



9.26 Town of Morristown

This section presents the jurisdictional annex for the Town of Morristown.

9.26.1 Hazard Mitigation Plan Point of Contact

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

Primary Point of Contact	Alternate Point of Contact
Jeff Hartke PO Box 914 200 South Street, Morristown, NJ 07963 Phone: 973-644-4371 E-mail: j-hartke@townofmorristown.org	Robert Flanagan, Fire Chief PO Box 914 200 South Street, Morristown, NJ 07963 Phone: 973-292-6610 E-mail: r-flanagan@townofmorristown.org

9.26.2 Municipal Profile

The Town of Morristown is the county seat of Morris County. It is located in the northeastern portion of the County, approximately 30 miles west of Manhattan. The Town is surrounded by the Township of Morris and has a total land area of 2.86 square miles. Morristown is home to the county government, State Superior Courthouse, major medical services through and supporting Morristown Medical Center, and numerous businesses. The Whippany River and Green Brook are the major waterbodies in Morristown. The 2010 Census population for the Town of Morristown was 18,411.

Growth/Development Trends

The following table summarizes recent residential/commercial development since 2010 to present and any known or anticipated major residential/commercial development and major infrastructure development that has been identified in the next five years within the municipality. Refer to the map in Section 9.26.8 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.26-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Block & Lot)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
Modera 44 (Speedwell Ave Redevelopment, Phase I)	Res	268	44 Prospect Street	None	Nearly Complete
Transit Village (Highlands)	Res / Comm	217	10 Lafayette Ave	NEHRP: D	Complete
40 Park	Res / Comm	130	40 W. Park Place	None	Complete
Morristown Gateways	Res	23	185 Morris Street	NEHRP: D	Started
Known or Anticipated Development in the Next Five (5) Years					
Ridgedale Commons	Res	29	74 Ridgedale Ave	NEHRP: D	Nearing Start

* Only location-specific hazard zones or vulnerabilities identified.





9.26.3 Natural Hazard Event History Specific to the Municipality

Morris County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.26-2. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
March 12 – April 15, 2010	Severe Storms and Flooding	DR-1897	Yes	Storms lead to flooding at parks and playgrounds with subsequent damage, some road closures, and tree debris requiring removal. \$10,424 in claims
December 26-27, 2010	Severe Winter Storm and Snowstorm	DR-1954	Yes	Snow storm severely limited vehicle passage and emergency service access. Extensive police and DPW man-hours, equipment use, and road salt usage required to clear roads. \$36,448 in claims
August 26 – September 5, 2011	Hurricane Irene	EM-3332 DR-4021	Yes	Storm generated extensive debris requiring removal, caused power outages and road closures. Severe flooding caused playground damage and a partial collapse of Cory Road requiring extended closure and roadway reconstruction. Extensive DPW and police man-hours. \$504,001 in claims
October 29, 2011	Severe Storm	DR-4048	Yes	Storm generated extensive debris requiring removal, downed trees and power lines severing roadway possibility. Extensive police and DPW man-hours. \$85,438 in claims
October 26 – November 8, 2012	Hurricane Sandy	EM-3354 DR-4086	Yes	Storm generated extensive debris requiring removal, downed trees and power lines severing roadway possibility, damage to the municipal wastewater treatment facility, and flooding causing damage to parks, playgrounds, and low-lying areas. Extensive police and DPW man-hours and damage to municipal properties. \$402,585 in claims

9.26.4 Hazard Vulnerabilities and Ranking

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

Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Town of Morristown.





Table 9.26-3. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Drought	Damage estimate not available	Frequent	27	Medium
Dam Failure	Damage estimate not available	Occasional	24	Medium
Earthquake	500-year MRP: \$4,863,396 2,500-year MRP: \$82,866,386	Occasional	32	High
Extreme Temperature	Damage estimate not available	Frequent	27	Medium
Flood	1% Annual Chance: \$357,793	Frequent	18	Medium
Geological Hazards	Exposed to Class A and Class B: \$39,800,114	Frequent	18	Medium
Severe Storm	100-Year MRP: \$2,044,270 500-year MRP: \$13,614,670 Annualized: \$148,707	Frequent	48	High
Winter Storm	1% GBS: \$41,312,515 5% GBS: \$206,562,574	Frequent	54	High
Wildfire	Estimated Value Exposed to Extreme, Very High and High: \$0	Rare	6	Low
Disease Outbreak	Damage estimate not available	Frequent	36	High
Hazardous Materials	Damage estimate not available	Frequent	36	High
Infestation	Damage estimate not available	Frequent	18	Medium

