9.14 Township of Harding

This section presents the jurisdictional annex for the Township of Harding.

9.14.1 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
Chief Mark Giansanti, OEMC 21 Blue Mill Road, New Vernon, NJ 07976 Phone: (973) 455-1371 mgiansanti@hardingnj.org	Sgt. Thomas Downs 21 Blue Mill Road, New Vernon, NJ 07976 Phone: (973) 455-0500 tdowns@hardingnj.org

9.14.2 Municipal Profile

The Township of Harding is located in southeastern Morris County. The Township encompasses approximately 21 square miles and is bordered by the Township of Morris to the north, the Township of Chatham to the east, the Township of Long Hill to the south, and the Townships of Bernards and Mendham and the Borough of Bernardsville to the west. There are two unincorporated communities in the Township: a portion of Green Village and New Vernon. The major bodies of water in the Township include the Passaic River, Great Brook, tributary to Great Brook, the Great Swamp, and Primrose Brook. According to the U.S. Census, the 2010 population for the Township of Harding was 3,838.

Growth/Development Trends

The Township of Harding did not note any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

9.14.3 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 9.14-1. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	The Township lost power for eight days and multiple roads were closed. There were downed trees, the municipal building flooded and the fire department conducted pump outs. The Township had overtime costs for the police and DPW.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	During Hurricane Sandy, warming shelters were opened at the town hall, library and the Christ the King church. There was also evacuations conducted. The Township was without power for 14 days. Every road was closed for two days and gradually opened over a 10-day period. The waste pumping

Table 9.14-1. Hazard Event History

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
				station pump broke as a result of the storm. There were 47 homes damaged, one lost, and 10 commercial buildings damaged. The Township had overtime costs for police, DPW and fire department. Vendor cleanup assistance was $320,000.

9.14.4 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 Township of Harding. 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 Township of Harding.

Table 9.14-2. 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: $1,242,555 2,500-year MRP: $27,319,676	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	27	Medium
Flood	1% Annual Chance: $2,715,094	Frequent	18	Medium
Geological Hazards	Exposed to Class A and Class B: $27,400,919	Occasional	12	Low
Severe Storm	100-Year MRP: $2,446,416 500-year MRP: $14,077,856 Annualized: $138,620	Frequent	48	High
Winter Storm	1% GBS: $23,446,447 5% GBS: $117,232,233	Frequent	54	High
Wildfire	Estimated Value Exposed to Extreme, Very High and High: $8,552,462	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 Township of Harding.

Table 9.14-3. 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)
Township of Harding	48	14	$240,098.22	0	0	14

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 9.14-4. Potential Flood Losses to Critical Facilities

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent(1)
No critical facilities are located in the FEMA 1% and 0.2% Flood Hazard Area.						

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

According to the 2010 preliminary FEMA Flood Insurance Study (FIS), the Township of Harding experiences local flooding in the lowlands along the Passaic River and areas along portions of Great Brook, Silver Brook, the tributary to Great Brook, Primrose Brook and various locations in the Green Village area. Flooding is usually a result of heavy rains associated with localized thunderstorms and hurricanes during the summer and

fall months. The area east of Route 202 has very poor natural drainage and low permeability because of the shallow shale soils. These soils result in rapid runoff which adds to the flooding issues in the Township (FEMA FIS 2010).

Other areas prone to flooding in the Township include: the areas along Great Brook crossing Pleasant Plains Road, Long Hill Road, Meyersville Road, Woodland Road, Village Road, and Van Beuren Road have all been inundated frequently. Tributary of Great Brook with crossing at Blue Mill Road adjacent to this brook channel have also flooded. Silver Brook has overflowed its overbank areas for its entire length within the corporate limits. The Baileys Mill Road crossing of Primrose Brook at Youngs Road and Primrose Trail have been constant problems during severe storms. Some of the flooding issues have been trace to inadequate sizing of culverts and faster runoff caused by increasing development. Some residential properties adjacent to the Great Swamp have been flooded repeatedly by the high water stages within the Great Swamp National Wildlife Refuge area (FEMA FIS 2010).

9.14.5 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 Township of Harding.

