public health, safety, convenience and general welfare of the municipality. It shall be administered to ensure the orderly growth and development, the conservation, protection and proper use of land and adequate provision for circulation, utilities and services.</i>					
Stormwater Management	Yes	Federal, State, Local, Construction Official	Yes	Yes	-
<i>Comment: Chapter 439 (Surface Water Management) – adopted by Township Council on 6/5/1991 and amended where applicable. The purpose of the chapter is to establish minimum stormwater management requirements and controls for major development. Flood control, groundwater recharge, and pollutant reduction through nonstructural or low-impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management strategies and proper maintenance plans.</i>					
Post-Disaster Recovery	No	-	-	-	-
<i>Comment:</i>					
Real Estate Disclosure	Yes	State, Division of Consumer Affairs	Yes	Yes	-
<i>Comment: N.J.A.C. 13:45A-29.1</i>					
Growth Management	Yes	Local & State, Planning Bd	Yes	-	-
<i>Comment: Art XI Highlands Conformance Guide</i>					
Site Plan Review	Yes	Local & State, Planning Bd	Yes	Yes	-



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years? If yes- how?	
				If yes- how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Comment:					
<ul style="list-style-type: none"> 490-58 Highlands Area Exemption; the Land Use Board is involved in reviewing major subdivisions and site plans and finalizing the land use regulations that will support the zoning ordinances of the community. Subdivision review is required whenever any lot, tract or parcel of land is divided into two or more lots, tracts and parcels. Site plan reviews are required when someone proposes development for anything other than an individual lot application for detached one or two dwelling units. Chapter 490 (Zoning) - Prior to the issuance of a permit for any development, other than those exemptions listed herein, and as a condition for the issuance of any such permit for development, a site plan of the proposed development must be submitted to and approved by the Land Use Board, in accordance with the requirements of the site plan regulations. All single- and two-family dwellings and their permitted accessory structures shall be exempt from site plan review. 					
Environmental Protection	No	-	-	-	-
Comment:					
Flood Damage Prevention	Yes	Federal, State, Local, Construction Official	Yes	Yes	-
Comment: Chapter 262 (Flood Damage Prevention) – adopted by the Township Council on 9/7/1983 and amended where applicable. The purpose of this chapter is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions. The Township requires a development permit before construction or development begins within any SFHA. The Construction Official administers and implements the flood damage prevention chapter and grants or denies development permit applications. Any residential construction (new or substantial improvements) for structures in the floodplain must have the lowest floor elevated to or above the base flood elevation. Any non-residential construction (new or substantial improvement) must have their lowest floor elevated to the level of the base flood.					
Wellhead Protection	No	-	-	-	-
Comment:					
Emergency Management	No	-	-	-	-
Comment:					
Climate Change	No	-	-	-	-
Comment:					
Disaster Recovery Ordinance	No	-	-	-	-
Comment:					
Disaster Reconstruction Ordinance	No	-	-	-	-
Comment:					
Other	No	-	-	-	-
Comment:					
Planning Documents					
Comprehensive / Master Plan	Yes	Local, Plan Board	Yes	Yes	-
Comment: Main Plan 1978, Updated 2014; reexamined in 2019. The Master Plan is a comprehensive, long-range plan intended to guide the growth and development of a community. It contains elements that provide for: Community Facilities; Future Economic Development; Housing; Land Use; Open Space; Recreation; and Transportation. A primary element of the Master Plan is the Land Use Plan. This element serves as the basis for development of the Township's zoning ordinances, a set of local regulations that provides for controls on how the land in Jefferson is developed, occupied or utilized. The Land Use Plan is also implemented through a zoning map of zone categories as recommended in the Land Use Plan. Some areas in the Township have been upgraded in zoning protections due to extensive wetlands, environmental issues and/or lack of sewer service in area.					



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years ? If yes- how?	
				If yes-how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Capital Improvement Plan	Yes	Local, Administration	No	-	-
<i>Comment: Capital improvement funds are included in the annual budget. The 2020 budget included line items for road improvements and project engineering. It also includes improvements to the water and sewer utilities.</i>					
Disaster Debris Management Plan	No	-	-	-	-
<i>Comment: While the Township does not have a formal written plan, the Township does have NJDEP approval to use certain areas to hold debris.</i>					
Floodplain or Watershed Plan	Yes	Local, County, Township Engineer	No	Yes	-
<i>Comment: Part of Open Space Recreation Plan (April 2001) – several goals of this plan include preserving and enhancing environmentally sensitive areas such as steep slopes, stream corridors, and woodlands from development and ensure compliance with Stat restrictions pertaining to wetlands, wetland transitional buffer areas, and floodplains.</i>					
Stormwater Management Plan	Yes	Local, Township Engineer, DPW	Yes	-	-
<i>Comment: Chapter 439, Jefferson Township Stormwater Management Plan, March 2006</i>					
Stormwater Pollution Prevention Plan	Yes	Federal, State, Local, Construction Official	Yes	-	-
<i>Comment: Part of the Stormwater Management Plan</i>					
Urban Water Management Plan	No	-	-	-	-
<i>Comment:</i>					
Habitat Conservation Plan	No	-	-	-	-
<i>Comment:</i>					
Economic Development Plan	Yes	Local, Mayor/Admin	No	-	-
<i>Comment: Updated July 2014 – Panning Board and Town Council working together with Highlands Commission; incorporated with the Master Plan</i>					
Shoreline Management Plan	No	-	-	-	-
<i>Comment:</i>					
Community Wildfire Protection Plan	No	-	-	-	-
<i>Comment:</i>					
Community Forest Management Plan	Yes	-	No	-	-
<i>Comment:</i>					
Transportation Plan	Yes	Local, BOE, Trans	No	-	-
<i>Comment: EOP Updated 2012</i>					
Agriculture Plan	No	-	-	-	-
<i>Comment:</i>					
Climate Action Plan	No	-	-	-	-
<i>Comment:</i>					