Notes:

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. The valuation of general building stock and loss estimates was based on custom inventory for the municipality.
High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 20-30+
Low = Total hazard risk ranking below 20
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.
- d. Loss estimates for the flood and earthquake hazards represent both structure and contents.
- e. The HAZUS-MH earthquake model results are reported by Census Tract.

National Flood Insurance Program (NFIP) Summary

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

Table 9.26-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
Town of Morristown	53	12	\$618,195.20	0	0	4

Source: FEMA Region 2, 2014

(1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 9/30/2014. Please note the total number of repetitive loss properties includes the severe repetitive loss properties. The number of claims represents claims closed by 9/30/14.

(2) Total building and content losses from the claims file provided by FEMA Region 2.

(3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Notes: FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.





Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude.

Critical Facilities

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

Table 9.26-5. 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	Days to 100-Percent(2)
JCP&L Morristown	Electric Power		X	27.82	-	-

Source: HAZUS-MH 2.1

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

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

NA Not available

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.1

Other Vulnerabilities Identified

Morristown is a highly developed urban community with buildings and paved areas covering most of the land area. With the amount of impervious surface in the Town, the land availability to absorb precipitation is effectively reduced and the amount of runoff is increased. The hilly topography of the Town further increases the rate of runoff and could result in flooding where there is inadequate drainage. The Whippany River has been responsible for flooding in Morristown since the late 1920s. Other areas in the Town that have become increasingly prone to flooding and flood damage due to the Green Brook. Continued development of the upstream floodplains and watershed areas in Morristown has created a condition which results in flooding or threats of flooding more frequently (FEMA FIS 2010).

9.26.5 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 Morristown.



Table 9.26-6. Planning and Regulatory Tools

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes	Local	Planning Board	November 2012 Update
Capital Improvements Plan	Yes	Local	Planning Board	November 2014
Floodplain Management / Basin Plan	Yes	Local	OEM work with all depts.	Flood Acquisition Plan (with Morris County)
Stormwater Management Plan	Yes	Local	Construction	Stormwater Management Plan March 2005
Open Space Plan	Yes	Local	Environmental Commission	Open Space and Recreation Plan. October 27, 2011
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	Yes	Local	Planning Board	Morristown Moving Forward March 2014
Comprehensive Emergency Management Plan	Yes	Local	OEM	January 2015
Emergency Response Plan	Yes	Local	OEM	As part of Emergency Operations Plan January 2015
Post-Disaster Recovery Plan	No			
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:				
Regulatory Capability				
Building Code	Yes	State & Local	Division of Building and Enforcement	Chapter 12 and State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning Office	Chapter 30 (Land Use Regulations), Part 1 (Zoning)
Subdivision Ordinance	Yes	Local	Division of Building and Enforcement	Chapter 12 Building and Construction
NFIP Flood Damage Prevention Ordinance	Yes	Local	Division of Building and Enforcement	Chapter 30 (Land Use Regulations), Part 3 (Flood Damage Prevention)
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local	Division of Building and Enforcement / NJDEP	N.J.A.C. 7:13
Growth Management Ordinances	Yes	Local	Planning Board	Ord. No. O-31-04



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.)
Site Plan Review Requirements	Yes	Local	Division of Building and Enforcement	Chapter 12
Stormwater Management Ordinance	Yes	Local	Department of Public Works	Chapter 20
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Department of Public Works	Chapter 20
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No (State law only)	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Division of Building and Enforcement	Chapter 30 Article 28A Steep slope ordinance
Fire Prevention and Protection	Yes	Local	Fire Marshal	Chapter 16

Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Town of Morristown.