Table 9.14-5. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No)	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 4/22/2013	Local	Planning Board	Land Use 2013
Capital Improvements Plan	Yes	Local	Town Committee	July 2014
Floodplain Management/Basin Plan	Yes 8/1/2010	Local	Planning Board	Article XIX 225-100
Stormwater Management Plan	Yes 7/25/2005	Local	Planning Board	Master Plan 2013
Open Space Plan	Yes 3/28/2008	Local	Planning Board	Master Plan
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	Yes 12/3/2013	Local	OEMC	EOP

Table 9.14-5. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No)	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Comprehensive Emergency Management Plan	Yes 12/3/2013	Local	OEMC	EOP
Emergency Response Plan	Yes 12/3/2013	Local	OEMC	EOP
Post-Disaster Recovery Plan	Yes 12/3/2013	Local	OEMC	EOP
Transportation Plan	Yes 12/3/2013	Local	OEMC	EOP
Strategic Recovery Planning Report	No			
Other Plans:	N/A			
Regulatory Capability				
Building Code	Yes	State & Local		State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	State & Local	Planning Board	Article XXII-225-112
Subdivision Ordinance	Yes	Local	Planning Board	Article VXIII-225-60
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Engineer	225-96
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local	Engineer	Floodplain Administrator and code book
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning Board	Article XVI-225-77 & 90
Stormwater Management Ordinance	Yes	Local	Planning Board	225-182
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	Yes	Local	Engineer	Master Plan
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	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	Planning Board	Article 12-225-53

Administrative and Technical Capability

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

Table 9.14-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	No	Planning Board
Environmental Board/Commission	Yes	Environmental Commission
Open Space Board/Committee	Yes	Land Trust
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	Yes	DPW
Mutual Aid Agreements	Yes	Police
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Engineer/Planning Board contracted by Apgar
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Construction Code Official
Planners or engineers with an understanding of natural hazards	Yes	Engineering
NFIP Floodplain Administrator	Yes	Paul Fox, Engineer in conjunction with Planning Board
Surveyor(s)	Yes	Engineering
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	IT
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	OEMC
Grant Writer(s)	Yes	Business Administrator and Chief of Police/OEMC
Staff with expertise or training in benefit/cost analysis	Yes	CFO
Professionals trained in conducting damage assessments	No	

Fiscal Capability

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

Table 9.14-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes – Open Space
User fees for water, sewer, gas, or electric service	Yes
Impact Fees for homebuyers or developers of new development/homes	No
Stormwater Utility Fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	Hazard Mitigation Grant Program
Open Space Acquisition Funding Programs	Yes

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Other	N/A

Community Classifications

The table below summarizes classifications for community program available to the Township of Harding.

Table 9.14-8. Community Classifications

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

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 Harding's capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.14-9. Self-Assessment Capability for the Municipality

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability	X		
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

Paul Fox, Engineer in conjunction with Harding Township Planning Board (Article XIX 225-100)

Flood Vulnerability Summary

Harding Township does not maintain lists/inventories of properties that been damaged by floods. During Hurricane Sandy, patrol officers estimated that 47 homes were noted as damaged and one home was lost. Due to the very finite window after and during Sandy, only estimates were needed and officers used their best judgment. There are currently no residents interested in mitigation in the Township.

Resources

The Township uses the Zoning Officer and contract staff (Township Engineer) to review projects located within the floodplain. NFIP administration services the FPA provides include permit review, inspections of new projects, and record keeping. Damage assessments, GIS, education and outreach are not conducted by the FPA. The Police and DPW do not have anything to do with floodplain administration. By ordinance, this is the responsibility of the Zoning Officer and Township Engineer. There are currently no barriers in running an effective floodplain management program. The Township Engineer would consider attending continuing education and/or certification training on floodplain management if offered. The Engineer indicated that they already attending continuing education courses.

Compliance History

The Township is in good-standing with the NFIP and are in compliance. The Township Engineer does not think that the Township has ever had a compliance audit.

Regulatory

The Township's floodplain management regulations/ordinances do not exceed the FEMA and State minimum requirements. The Township does have ordinances that support floodplain management.

The Township of Harding does not participate in the Community Rating System (CRS) program. The Township has considered joining CRS; however, the work required for joining CRS outweighed the benefits and no action was taken.

