



9.12 Township of Hardyston

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

9.12.1 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
William Hickerson, OEM Coordinator 149 Wheatsworth Road, Suite A, Hardyston, NJ 07419 Phone: (973) 615-5687 Email: whickerson@powerhawk.com	Marianne Smith, Township Manager 149 Wheatsworth Road, Suite A, Hardyston, NJ 07419 Phone: (973) 823-7020, x9410 Email: msmith@hardyston.com

9.12.2 Municipal Profile

The Township of Hardyston is located in northeastern Sussex County. It is bordered to the north by the Townships of Vernon and Wantage, to the south by the Township of Sparta and Morris County, to the east by Vernon Township and Morris County, and to the west by Lafayette Township. The Township covers an area of approximately 32.6 square miles. According to the U.S. Census, the 2010 population for the Township of Hardyston was 8,213. There are numerous streams located within the Township and include: Wallkill River, Hamburg Creek, Mud Pond Outlet Stream, Pequannock River, Lake Stockholm Brook, Franklin Pond Creek, Beaver Run, and Black Creek. The following unincorporated communities are located within the Township: Beaver Run, North Church, Big Springs, Rudeville, and Beaver Lake.

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 maps in Section 9.12.8 of this annex which illustrate the hazard areas along with the location of potential new development.

Table 9.12-1. Growth and Development

Property or Development Name	Type (e.g., Res., Comm.)	# of Units/Structures	Location (address)	Known Hazard Zone(s)	Description/Status of Development
Recent Development from 2010 to present					
Crystal Springs-Shotmeyer	Single Family	38	Coventry, Woodcot, Tarrington	Wildfire: Very High; Carbonate Hazard	Under construction
Crystal Springs – Shotmeyer	Multi-Family	1 (18 Units)	Tarrington Road	Wildfire: Very High; Carbonate Hazard	Under construction
Emerald Estates	Single Family	4	Emerald Drive/Ruby Court	Carbonate Hazard	Under construction
Estell Manor	Single Family	3	Estell Drive	Carbonate Hazard	Under construction
Crystal Springs – Balmorale	Single Family	2	Exeter Lane/Sutton Court	Wildfire: High; Carbonate Hazard	Under construction



Property or Development Name	Type (e.g., Res., Comm.)	# of Units/Structures	Location (address)	Known Hazard Zone(s)	Description/Status of Development
Ridgefield Commons	Single Family-Townhouse	8	Brookview	Carbonate Hazard	Under construction
Brecia Farms	Single Family – Townhomes	2	Anthony Lane/Davon Court	Carbonate Hazard	Under Construction
Crystal Springs-Shotmeyer	Single Family	50	Coventry, Woodcott, Tarrington	Wildfire: Very High; Carbonate Hazard	Under construction (approved 117 single family, 141 condos, 22 townhomes)
Crystal Springs – Shotmeyer	Multi-Family	1 (18 Units)	Tarrington Road	Wildfire: Very High; Carbonate Hazard	Under construction
Emerald Estates	Single Family	25	Emerald Drive/Ruby Court	Wildfire: Very High; Carbonate Hazard	Under construction (29 lot subdivision)
Estell Manor	Single Family	17	Estell Drive	Carbonate Hazard	Under construction (20 lot subdivision)
Crystal Springs – Balmorale	Single Family	15	Exeter Lane/Sutton Court	Wildfire: High; Carbonate Hazard	Under construction (28 lot subdivision)
Ridgefield Commons	Single Family-Townhouse	172	Virginia, Highview, Brookview	Carbonate Hazard	Under construction (303 planned unit development)
Brecia Farms	Single Family	18	Anthony Lane/Davon Court	Carbonate Hazard	Under construction (20 lot subdivision)

* Only location-specific hazard zones or vulnerabilities identified.