Table 9.26-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Administrative Capability		
Planning Board	Yes	Municipal Planning Board
Mitigation Planning Committee	Yes	For Mitigation Plan Update and maintenance
Environmental Board/Commission	Yes	Environmental Commission
Open Space Board/Committee	No	
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	No	
Mutual Aid Agreements	Yes	Surrounding municipalities and county
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Jeff Hartke, Town Engineer, DPW Director
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Jeff Hartke, Town Engineer, DPW Director
Planners or engineers with an understanding of natural hazards	Yes	Jeff Hartke, Town Engineer, DPW Director
NFIP Floodplain Administrator	Yes	Jeff Hartke, Town Engineer, DPW Director
Surveyor(s)	Yes	Anthony Devisio, Engineering
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Engineering Department
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Robert Flanagan, Fire Chief





Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Grant Writer(s)	Yes	Consultant: Millennium
Staff with expertise or training in benefit/cost analysis	Yes	Engineering
Professionals trained in conducting damage assessments	Yes	Division of Building and Enforcement

Fiscal Capability

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

Table 9.26-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact Fees for homebuyers or developers of new development/homes	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	Yes
Other	N/A

Community Classifications

The table below summarizes classifications for community program available to the Town of Morristown.

Table 9.26-9. Community Classifications

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule (BCEGS)	No		
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 3	April 2007
Storm Ready	No		
Firewise	No		
Disaster/Safety Programs in/for Schools	Yes	N/A	
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes	N/A	
Public-Private Partnerships	Yes	N/A	

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



The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

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

Self-Assessment of Capability

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

Table 9.26-10. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)*	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Fiscal Capability			X
Community Political Capability			X
Community Resiliency Capability			X
Capability to Integrate Mitigation into Municipal Processes and Activities.			X

National Flood Insurance Program

NFIP Floodplain Administrator

Jeff Hartke, Director of Public Works/ Town Engineer

Flood Vulnerability Summary

The Town of Morristown joined the NFIP on May 19, 1981, and is currently an active member of the NFIP. The current effective Flood Insurance Rate Maps are dated July 3, 1986, with preliminary maps dated March 11, 2015. The community’s Flood Damage Prevention Ordinance (FDPO), found at Chapter 30, Part 3 of the local code, was last updated in 2006.





As of February 28, 2015 there are 47 policies in force, insuring \$15,217,600 of property with total annual insurance premiums of \$83,845. Since May 19, 1981, 12 claims have been paid totaling \$618,195.20. As of September 30, 2014, there are no Repetitive Loss or Severe Repetitive Loss properties in the community.

A list is maintained citing both the number of properties damaged by flood and the property owners interested in pursuing mitigation for flood-damaged properties. One residential structure was damaged during Hurricane Sandy. A Substantial Damage Estimate was made for one property following Hurricane Sandy. A single flood acquisition project was identified and acquired in December 2014 using a Morris County Flood Mitigation Program grant matched by municipal funds.

Resources

The community FDPO identifies the Planning Board as the local NFIP Floodplain Administrator, currently Jeff Hartke, for which floodplain administration is an auxiliary duty. Additional staffing is provided as seen necessary from the Town. Duties and responsibilities of the NFIP Administrator are record keeping.

Jeff Hartke feels he is adequately supported and trained to fulfill his responsibilities as the municipal floodplain administrator. There are currently no barriers to running an effective floodplain management program in the Town. The Town does not participate in the Community Rating System (CRS) program but would be interested in receiving additional information. Jeff Hartke is not certified in floodplain management, however attends regular continuing education programs for code enforcement.

The Town of Morristown provides informational pamphlets are part of the education and outreach activities related to the NFIP.

Compliance History

The community is currently in good standing in the NFIP and has no outstanding compliance issues. The municipality sees no specific need for a CAV at this time.

Regulatory

The community's Flood Damage Prevention Ordinance (FDPO), found at Chapter 30, Part 3 of the local code, was last updated in 2006.

The local ordinances and codes meet minimum standards set forth by FEMA and the State of New Jersey. Additional ordinances and codes further support the implementation of the floodplain management program.

Community Rating System

The Town of Morristown does not participate in the Community Rating System (CRS) program.

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.