	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	Has the HMP been integrated in the last 5 years ? If yes- how?	
				If yes-how? Describe in comments	If no - can it be a mitigation action? If yes, add Mitigation Action #.
Tourism Plan	No	Local	No	-	-
<i>Comment: Economic Development Commission is starting to become active again; will look into seeing how to get people back to the area</i>					
Business Development Plan	Yes	Local	No	-	-
<i>Comment: re-development plans; economic development commission</i>					
Other	Yes	Local, County	No	-	-
<i>Comment:</i>					
<ul style="list-style-type: none"> • Open Space Plan, 2014 Open Space Inventory • Stream Corridor Management Plan, Chapter 370 Riparian zones 					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	Local, OEM	Yes	-	-
<i>Comment: EOP updated 2012</i>					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-	-
<i>Comment:</i>					
Post-Disaster Recovery Plan	Yes	Local, OEM/Admin	No	-	-
<i>Comment: EOP updated 2012</i>					
Continuity of Operations Plan	Yes	Local, OEM/Admin	No	-	-
<i>Comment: Part of the EOP</i>					
Public Health Plan	Yes	Local	No	-	-
<i>Comment: Public Health Department – shared serviced through Rockaway Twp</i>					
Other	No	-	-	-	-
<i>Comment:</i>					

Table 9.15-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits? - If no, who does? If yes, which department?	Yes. Engineering Department can issue development permits; however, the Township does have New Jersey Highlands restrictions Engineering Department can issue development permits; however, the Township does have New Jersey Highlands restrictions
Does your jurisdiction have the ability to track permits by hazard area?	No, but the Township has the capability to do so. They recently obtained Spatial Logic Data which will be available for the public on the municipal website.



Criterion	Response
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	Yes - have the ability to map out land available for development

ADMINISTRATIVE AND TECHNICAL CAPABILITY

The table below summarizes potential staff and personnel resources available to the Township of Jefferson.

Table 9.15-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Land Use Board
Mitigation Planning Committee	Yes	OEM/Township Engineer/Admin/LEPC
Environmental Board / Commission	Yes	Environmental Commission
Open Space Board / Committee	Yes	Land Use Board
Economic Development Commission / Committee	Yes	Economic Development Advisory Board
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	County Rave System, fire sirens
Maintenance program to reduce risk	Yes	DPW
Mutual aid agreements	Yes	Surrounding municipalities, Morris County, UASI
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning/Zoning Bds/Council/Mayor
Engineers or professionals trained in building or infrastructure construction practices	Yes	Township Engineer/Building/Construction Officials
Planners or engineers with an understanding of natural hazards	Yes	Township Engineer/Building/Construction Officials
Staff with training in benefit/cost analysis	Yes	Township Engineer/Admin
Staff with training in green infrastructure	No	
Staff with education/knowledge/training in low impact development	No	
Surveyor	Yes	Township Engineer
Personnel skilled or trained in GIS applications	Yes	Township Engineer
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	OEM Coordinators
Watershed planner	No	
Environmental specialist	No	
Grant writers	Yes	Department Heads
Resilience Officer	Yes	Municipal Clerk
Other (Professionals trained in conduction damage assessments)	Yes	Township Engineer, DPW Superintendent, CFO

FISCAL CAPABILITY

The table below summarizes financial resources available to the Township of Jefferson.





Table 9.15-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Depends on location, project, County approval
Capital Improvements Project Funding	Yes, Admin/Mayor
Authority to Levy Taxes for Specific Purposes	Yes, Admin/Mayor
User Fees for Water, Sewer, Gas or Electric Service	Yes, Water/Sewer only, Utility Dept
Incur Debt through General Obligation Bonds	Yes, Admin/Mayor
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	At times, Mayor/Admin
Development Impact Fees for Homebuyers or Developers	Yes, with State approval of specific plans
Clean Water Act 319 Grants (Nonpoint Source Pollution)	No
Other	No

EDUCATION AND OUTREACH CAPABILITY

The table below summarizes the education and outreach resources available to the Township of Jefferson.

Table 9.15-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes – PIO through the police department
Do you have personnel skilled or trained in website development?	Yes – municipal staff
Do you have hazard mitigation information available on your website? <ul style="list-style-type: none"> ▪ If yes, briefly describe. 	Yes – the Township’s website was recently redesigned and provides news, information, contact information, and emergency alerts.
Do you use social media for hazard mitigation education and outreach? <ul style="list-style-type: none"> ▪ If yes, briefly describe. 	Yes – Facebook, Instagram and Twitter
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <ul style="list-style-type: none"> ▪ If yes, briefly describe. 	Yes – Open Space, Planning Board, Board of Adjustment, information group of the mayors of Lake Hopatcong meet quarterly to discuss HAB
Do you have any other programs already in place that could be used to communicate hazard-related information? <ul style="list-style-type: none"> ▪ If yes, briefly describe. 	Yes - Rave, municipal newsletter, tax bills, water bills, electronic message boards
Do you have any established warning systems for hazard events? <ul style="list-style-type: none"> ▪ If yes, briefly describe. 	Yes – the Township uses the RAVE Emergency Alerts system and encourages residents to sign up to receive community notifications and emergency alerts by phone, text, and/or email.