9.12.3 Natural Hazard Event History Specific to the Municipality

Sussex 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 9.12-2. Hazard Event History

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	Roads in the Township were closed for up to three days. The state highways in the Township were opened after one day. All areas of the Township were effected by road closures and power outages for three days. The Township received reimbursement from FEMA for debris removal, preventative measures, roads and bridges, and donated resources.
October 29, 2011	Severe Storm	DR-4048	Yes	Two days of road closures, three days without power for hundreds of residents, 30 fire calls to





Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
				assist with water removal and problems in homes, five life support calls for emergency generators. One road repair for sink hole and three days of debris removal.
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	Thousands of residents without power for up to 11 days. Municipal offices closed for five days due to no power. The 911 center on backup generators for 8 days, debris cleanup lasted 14 days The Township opened a shelter/warming station for eight days. The Township received public assistance from FEMA for emergency protection measures, debris removal and donated resources.

9.12.4 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 risk ranking methodology is presented in Section 5.3. However, each municipality had the opportunity to adjust the final ranking based on municipal feedback. The following summarizes the hazard vulnerabilities and their ranking in the Township of Hardyston. 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 Hardyston.

Table 9.12-3. 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
Dam Failure	Damage estimate not available	Occasional	24	High*
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$859,826 2,500-Year GBS: \$13,708,981	Occasional	28	Medium
Flood	1% Annual Chance: \$1,929,690	Frequent	18	Medium
Geologic	Exposed to Carbonate Rock Areas: \$1,042,265,110	Occasional	36	Medium
Hurricane	100-year MRP: \$376,990 500-year MRP: \$2,250,551 Annualized: \$21,546	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$376,990 500-year MRP: \$2,250,551 Annualized: \$21,546	Frequent	48	High
Severe Winter Weather	1% GBS: \$10,588,041 5% GBS: \$52,940,203	Frequent	51	High





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
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$137,125,045	Frequent	33	High
Hazardous Materials	Damage estimate not available	Frequent	36	High

Notes:

* The hazard ranking was changed due to the location of high hazard dams in the municipality

GBS = General building stock; MRP = Mean return period.

- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 15-30+
Low = Total hazard risk ranking below 15
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 3.0 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the geologic and wildfire hazards, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Hardyston.

Table 9.12-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Township of Hardyston	10	1	\$60,787	0	0	1

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of November 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 11/31/2014.

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

Note (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.

Note (4) 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.

Critical Facilities

There are no critical facilities located in the FEMA 1% or 0.2% annual chance flood boundary.

Other Vulnerabilities Identified by Municipality

The hazard profiles in Section 5.0 have detailed information regarding each plan participant's vulnerability to the identified hazards. Further, mitigation projects have been identified that may more specifically detail vulnerabilities in the community. There are no additional vulnerabilities identified at this time.



9.12.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- Community Rating System
- 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 Hardyston.

Table 9.12-5. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Planning Capability				
Master Plan	Yes, 2014	State	Planning Board	
Capital Improvements Plan	Yes, 2014	Town Council	Town Manager	
Floodplain Management/Basin Plan	Part of master plan	State	Planning Board	
Stormwater Management Plan	Yes, 2005	State	Town Council	
Open Space Plan	Part of master plan	State	Planning Board	
Stream Corridor Management Plan	Part of master plan	State	Planning Board	
Watershed Management or Protection Plan	Part of master plan	State	HT Planning Board	
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes, 2014	Township OEM	OEM	
Emergency Response Plan	Yes, 2014	Township OEM	OEM	
Post-Disaster Recovery Plan	No			
Transportation Plan	Part of Master Plan	State	Planning Board	
Strategic Recovery Planning Report	No			
Other Plans:	No			
Regulatory Capability				
Building Code	Yes	State & Local	Construction Office	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)
Zoning Ordinance	Yes	Local	Zoning Board	Town Council
Subdivision Ordinance	Yes	Local	Zoning Board	Town council



Table 9.12-5. Planning and Regulatory Tools

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Construction Official	Chapter 96
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State, Local		N.J.A.C 7:13 – Flood Hazard Area Control Act
Growth Management Ordinances	Yes	State	Town Council	State
Site Plan Review Requirements	Yes	Local	Town Council	Town Council
Stormwater Management Ordinance	Yes	State	Town Council	State
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	No	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	No			