Planning

The Town of Morristown participates in the County's Flood Mitigation Program (FMP) and has an approved Flood Acquisition Plan (FLAP). The Morris County FMP is the first dedicated, county-level flood acquisition



program in the State of New Jersey. The FMP allows Morris County to assist municipalities in moving people out of harm's way, lowering municipal costs due to intense flooding episodes, and create natural flood capture and storage areas which protect the remaining homes and businesses. The FMP is funded by the Morris County Open Space tax and provides grant monies for municipalities to purchase flood-prone residential properties. In addition to MATCH funding available for projects with state or federal monies, Morris County has CORE funding in which the County takes the lead grant role, providing up to 75% of the cost of acquisition. To access this CORE funding, a municipality must have a FLAP. The FLAP is a dynamic, essential tool for understanding the unique flood hazards to residential homes within each community. Working closely with the municipality, Morris County creates this detailed, comprehensive analysis of the historic and current flood risks free of charge. A wide array of data is utilized from sources such as: FEMA, National Flood Insurance Program, USACE Flood Studies, USGS stream gage data, topography and soil analysis. All land acquired with MATCH and CORE funding within the FMP is permanently deed-restricted, preserved open space, available for public use as an active or passive recreation area. The acquired land is municipal-owned and managed in perpetuity.

Education and Outreach

Morristown's website located at <http://www.townofmorristown.org/> has links to Facebook and Twitter. These social media sites are used to post relevant and emergency information for public viewing. Morristown also has a Community Emergency Response Team (CERT). This team of volunteers receives free training in a variety of required courses to include Disaster Preparedness, Life Safety and Terrorism. The CERT team is a resource for Morristown's Emergency Services community. For additional information about the Morristown CERT team, contact the Morristown Office of Emergency Management at 973-292-6631.

9.26.6 Mitigation Strategy and Prioritization

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

Past Mitigation Initiative Status

The following table indicates progress on the community's mitigation strategy identified in the 2010 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.



Table 9.26-11. Past Mitigation Initiative Status

2010 Mitigation Action	Lead	Status	Describe Status	Next Step	Describe Next Step
Morristown 1: Stream stabilization and river bank augmentation of the Whippany River to protect: Martin Luther King Avenue, Coal Avenue, Flagly Street, Clyde Potts Drive, Abbet Avenue.	Engineer	No Progress	0% Complete	Include in 2015 HMP	Personnel and fiscal issues have prevented progress
Morristown 2: Clean River Bed along Whippany River to increase flow.	Engineer	In Progress	50% Complete	Include in 2015 HMP	Process is underway
Morristown 3: Backup power for Morristown High School (shelter) on Early Street.	OEM	No Progress	0% Complete	Include in 2015 HMP	Fiscal issues have prevented procurement
Morristown 4: Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	Local and County OEM	No Progress	0% Complete	Include in 2015 HMP	Personnel and fiscal issues have prevented progress



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The municipality has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2010 Plan:

- Town purchased a repetitive flood loss property at 7 Coal Avenue and same was demolished in 2015 with funding from Morris County.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Town of Morristown participated in a mitigation action workshop in January 2015 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 9.26-12 summarizes the comprehensive-range of specific mitigation initiatives the Town of Morristown 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 9.26-13 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.26-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals and Objectives Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
TMST-1 (former Morristown 1)	Stream stabilization and river bank augmentation of the Whippany River to protect: Martin Luther King Avenue, Coal Avenue, Flagly Street, Clyde Potts Drive, Abbet Avenue.	N/A	Flood	G-3	Engineer	High	High	HMA grants, NJDEP funding	Long Term DOF	Medium	NSP	NP
TMST-2 (former Morristown 2)	Clean River Bed along Whippany River to increase flow.	N/A	Flood	G-3	Engineer	High	High	NJDEP funding, Municipal Budget	Long Term DOF	Medium	NSP	NP
TMST-3 (former Morristown 3)	Backup power for Morristown High School (shelter) on Early Street.	N/A	All	G-3, G-4	OEM	High	High	HMGP funding	Short Term DOF	High	SIP	SP
TMST-4 (former Morristown 4)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	N/A	All	G-1	OEM and County OEM	High	Low	Municipal Budget	Short Term DOF	High	EAP	PE
TMST-5	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) Phase 1: Identify appropriate candidates Phase 2: Coordinate/meet with the property owners to provide information on appropriate mitigation measures/resources available	Existing	Flood	G-3	OEM and Engineer	Medium	Medium	Municipal Budget	Short Term DOF	Medium	EAP	PE