COMMUNITY CLASSIFICATIONS

The table below summarizes the classifications for community programs available to the Township of Jefferson.

Table 9.15-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	#4	2/23/2010
Public Protection (Fire ISO Protection Class)	Yes	5 and 8B	
Storm Ready Certification	No	-	-





Program	Participating?	Classification	Date Classified
Firewise Community Classification	No	-	-
Sustainable Jersey	No	-	-

ADAPTIVE CAPACITY

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions.

- Does the municipality have access to resources to determine the possible impacts of climate change upon the municipality? Yes
- Is the administrative supportive of integrating climate change in policies or actions? Yes
- Is climate change already being integrated into current policies/plans or actions (projects/monitoring) within the municipality? Yes

The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

Table 9.15-9. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) - High/Medium/Low
Dam Failure	Medium
Disease Outbreak	Medium
Drought	Medium
Earthquake	Medium
Extreme Temperature	Medium
Flood	Medium
Geological Hazards	Medium
Harmful Algal Bloom	Medium
Hazardous Substances	Medium
Infestation	Medium
Severe Weather	Medium
Severe Winter Weather	Medium
Wildfire	Medium

Notes:
 High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;
 Low = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

NATIONAL FLOOD INSURANCE PROGRAM

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

Table 9.15-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Building Department
Who is your floodplain administrator? (name, department/position)	Construction Official
Are any certified floodplain managers on staff in your jurisdiction?	No



Criterion	Response
What is the date that your flood damage prevention ordinance was last amended?	Adopted by Township Council on 9/7/1983 and amended on 2/16/2005
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none"> If exceeds, in what ways? 	Meets minimum
When was the most recent Community Assistance Visit or Community Assistance Contact?	July 24, 1991
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <ul style="list-style-type: none"> If so, state what they are. 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what they are. 	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If no, state why. 	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <ul style="list-style-type: none"> If so, what type of assistance/training is needed? 	No
Does your jurisdiction participate in the Community Rating System (CRS)? <ul style="list-style-type: none"> If yes, is your jurisdiction interested in improving its CRS Classification? If no, is your jurisdiction interested in joining the CRS program? 	No
How many flood insurance policies are in force in your jurisdiction?*	126 Policies. \$32,848,400 Insurance in-force. \$150,809 Premium in-force.
<ul style="list-style-type: none"> What is the insurance in force? What is the premium in force? 	
How many total loss claims have been filed in your jurisdiction?*	100 claims, 1 claim still open, 24 closed without payment. \$1,176,109 claim amount
<ul style="list-style-type: none"> How many claims are still open or were closed without payment? What were the total payments for losses? 	
Do you maintain a list of properties that have been damaged by flooding?	A formal list of flood-damaged properties and property owner's interest in pursuing mitigation is not maintained by the Township
Do you maintain a list of property owners interested in flood mitigation?	Yes – but currently no property owners have expressed an interest in mitigation.

*According to FEMA statistics as of 9/30/2018

ADDITIONAL AREAS OF EXISTING INTEGRATION

- **Zoning Board of Adjustment** functions are very specific and different from the Planning Board in that they are required to review departures from our Township's Zoning laws. The Zoning Board of Adjustment's principal duties are to hear appeals, to grant variances from the strict application of the zoning ordinance and to rule on "use" applications.
- The **Environmental Commission** was created for the protection, development or use of the natural resources located within the territorial limits of Jefferson Township. The Commission advises the mayor and council, planning board, and board of adjustment concerning proposed development. Research, site plan reviews, and site plan visits are conducted in order to tender advice to the aforementioned parties. The Commission also makes recommendations concerning: air pollution, flora and fauna protection, marine resources, noise control, open space, soil and landscape appearance, and water resources management.
- **Municipal Alliance Committee** includes representatives from the governing body, education, health, law enforcement, as well as civic, religious and business groups. The committee determines the needs of the community and develops prevention plans to address the identified priorities.
- **Land Use Board** is responsible for or generating and updating a community's Master Plan. Other functions of the Land Use Board involve subdivision and site plan review, creation of the official map





and associated zoning ordinances and review of the capital improvements program for the Township. The Board is also empowered to review and approve "C" variances (departures from zoning ordinances) in conjunction with development applications. The Lane Use Board is involved in review of other state or federal programs or plans. The Board also assembles data for planning purposes and performs other advisory duties upon request by the Township Committee.

- **Economic Development Advisory Board** fosters the development of new and diverse small businesses throughout the Township. The Board explores innovative ideas to attract new businesses to the community in order to create new ratables to help stabilize taxes and offer our residents a vibrant & diverse business community.

9.15.5 Hazard Event History Specific to the Jurisdiction

Morris County has a history of hazard events, as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 4.4 (Hazard Profiles) and includes a chronology of events that affected Morris County and its jurisdictions. The Township of Jefferson’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Morris County. Table 9.15-11 provides details regarding municipal-specific loss and damages the Township experienced during hazard events. Information provided in the table below is based on reference material or local sources.