Administrative and Technical Capability

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

Table 9.12-6. 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	Yes	OEM
Environmental Board/Commission	No	
Open Space Board/Committee	No	
Economic Development Commission/Committee	Yes	Hardyston Township Economic Development Advisory Commission
Maintenance Programs to Reduce Risk	Yes	Town Manager Insurance related
Mutual Aid Agreements	Yes	Fire Dept, Police and EMS
Technical/Staffing Capability		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Deputy Manager/planner and Construction
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Construction
Planners or engineers with an understanding of natural hazards	Yes	Deputy Manager/Planner
NFIP Floodplain Administrator	Yes	Construction Official
Surveyor(s)	No	



Table 9.12-6. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Zoning
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	OEM
Grant Writer(s)	Yes	OEM and Deputy Manager
Staff with expertise or training in benefit/cost analysis	Yes	OEM and Deputy Manager
Professionals trained in conducting damage assessments	Yes	OEM and Construction

Fiscal Capability

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

Table 9.12-7. Fiscal Capabilities

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

Education/Outreach and Community Classifications

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to the Township of Hardyston.

Table 9.12-8. Education/Outreach and Community Classifications

Program	Do you have/participate in 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)	No		
Storm Ready	No		
Firewise	No		





Table 9.12-8. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Disaster/Safety Programs in/for Schools	Yes		
Organizations with Mitigation Focus (advocacy group, non-government)	No		
Public Education Program/Outreach (through website, social media)	Yes	OEM	
Public-Private Partnerships	No		

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 Community Rating System (CRS) class applies to flood insurance while the Building Code Effectiveness Grading Schedule (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 the Township of Hardyston’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.

Table 9.12-9. Self-Assessment of Capability

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





Table 9.12-9. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Capability to Integrate Mitigation into Municipal Processes and Activities			X

National Flood Insurance Program

NFIP Floodplain Administrator (FPA)

Joe Butto, Construction Official

Flood Vulnerability Summary

The Township does not maintain lists/inventories of properties that have been damaged by floods. They only maintain inventories on fire reports from alarms. Between Irene, Lee and Sandy, there were four homes damaged by fallen trees and approximately 75 basements flooded. The FPA makes substantial damage estimates for the Township and one was conducted for the most recent FEMA disaster declarations. It is unknown how many properties are currently interested in mitigation.

Resources

The FPA is the sole person assuming the responsibilities of floodplain administration for the Township; however, he does receive assistance from the OEM when needed. NFIP administration services and functions the FPA provide includes damage inspections and keeping dam reports. The Township does not provide any education or outreach to the community regarding flood hazards/risk. The FPA feels adequately supported and trained to fulfill his responsibilities as the municipal floodplain administrator. The FPA indicated that he would not consider attending continuing education and/or certification training on floodplain management.

Compliance History

The Township is currently in good standing with the NFIP. The date of the most recent compliance audit is unknown.

Regulatory

The Township's floodplain management regulations/ordinances exceed the FEMA and State minimum requirements. The master plan and planning board have a review for flood zones during application process. The community has not considered joining CRS as this time.

Community Rating System

The Township of Hardyston 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

Land Use Planning: The Township has a Planning Board and a Zoning Board which reviews all applications for development and consider natural hazard risk areas in their review.

Hardyston Township Master Plan Reexamination 2014: This plan included the reaffirmation of the goals and objective outlined in the 2003 Master Plan.

Hardyston Master Plan 2003: This plan includes the identification of natural hazard risk areas like floodplains, wetlands, and steep slopes, as well as land use and zoning recommendations for managing those risks. The Plan included the following applicable goals and objectives:

Goal 7: Support increases of safety and health related activities such as fire, emergency squad, police protection and public health in order to meet and improve service to the community.

Objectives:

1. Evaluate safety and health facilities, and their levels of activity which are located in of serve Hampton Township, and evaluate their effectiveness in relation to the generally recognized norms.
2. Indicate where corrective measures may be needed to better serve the Hampton community.