Notes:

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

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

Acronyms and Abbreviations:

CAV Community Assistance Visit

CRS Community Rating System

DPW Department of Public Works

FEMA Federal Emergency Management Agency

FPA Floodplain Administrator

HMA Hazard Mitigation Assistance

N/A Not applicable

NFIP National Flood Insurance Program

NJDEP New Jersey Department of Environmental Protection

NJOEM New Jersey Office of Emergency Management

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
- RFC Repetitive Flood Claims Grant Program
- SRL Severe Repetitive Loss Grant Program

Timeline:

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

Costs:

Where actual project costs have been reasonably estimated:

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

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

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

Benefits:

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

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

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

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

Mitigation Category:

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

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.





- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*



Table 9.26-13. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
TMST-1 (former Morristown 1)	Stream stabilization and river bank augmentation of the Whippany River to protect: Martin Luther King Avenue, Coal Avenue, Flagly Street, Clyde Potts Drive, Abbet Avenue.	0	1	0	0	1	1	0	1	1	1	1	0	1	1	9	Medium
TMST-2 (former Morristown 2)	Clean River Bed along Whippany River to increase flow.	0	1	1	1	1	0	0	1	1	1	0	0	1	1	9	Medium
TMST-3 (former Morristown 3)	Backup power for Morristown High School (shelter) on Early Street.	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
TMST-4 (former Morristown 4)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
TMST-5	Support mitigation of vulnerable structures	1	1	1	0	1	1	0	0	1	1	0	0	1	1		Medium

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



9.26.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.26.8 Hazard Area Extent and Location

Hazard area extent and location maps have been generated for the Town of Morristown 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 Morristown has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

9.26.9 Additional Comments

None at this time.