Table 9.15-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22-24, 2016	Severe Winter Storm and Snowstorm (DR-4264)	Yes		Township performed snow clearing from roads and trees; overtime for police and DPW staff
March 6-7, 2018	Severe Winter Storm and Snow Storm (DR-4368)	Yes		Township performed snow clearing from roads and trees; overtime for police and DPW staff
March 21, 2018	Winter Storm	No	Precipitation began as a wet, heavy snow during the evening hours on March 20th. After a lull during the overnight hours, a drier snow began falling, heavy at times, during the afternoon and evening hours on March 21st. Snowfall totals were lower in the eastern portions of the county where mixing took place. Some snowfall reports include: 12.0 inches in Netcong, Green Pond, and Mine Hill Township, 11.2 inches in Jefferson Township, 11.0 inches in Marcella, 10.5 inches in both Rockaway and Mine Hill Township, 10.0 inches in Succasunna, 9.5 inches in Butler, 9.3 inches in Denville, 9.2 inches in both Budd Lake and Washington Township, 8.8 inches in both Mount Arlington and	Township performed snow clearing from roads and trees; overtime for police and DPW staff



Date(s) of Event	Event Type (disaster declaration if applicable)	Morris County Designated?	Summary of Event	Summary of Local Damages and Losses
			Randolph Township, 8.4 inches in Morristown, 8.2 inches at Charlottesville Reservoir, 8.0 inches in Dover, 7.5 inches in Parsippany, 7.0 inches at Boonton Reservoir, 7.0 inches in Millington, 6.5 inches in Pine Brook, 4.0 inches in Beach Glen, and 3.7 inches in Pleasantville.	

9.15.6 Jurisdiction-Specific Vulnerabilities and Hazard ranking

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant’s vulnerability to the identified hazards. Table 9.15-12 summarizes the Township of Jefferson risk assessment results and data used to determine the hazard ranking.

A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. A certainty factor of high, medium or low was selected and assigned to each hazard to provide a level of transparency and create increased understanding of the data used to support the resulting ranking. The following scale was used to assign a certainty factor to each hazard:

- High—Defined scenario/event to evaluate; probability calculated; evidenced-based/quantitative assessment to estimate potential impacts through hazard modeling.
- Moderate—Defined scenario/event or only a hazard area to evaluate; estimated probability; combination of quantitative (exposure analysis, no hazard modeling) and qualitative data to estimate potential impacts.
- Low—Scenario or hazard area is undefined; there is a degree of uncertainty regarding event probability; majority of potential impacts are qualitative.



Table 9.15-12. Summary of Risk Assessment Results

Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Dam Failure	Partial or complete failure of a dam There are 19 dams in the Township, according to NJDEP.	Population impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		The number of building impacted is dependent on the capacity of the dam, the extent of the dam failure inundation area and the severity of the failure.		Economic impacts include dam/building/infrastructure repairs; debris removal/disposal; utility impacts.		Low
Disease Outbreak	Disease Outbreaks which include: Mosquito-Borne Diseases, Tick-Borne Diseases, Campylobacteriosis, Influenza, Mumps, Ebola	Population impacted is dependent on the disease and severity of the outbreak; in some cases immuno-compromised persons are more vulnerable.		Structural impacts due to disease outbreak would be limited.		Economic losses can include County financial impacts to monitor/address outbreaks; lost wages or commercial interruptions; depends on the severity and type of disease outbreak. .		Low
Drought	Prolonged drought event - The County is serviced by water supplies who primarily get water from groundwater sources; some surface water sources.	Entire population exposed. Population on surface water supplies may be impacted first; water restrictions/contamination; increased wildfire risk.		Droughts are not expected to cause direct damage to buildings.		Losses include aesthetic, landscape/nursery/agricultural industry impacts.		Low
Earthquake	100, 500-, 2,500-Year Mean Return Period (MRP) Events evaluated NEHRP Soils D&E (soft soils that amplify ground shaking are present in the County	NEHRP D&E:	2,622	NEHRP D&E:	1,101	100-year Loss:	\$0	High
		Liquefaction Class 4:	11	Liquefaction Class 4:	6	500-year Loss:	\$1,646,550	
						2,500-year Loss:	\$30,434,306	
Extreme Temperature	Extreme temperature event (heat or cold)	Over 65 Population:	3,038	Physical impacts due to extreme temperatures would be limited.		Loss of business function is possible due to unexpected repairs (i.e. pipes bursting) or power failures.		Low
		Population Below Poverty Level:	1,115					



Hazard of Concern	Hazard/ Scenario Area Evaluated	Population		Buildings		Economy (Loss)		Certainty Factor
Flood	100- and 500-Year Mean Return Period Event	100-year	158	100-year	125	100-year Loss:	\$39,069,916	High
		500-year	345	500-year	237			
Geological	High Landslide Susceptibility Areas and Areas developed over carbonate rock	Class A:	26	Class A:	14	Class A:	4334836.154	Moderate
		Class B:	35	Class B:	14	Class B:	\$4,512,106	
		Carbonate Bedrock:	1,013	Carbonate Bedrock:	410	Carbonate Bedrock:	\$173,839,550	
Harmful Algal Bloom	Any body of water or area adjacent that is susceptible to harmful algal bloom.	Population in contact (e.g., swimming) or drinking water from surface water impacted can result in a range of health effects		General building stock impacts due to harmful algal bloom are not anticipated. Critical facilities (i.e., water treatment plants) could lead to plant closures.		Economic impacts range from recreational closure of impacted waterbodies; cost to sample/monitor/remediate.		Low
Hazardous Substance	Release of a hazardous substance from a fixed site.	Population impacted will depend on the type of material and scale of the incident. May include population within small radii of site.		The degree of damages to a building depends on the scale of the incident.		The degree of damages depends on the scale of the incident.		Low
Infestation	Infestation including: Insects [e.g. Gypsy Moth, Mosquitoes, Spotted Lanternfly, Emerald Ash Borer], White-Tailed Deer, Rodents	Population impacted will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Physical impacts will be limited to indirect impacts from invasive species which affect crops and vegetation.		Economic impact will depend on the type and severity of infestation and may cause an increased risk for disease outbreak.		Low
Severe Weather	Severe Weather Event	Entire population exposed; The degree of impact to the population depends on the scale of the incident.		Entire building stock is exposed; The degree of impact depends on the scale of the incident.		Annualized Loss:	\$56,923	High
						100 -Year Loss:	\$1,697,501	
						500-year Loss:	\$11,377,823	
Severe Winter Weather	Severe Winter Weather Event	All residents/commuters/visitors are exposed; socially-vulnerable populations may be at increased risk.		All buildings are exposed; the degree of impact depends on the scale of the incident.		The cost of snow and ice removal and repair of roads/infrastructure can impact operating budgets.		Low
Wildfire	Wildfire Fuel Hazard areas (High, Very High, Extreme)	Wildfire:	33	Wildfire:	23	Wildfire:	\$8,878,519	Moderate