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 Harding Township Master Plan (2008) and its element place an emphasis on open space and environmental preservation. The Plan's overall goals and objectives include the protection and enhancement of the Morristown National Historical Park and Great Swamp National Wildlife Refuge, protection and maintenance of the quality and quantity of surface and subsurface waters, including stormwater and wetland preservation, and the protection of natural resources and environmental assets through land use and development regulations. The Plan discusses protecting surface waters for pollution, flood and stormwater runoff control. It also addresses the importance of the Township's floodplains and steep slopes.

The 2005 Stormwater Management Plan was adopted as a means to reduce the impacts on public health and the infrastructure by flooding caused by stormwater runoff, as well as increased soil erosion and nonpoint source pollution. The Plan identifies the major rivers and streams within the Township and details how they are affected by stormwater runoff. Mitigation actions include changes to existing ordinances and adoption of new ordinances. If a new development cannot provide satisfactory stormwater management on site, a mitigation project can be implemented by the developer within the same drainage area.

Regulatory and Enforcement

The Township has multiple ordinances pertaining to the mitigation of hazards. These ordinances include the NFIP Flood Damage Prevention Ordinance.

Operational and Administration

The Township has established an Environmental Commission, an Open Space Trust Committee, and Shade Tree Advisory Committee that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features.

Fiscal

The Township established an Open Space Trust Fund to aid in funding the acquisition and preservation of open space projects.

9.14.6 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 9.14-10. Past Mitigation Initiative Status

2010 Mitigation Action	Lead	Status (In progress, No progress, Complete)	Describe Status	Next Step (Include in 2015 HMP, Discontinue)	Describe Next Step
Harding 1: Engineering study to determine mitigation action for the following streets: Dicksonmill Road, Pleasantplains Road, Long Hill Road, and Leeshill Road.	Engineer/Township Administrator	No Progress	0%	Include in 2015 HMP	Secure funding for study
Harding 2: Backup power for DPW on 8 Millbrook Road.	DPW	In Progress	Funding secured, specs to be developed	Include in 2015 HMP	Purchase/install generator
Harding 3: Burying power lines along Dicksonmill Road, Pleasantplains Road, Long Hill Road and Leeshill Road.	Engineer/DPW	No Progress	0%	Discontinue	
Harding 4: Develop all-hazards public education and outreach program for hazard mitigation and preparedness	Local and County OEM	No Progress	0%	Include in 2015 HMP	Develop program

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township of Harding 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 9.14-11 summarizes the comprehensive-range of specific mitigation initiatives the Township of Harding 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, fourteen 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 9.14-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.

Table 9.14-10. 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
THD-1 (old Harding 1)	Engineering study to determine mitigation action for the following streets: Dicksonmill Road, Pleasantplains Road, Long Hill Road, and Leeshill Road.	Existing	Flood	G-4	Engineer/Township Administrator	High	High	HMA Grants, Municipal Budget	Long Term DOF	Medium	LPR	PR
THD-2 (old Harding 2)	Backup power for DPW on 8 Millbrook Road.	Existing	All Hazards	G-3, G-4	DPW	High	High	HMGP, HMA Grants	Short Term DOF	High	SIP	SP
THD-3 (old Harding 4)	Develop all-hazards public education and outreach program for hazard mitigation and preparedness	N/A	All Hazards	G-1	Local and County OEM	Medium	Low	County, Municipal Budget	Short Term DOF	High	EAP	PE
THD-4	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	N/A	All Hazards	G-1, G-3	Municipality with support from County, NJOEM, FEMA and surrounding communities	Medium	Low	Municipal Budget	Short Term	High	LPR	PR

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 9.14-11. 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
THD-1 (old Harding 1)	Engineering study to determine mitigation action for the following streets: Dicksonmill Road, Pleasantplains Road, Long Hill Road, and Leeshill Road.	1	1	0	1	1	1	0	0	1	1	0	0	1	1	9	Medium
THD-2 (old Harding 2)	Backup power for DPW on 8 Millbrook Road.	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
THD-3 (old Harding 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
THD-4	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	1	1	1	1	1	1	1	0	1	1	1	1	1	1	13	High

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

9.14.7 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.14.8 Hazard Area Extent and Location

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

9.14.9 Additional Comments

None at this time.