Figure 9.26-1. Town of Morristown Hazard Area Extent and Location Map 1

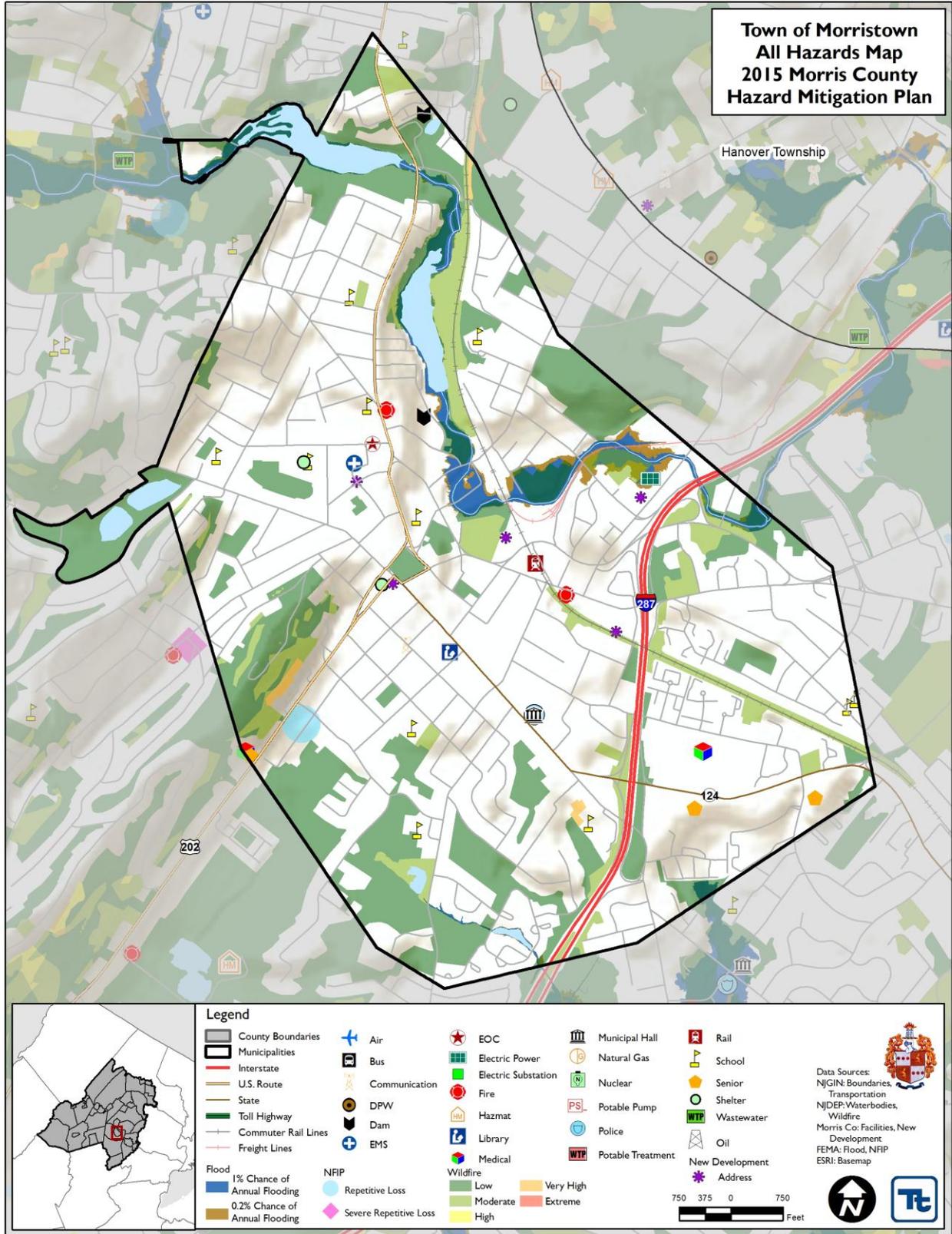
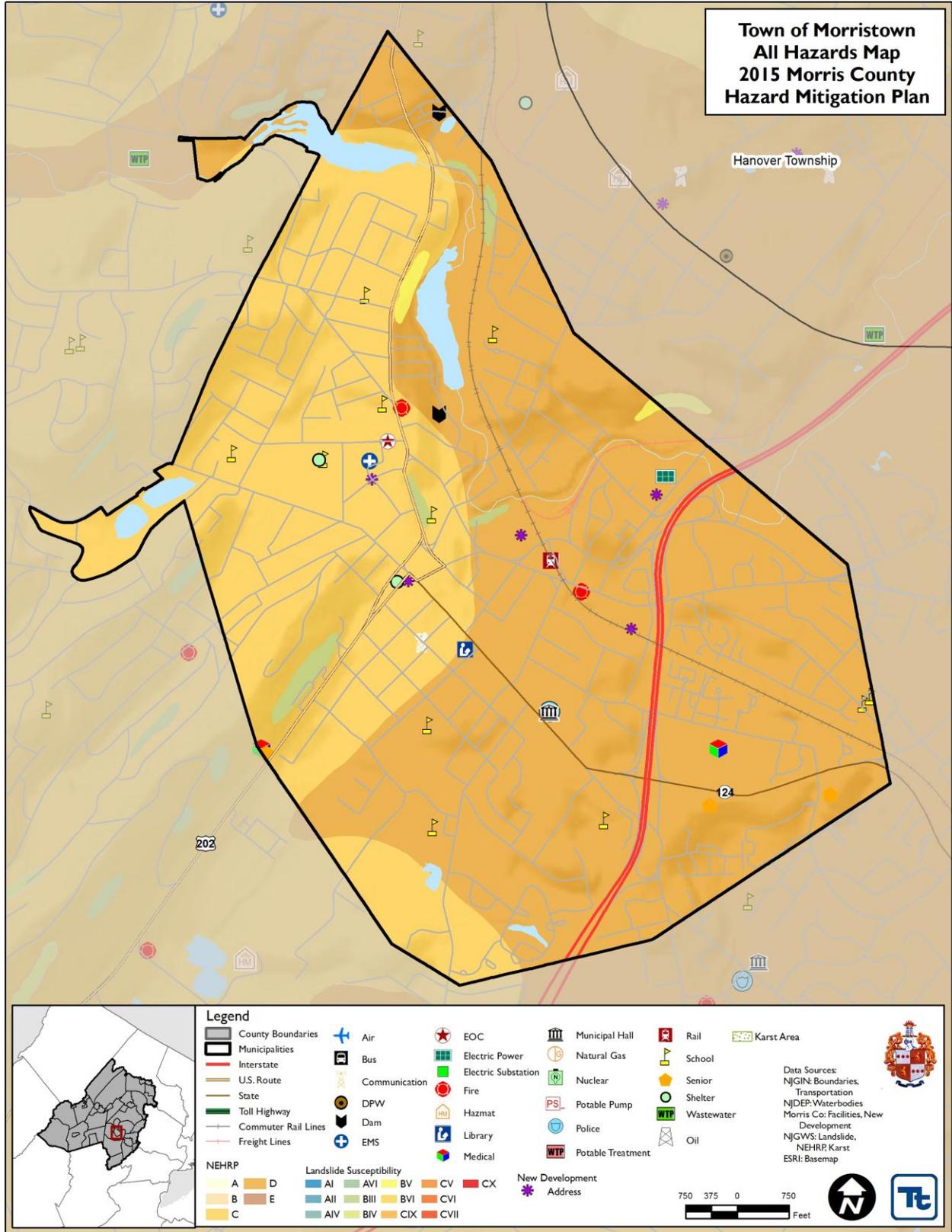