REPETITIVE FLOOD LOSSES

The following summarizes the repetitive and severe repetitive flood losses in the Township of Jefferson.

- Number of repetitive loss (RL) properties: 10
Number of severe repetitive loss (SRL) properties: 0
Number of RL/SRL properties that have been mitigated: All properties have been mitigated since Hurricane Sandy.
- The properties on Berkshire Valley Road were mitigated due to the reconstruction of the bridge over the Rockaway River and rechanneled the Rockaway River.
- The property on Aldrin Road was mitigated after Hurricane Sandy when the homeowner made repairs to a retaining wall along the Rockaway River bed.
- The properties along Venetian Drive and East Shawnee Trail have been mitigated when the Township increased the size of drainage pipes in this area which has led to a decrease in roadway flooding.
- The property along Louisiana Avenue was mitigated by the homeowner when they made repairs to the retaining wall along Lake Hopatcong.

Source: FEMA BureauNet, 2019

Note: RL and SRL as of 04/26/2019; The number of SRL properties excludes RL properties and includes properties that have been verified only (SRL_Indicator = V).

CRITICAL FACILITIES

The table below identifies critical facilities in the community located in the 1-percent and 0.2-percent floodplain.

Table 9.15-13. Potential Flood Losses to Critical Facilities and Lifelines

Table with 5 columns: Name, Type, Exposure (1% Event, 0.2% Event), Status of Mitigation. Content: None

ADDITIONAL IDENTIFIED VULNERABILITIES

- According to the 2015 preliminary Flood Insurance Study (FIS) for Morris County, the Township of Jefferson has not historically experienced a significant amount of flood damage. Flooding of populated areas is usually confined to lakefront homes and is considered relatively minor. One notable exception occurs along the Rockaway River at Berkshire Valley Road just downstream of Route 15. Nearly all other flooding that does occur in the Township is limited to undeveloped low-lying areas adjacent to streams (FEMA FIS 2015).
Additionally, the Township identified the following vulnerabilities in their municipality:
o Lake Winona Dam needs to be repaired in order to avoid flooding of a residential neighborhood if the dam was to breach.

HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps were generated for the Township of Jefferson 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 adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Jefferson has significant exposure. Refer to Figures 9.15-1 and 9.15-2.





HAZARD 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 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; 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 4.3 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Morris County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community factoring in their capabilities to withstand impacts and rebound after the event. The table below summarizes the hazard rankings of potential natural hazards for the Township of Jefferson. The Township of Jefferson has reviewed the Morris County hazard 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 ranking, the Township indicated the following:

- The Township adjusted the ranking of Harmful Algal Bloom from low to medium due to the recent outbreak of Harmful Algal Bloom at Lake Hopatcong in summer 2019.
- The Township adjusted the ranking of Earthquake from high to medium due to history of occurrence.

Table 9.15-14. Township of Jefferson Hazard Ranking Input

Dam Failure	Disease Outbreak	Drought	Earthquake	Extreme Temperature	Flood	
Medium	High	Medium	Medium	Medium	Medium	
Geological Hazards	Harmful Algal Bloom	Hazardous Substances	Infestation	Severe Weather	Severe Winter Weather	Wildfire
Medium	Medium	High	Medium	High	High	Medium

9.15.7 Mitigation Strategy and Prioritization

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

PAST MITIGATION INITIATIVE STATUS

The following table summarizes the jurisdiction’s progress on their mitigation strategy identified in the 2015 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and can also be found under ‘Capability Assessment’ presented previously in this annex.

Table 9.15-15. Status of Previous HMP Mitigation Actions

2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
JFT - 1	Develop all-hazards public education and outreach program for hazard mitigation and preparedness for all Township residents	OEM	Ongoing Action	-	-
JFT - 2	Back Up Power for Camp Jefferson	OEM	Complete	-	-



2015 Action Number Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2020 HMP Update?	
				Check if Yes	Enter 2020 HMP Action #
JFT - 3	Lake Winona Dam Repair	Winona Lake Community (privately owned lake)	In progress – done by the lake association	-	-
JFT - 4	Upgrade Township communication dispatch center	OEM	Complete	-	-
JFT - 5	Lake Shawnee Bridge Replacement	DPW	Complete – bridge and dam repairs after Sandy	-	-
JFT - 6	Support the mitigation of vulnerable structures via retrofit (e.g., elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority where applicable (Township has five RL properties) Phase 1: Identify appropriate candidates and determine most cost-effective mitigation option (in progress) Phase 2: Work with the property owners to implement selected action based on available funding and local match availability	Engineering	Ongoing Action	-	-

The Township has completed the following projects that were not included in the 2015 HMP:

- After Hurricane Sandy, the repetitive loss properties in the Township on Berkshire Valley Road were mitigated due to the reconstruction of the bridge over the Rockaway River and rechanneled the Rockaway River. Since the repairs have been made, the homes have not experienced flooding or flood damages.
- The repetitive loss property on Aldrin Road was mitigated after Hurricane Sandy when the homeowner made repairs to a retaining wall along the Rockaway River bed. Since the repairs have been made, the homes have not experienced flooding or flood damages.
- The repetitive loss properties along Venetian Drive and East Shawnee Trail have been mitigated when the Township increased the size of drainage pipes in this area which has led to a decrease in roadway flooding. Since the repairs have been made, the homes have not experienced flooding or flood damages.
- The repetitive loss property along Louisiana Avenue was mitigated by the homeowner when they made repairs to the retaining wall along Lake Hopatcong. Since the repairs have been made, the homes have not experienced flooding or flood damages.

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

The Township of Jefferson participated in a risk assessment workshop in November 2019 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Township of Jefferson participated in a mitigation action workshop in March 2020 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Morris County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; and 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). Section 6 (Mitigation Strategy) and Appendix F (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.15-16 summarizes the comprehensive-range of specific mitigation initiatives the Township of Jefferson would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6 (Mitigation Strategy), 14 criteria were used to evaluate each action, including an evaluation of the benefits and costs. For each new mitigation action, a numeric rank was assigned (-1, 0, or 1) for each of the 14 evaluation criteria. The results of this evaluation, in addition to input from the jurisdiction, were then used to prioritize the mitigation initiatives as 'High', 'Medium', or 'Low.' Table 9.15-17 summarizes the evaluation of each mitigation initiative and the resulting priority, listed by Action Number.



Table 9.15-16. Proposed Hazard Mitigation Initiatives and Action Priority

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2020-JEFFERSON-001	Laurel Drive Bridge	<p>Problem: The Laurel Drive Bridge needs to be replaced. This section of the Township floods due backup of the existing drainage pipe.</p> <p>Solution: The Township will completely replace the existing drainage and bridge. The drainage pipes will go from two 12-inch pipes to two 24-inch pipes.</p>	Existing	Flood, Severe Weather, Severe Winter Weather	3, 5	DPW and Engineering	Municipal Budget	Protects life and safety, improves integrity of bridge, allows road and bridge to remain open during an emergency	\$70,000	Within 1 year	High	SIP	PP
2020-JEFFERSON-002	Canal Crossing Bridge	<p>Problem: Canal Crossing Bridge on Three Rivers Drive is a wooden bridge that needs to be replaced. The bridge has been washed out multiple times and storms have undermined the bridge. While the Township has made repairs to keep the bridge open, it needs to be replaced.</p> <p>Solution: The Township will completely replace the Canal Crossing Bridge. The infrastructure of the bridge and bridge deck will all be replaced.</p>	Existing	Flood, Severe Weather, Severe Winter Weather	3, 5	DPW and Engineer	NJDOT Local Bridges, Future Needs Program; USDOT Infrastructure for Rebuilding America; Municipal Budget	Protects life and safety, improves integrity of bridge, allows road and bridge to remain open during an emergency	\$450,000	2 years	High	SIP	PP
2020-JEFFERSON-003	Upgrade 911 System	<p>Problem: The Township's current 911 system is outdated and in need of upgrading.</p> <p>Solution: The existing Verizon telephone lines that support the 911 system needs to be upgraded to fiber optics. This will allow the current communication to work properly and provide continuity of operations.</p>	N/A	All	3, 5	Police, OEM, Fire, EMS	UASI, HSGP	Continuity of operations, better communication	\$300,000	2 years	High	SIP	PP, ES
2020-JEFFERSON-004	Upgrade Generators at	<p>Problem: The Township's facilities have backup power; however, the</p>	Existing	All	3	OEM, DPW, Engineer	FEMA HMGP and PDM,	Continuity of operations	\$25,000 / generator	Within 3 years	High	SIP	PP, ES





Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
	Municipal Buildings	generators are old and in need of upgrading. Solution: Working with the Township Engineer, determine which facilities need generator upgrades and what size generator is needed at each facility. Once identified, the Township will purchase the generators and associated equipment and install at each facility.					CDBG, Municipal Budget						
2020-JEFFERSON-005	Purchase portable generator	Problem: The Township does not have a portable generator that they can use during an emergency to serve as a source of power or they can loan to residents who need electricity during a power outage. This includes residents who rely on oxygen or require medication that needs refrigeration. Solution: Purchase a portable gas generator and associated equipment to be used during a power outage.	N/A	All	3	OEM, DPW	Municipal Budget	Continuity of operations	<\$5,000	Within 1 year	Medium	SIP	PP, ES

Notes:

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. 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. 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. 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.*

Table 9.15-17. Summary of Prioritization of Actions and Action Priorities

Initiative Number	Mitigation Initiative Name	Life Safety	Property Protection	Cost Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2020-JEFFERSON-001	Laurel Drive Bridge	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
2020-JEFFERSON-002	Canal Crossing Bridge	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
2020-JEFFERSON-003	Upgrade 911 System	1	1	1	1	1	1	0	0	1	1	1	1	1	0	11	High
2020-JEFFERSON-004	Upgrade Generators at Municipal Buildings	1	1	1	1	1	1	0	0	1	1	1	1	1	0	11	High
2020-JEFFERSON-005	Purchase portable generator	1	0	1	1	1	0	1	0	0	1	1	1	0	0	8	Medium

Notes: Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions.