Highlands: Hardyston is located in the New Jersey Highlands Region and is part of both the Highlands Planning and Preservation Areas. As such, the Township is one of 88 municipalities protected by and subject to the provisions of the Highlands Water Protection and Planning Act that protects, enhances and restores Highland's natural resources. The Highlands Act requires that future land use in the Highlands Region be guided by the Regional Master Plan's Land Use Capability Map (LUCM) Series which includes tools to identify and protect the natural, scenic and other resources of the region. In supporting and complying with the Highlands Act, the Township enacted amendments and updates to local zoning and development ordinances that ensure the protection of important resources and areas. The Highland Act creates three primary zones: a Protection Zone, a Conservation Zone and an Existing community Zone. Protection Zones are areas with the highest quality resources with extreme limitations on allowable development while Conservation Zones have significant agricultural lands and associated woodlands and environmental features with allowable development consisting primarily of agricultural uses. Existing Community Zones consist of areas of concentrated development with limited environmental constraints. These zones are overlaid with existing local zoning maps to identify and address issues of public interest including watershed management, open space preservation, historic preservation, flood protection among others.

Regulatory and Enforcement (Ordinances)

The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Stormwater Control Chapter, and an Environmental Impact Statement requirement included in the Site Plan Review Chapter.

Chapter 96: Flood Damage Prevention - The purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- A. To protect human life and health;
- B. To minimize expenditure of public money for costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;



- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the alternate use and development of areas of special flood hazard so as to minimize future flood blight areas;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Article XXV Stormwater Management: The purposed of the Stormwater Control Chapter is to implement best management practices for stormwater management designed to promote the public health, safety and general welfare of the Townships’ citizens and businesses.

Chapter 185-4C. Environmentally Critical Areas: An area or feature which is of significant environmental value, including but not limited to stream corridors; natural heritage priority sites; habitats of endangered or threatened species; large areas of contiguous open space or upland forest; steep slopes; and wellhead protection and groundwater recharge areas. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

Operational and Administration

The Township has established a Planning Board, Zoning Board and an Environmental Committee, that aid in planning decisions to support the conservation and preservation of the Township’s critical environmental features. Beyond that the Township employs and Planning Board Secretary and contracts out for professional legal, planning, and engineering services for development review.

Funding

Operating Budget: The Township’s operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

Grants: The Township has received funding from the NJDOT and The Garden State Preservation Trust Fund grant programs. The Township’s 2014 Capital Budget includes line items for improvements to the Municipal Building, as well as a number or drainage and roadway improvements.

Education and Outreach

The Township’s website posts information regarding upcoming community events and important municipal decisions on the home page. The Township has identified a mitigation action to implement the FireWise program. Refer to Table 9.12-11 for further information.

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 2011 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 9.12-10. Past Mitigation Initiative Status

<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Hardyston Township 1	Implement Fire Wise Program throughout Township.	OEM Coordinator, Township Engineer	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Education Program. Set up town hall meetings
Hardyston Township 2	Flood proofing of the Fire Company #1 and First Aid squad buildings located on Colson Terrace.	Township Engineer	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Unknown need engineering reports (not funded)
Hardyston Township 3	Storm-water management study to correct storm drainage system located on Colson Terrace.	Department of Public Works Supervisor	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Unknown need engineering reports (not funded)
Hardyston Township 4	Retrofit roof to meet current snow load standards at the Elementary School.	School Board Administrator	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Obtain engineering report 2. Bid and complete construction
Hardyston Township 5	Retrofit Elementary School gymnasium windows with impact resistant glass and shutters.	School Board Administrator	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Obtain engineering report 2. Bid and complete construction
Hardyston Township 6	Retrofit South West side of municipal building with impact resistant windows and shutters.	Township Manager	No Progress	1. 0% complete 2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured	Include in 2016 HMP	1. Obtain engineering report 2. Bid and complete construction
Hardyston Township 7	Conduct all-hazards public education and outreach	OEM Coordinator, in	No Progress	1. 0% complete	Include in 2016 HMP	1. Education Program. Set up town hall meetings





<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
	program for hazard mitigation and preparedness.	coordination with SCDEM		2. Budget and personnel constraints have restricted this action from moving forward 3. No funding secured		

DRAFT



Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The Township has not identified any additional mitigation projects/activities that have been completed since approval of the 2011 Plan.