Figure 9.26-2. Town of Morristown Hazard Area Extent and Location Map 2





Action Number: TMST-1
Mitigation Action/Initiative: Stream stabilization and river bank augmentation of the Whippany River

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Flooding of several roadways in the Town: Martin Luther King Avenue, Coal Avenue, Flagley Street, Clyde Potts Drive, Abbet Avenue
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Stabilize stream and augment river bank of the Whippany River in the Town
	2. Do nothing – current problem continues
	3. No other feasible options were identified for this action
Action/Project Intended for Implementation	
Description of Selected Action/Project	Stream stabilization and river bank augmentation of the Whippany River to protect: Martin Luther King Avenue, Coal Avenue, Flagly Street, Clyde Potts Drive, Abbet Avenue.
Action/Project Category	NSP, SIP
Goals/Objectives Met	3
Applies to existing and/or new development; or not applicable	N/A
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Engineer
Local Planning Mechanism	Stormwater Management, Capital Improvement
Potential Funding Sources	HMA grants, NJDEP funding
Timeline for Completion	Long Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number: TMST-1

Mitigation Action/Initiative: Stream stabilization and river bank augmentation of the Whippany River

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	0	
Technical	0	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	
Timeline	0	
Local Champion	1	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	Medium	



Action Number: TMST-2
Mitigation Action/Initiative: Clean Whippany River riverbed

Assessing the Risk	
Hazard(s) addressed:	Flood
Specific problem being mitigated:	Decrease flow of the Whippany River due to clogged riverbed
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Clean river bed
	2. Do nothing – current problem continues
	3. No other feasible options were identified for this action
Action/Project Intended for Implementation	
Description of Selected Action/Project	Clean River Bed along Whippany River to increase flow.
Action/Project Category	SIP, NSP
Goals/Objectives Met	3
Applies to existing and/or new development; or not applicable	N/A
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	Medium
Plan for Implementation	
Responsible/Lead Agency/Department	Engineer
Local Planning Mechanism	Stormwater Management, Capital Improvement
Potential Funding Sources	NJDEP, municipal budget
Timeline for Completion	Long Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number: TMST-2

Mitigation Action/Initiative: Clean Whippany River riverbed

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	
Fiscal	0	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	0	
Timeline	0	
Local Champion	1	
Other Community Objectives	1	
Total	9	
Priority (High/Med/Low)	Medium	



Action Number: TMST-3
Mitigation Action/Initiative: Backup power for Morristown High School

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Loss of power to a critical facility (shelter) in the Town
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Install a generator at the Morristown High School on Early Street
	2. Do nothing – current problem continues
	3. No other feasible options were identified for this action
Action/Project Intended for Implementation	
Description of Selected Action/Project	Installation of backup power at the Morristown High School on Early Street that is used as a shelter during times of need
Action/Project Category	SIP
Goals/Objectives Met	3, 4
Applies to existing and/or new development; or not applicable	Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority*	High
Plan for Implementation	
Responsible/Lead Agency/Department	OEM
Local Planning Mechanism	Emergency Management, Capital Improvement
Potential Funding Sources	HMGP funding
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

* Refer to results of Prioritization (page 2)



Action Number: TMST-3

Mitigation Action/Initiative: Backup power for Morristown High School

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