Table 9.15-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Dam Failure		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Disease Outbreak		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Drought		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Earthquake		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Extreme Temperature		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Flood		-001, -002, -003, -004, -005			-003, -004, -005	-001, -002, -003, -004, -005		
Geological Hazards		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Harmful Algal Bloom		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Hazardous Substances		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Infestation		-003, -004, -005			-003, -004, -005	-003, -004, -005		
Severe Weather		-001, -002, -003, -004, -005			-003, -004, -005	-001, -002, -003, -004, -005		
Severe Winter Weather		-001, -002, -003, -004, -005			-003, -004, -005	-001, -002, -003, -004, -005		
Wildfire		-003, -004, -005			-003, -004, -005	-003, -004, -005		

Note: Section 6 (Mitigation Strategy) provides for an explanation of the mitigation categories.

- RED** = high ranked hazard
- ORANGE** = medium ranked hazard
- YELLOW** = low ranked hazard

9.15.8 Staff and Local Stakeholder Involvement in Annex Development

The Township of Jefferson followed the planning process described in Section 2 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. 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. The following table summarizes who participated and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.15-19. Contributors to the Annex

Name	Title	Method of Participation
Ed Mangold	Emergency Management Coordinator	Point of contact throughout the planning process; attended meetings; provided input on the mitigation strategy; identified mitigation actions
Tom Mahoney	Construction/Zoning Officer	Attended meetings; provided input on the mitigation strategy
John Schulz	Public Works	Attended meetings; provided input on the mitigation strategy
Debra Millikin	Administrator	Attended meetings; provided input on the mitigation strategy



Figure 9.15-1. Township of Jefferson Hazard Area Extent and Location Map 1

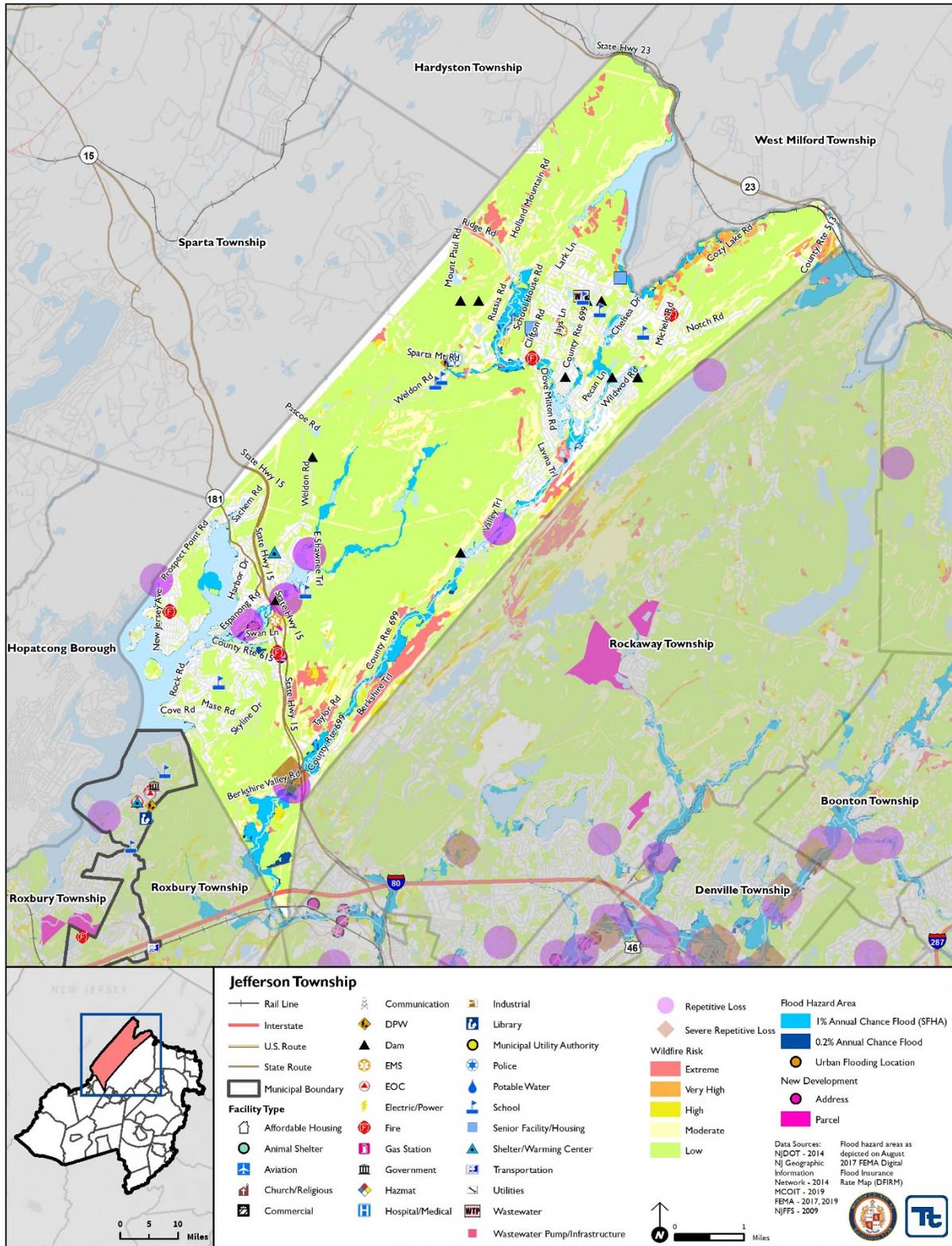
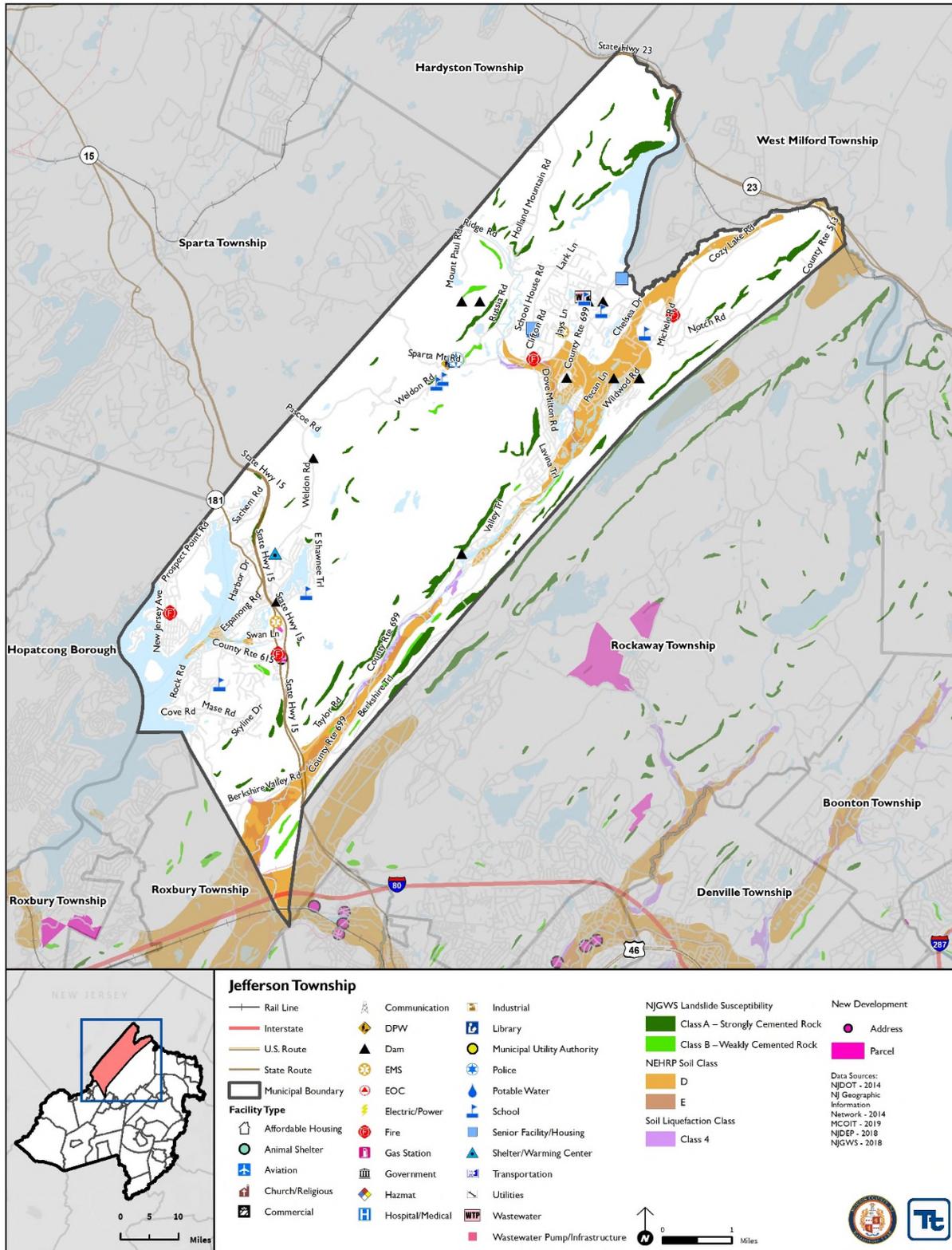