Figure 9.14-1. Township of Harding Hazard Area Extent and Location Map 1

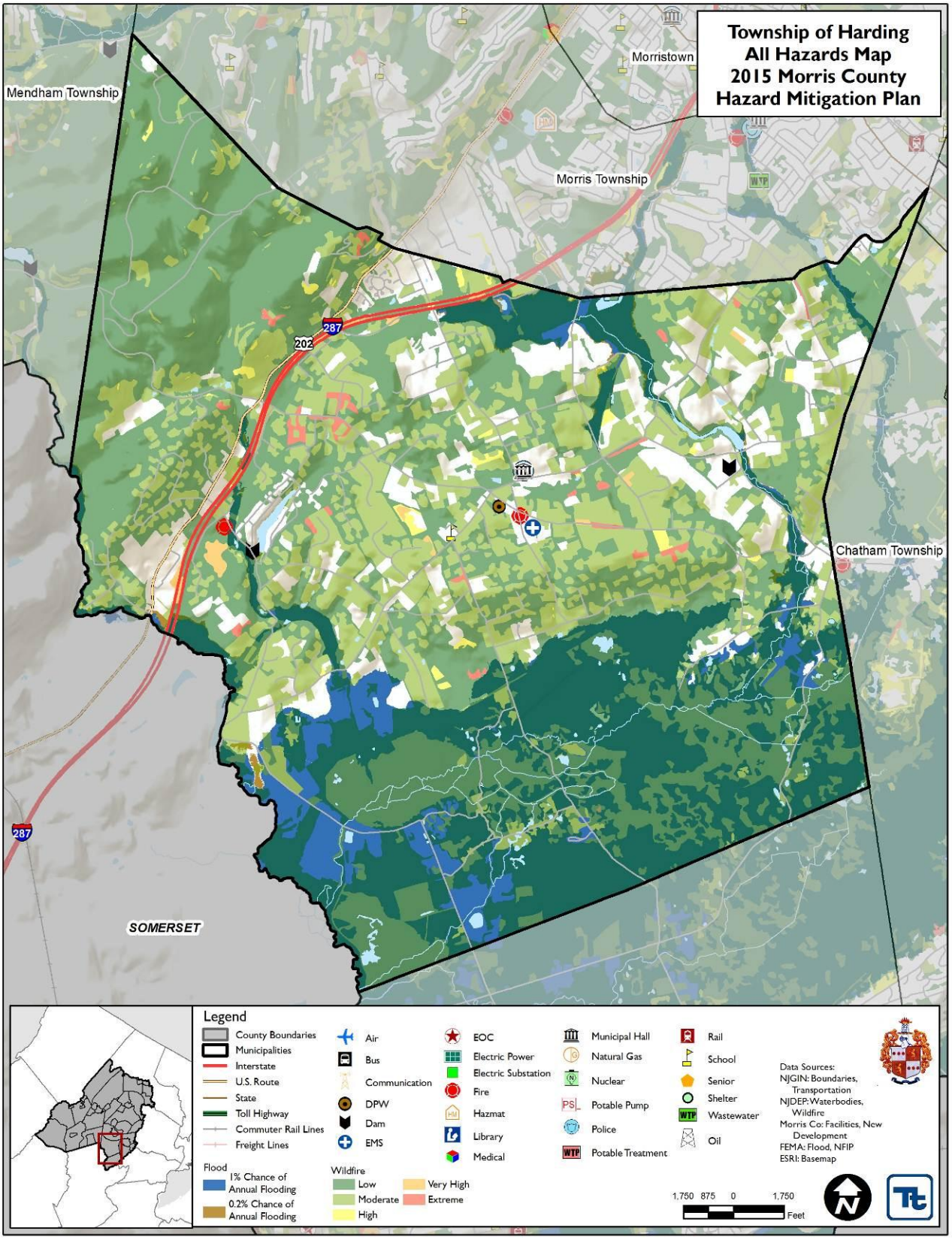
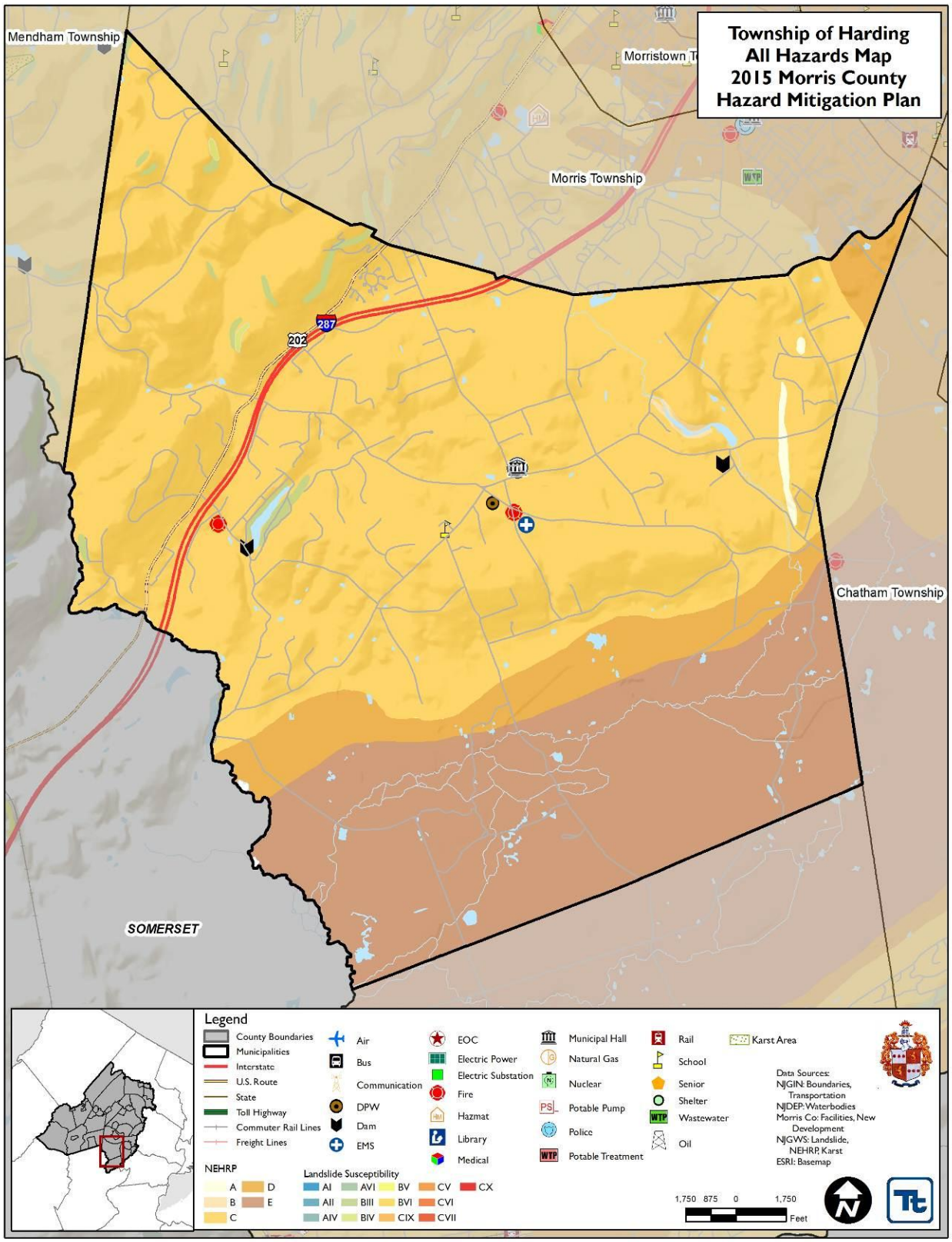


Figure 9.14-2. Township of Harding Hazard Area Extent and Location Map 2



Action Number: THD-2

Mitigation Action/Initiative: Back up power for critical facility – DPW

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Loss of critical facility functions
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase and install back up power generation at DPW facility
	2. Do nothing
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase and install generator at DPW critical facility
Action/Project Category	SIP
Goals/Objectives Met	G-3, G-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	Dept. of Public Works
Local Planning Mechanism	Emergency Operations Plan
Potential Funding Sources	HMGP
Timeline for Completion	Short Term
Reporting on Progress ***(Do not complete – this will be used for the 2020 Update)***	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:

*** Refer to results of Prioritization (page 2)**

Action Number: THD-2

Mitigation Action/Initiative: Backup power for critical facility – DPW

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Provide power to allow DPW facility to operate during times of power outages
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	0	
Social	0	
Administrative	1	
Multi-Hazard	1	All
Timeline	1	
Local Champion	1	
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	