Figure 9.15-2. Township of Jefferson Hazard Area Extent and Location Map 2





Action Worksheet			
Project Name:	Upgrade Generators at Municipal Buildings		
Project Number:	2020-JEFFERSON-004		
Risk / Vulnerability			
Hazard(s) of Concern:	All		
Description of the Problem:	The Township's facilities have backup power; however, the generators are old and in need of upgrading.		
Action or Project Intended for Implementation			
Description of the Solution:	Working with the Township Engineer, determine which facilities need generator upgrades and what size generator is needed at each facility. Once identified, the Township will purchase the generators and associated equipment and install at each facility.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Continuity of operations
Useful Life:	20 years	Goals Met:	3
Estimated Cost:	\$25,000/generator	Mitigation Action Type:	SIP
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 3 years
Estimated Time Required for Project Implementation:	Within 3 years	Potential Funding Sources:	FEMA HMGP and PDM, CDBG, Municipal Budget
Responsible Organization:	OEM, DPW, Engineer	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	Current problem continues
	Perform routine maintenance on current generators	\$1,000+	Generators will still operate but might not be reliable
	Install solar panels	\$20,000+	Weather dependent; not ideal for long-term power outages; need space to install
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Upgrade Generators at Municipal Buildings	
Project Number:	2020-JEFFERSON-004	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Continuity of operations of municipal buildings; provides essential services during power outages
Cost-Effectiveness	1	Cost effective – benefits outweigh the costs
Technical	1	
Political	1	
Legal	1	
Fiscal	0	Need funding to complete project
Environmental	0	
Social	1	
Administrative	1	OEM, DPW, Engineer
Multi-Hazard	1	All hazards
Timeline	1	Within 3 years
Agency Champion	1	
Other Community Objectives	0	
Total	11	
Priority (High/Med/Low)	High	