Proposed Hazard Mitigation Initiatives for the Plan Update

The Township participated in a mitigation action workshop in April 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). In May 2015, the Township participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.12-11 summarizes the comprehensive-range of specific mitigation initiatives the Township 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 9.12-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.12-11. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Hardyston-1	Ensure continuity of operations at critical facilities: Hardyston Township Critical Facilities Generators	New and Existing	All	1, 2, 6	OEM	High	Medium	HMGP with local cost share	Short Term	High	SIP	PP
Hardyston-2	Implement Fire Wise Program throughout Township. Create an education program and set up town hall meetings.	New and Existing	Wildfire	1, 2, 3, 4, 6	OEM Coordinator	Medium	Low	HMGP with local cost share	Short Term	High	EAP, LPR	PI
Hardyston-3	Stormwater management study to correct storm drainage system located on Colson Terrace.	New and Existing	Flood	1, 2, 5, 6	DPW and OEM	High	High	HMGP with local cost share	Short Term	High	SIP	PP
Hardyston-4	Conduct engineering study to determine the correct actions for retrofitting the roof of the elementary school to meet current snow load standards. Once completed, identify mitigation actions to correct the problem.	Existing	Severe Winter Weather	1, 2, 4, 5	School Board Administrator	Medium	Low	HMGP with local cost share; Municipal Budget	Short Term / DOF	Medium	SIP	PP
Hardyston-5	Conduct engineering study to determine the correct actions for retrofitting the gymnasium windows of the elementary school to make them impact resistant. Once completed, identify mitigation actions to correct the problem.	Existing	Severe Weather, Severe Winter Weather	1, 2, 4, 5	School Board Administrator	Medium	Low	HMGP with local cost share; Municipal Budget	Short Term / DOF	Medium	SIP	PP
Hardyston-6	Conduct engineering study to determine the correct actions for retrofitting the windows on the southwest side of the municipal building to make them impact resistant. Once completed, identify mitigation actions to correct the problem.	Existing	Severe Weather, Severe Winter Weather	1, 2, 4, 5	Township Manager	Medium	Low	HMGP with local cost share; Municipal Budget	Short Term / DOF	Medium	SIP	PP
Hardyston-7	Educate citizens on hazard mitigation and preparedness through Town Hall meetings and outreach programs.	N/A	All	All	OEM Coordinator	High	Medium	HMGP with local cost share	Short Term	High	EAP	PI
Hardyston-8	Establish a line item for mitigation project funding in both	New and Existing	All	All	Township	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR





Table 9.12-11. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
	the municipal budget and Capital Improvement Plan.											
Hardyston-9	Adopt and enforce codes and standards beyond FEMA and state NFIP minimum requirements.	New and Existing	All	All	Township	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR
Hardyston-10	Where applicable, Township job descriptions will incorporate hazard mitigation.	N/A	All	All	Township	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR
Hardyston-11	Incorporate hazard mitigation in the daily practice of the Township; all projects identified in Township's annex will be a goal of the municipality.	N/A	All	All	Township	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR
Hardyston-12	Establish a community resilience committee and advisor for the Township which will increase the Township's capacity to prepare for, mitigate, respond to and recover from hazard events in the community.	New and Existing	All	All	Township Administration, OEM Coordinator	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR
Hardyston-13	Provide informational handouts or meetings to share best practices of hazard mitigation and increase the knowledge of mitigation throughout the Township.	New and Existing	All	All	Township Administration, OEM Coordinator	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR
Hardyston-14	Develop a continuity of operations (COOP) plan which will identify mitigation opportunities.	N/A	All	All	Township	High	Low	Municipal Budget	Ongoing	Medium	LPR	PR
Hardyston-15	Correct the stormwater drainage on Colson Terrace.	Existing	Flood, Severe Weather	1, 2, 5, 6	Township OEM and DPW	High	High	HMGP with local cost share	Short Term / DOF	High	SIP	PP

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:

CRS Community Rating System
 DPW Department of Public Works
 FEMA Federal Emergency Management Agency
 FPA Floodplain Administrator
 HMA Hazard Mitigation Assistance

Potential FEMA HMA Funding Sources:

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

Timeline:

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





Acronyms and Abbreviations:

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:

Timeline:

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 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 9.12-12. 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	Total	High / Medium / Low
Hardyston-1	Hardyston Township Critical Facilities Generators	1	1	1	1	1	1	0	0	0	1	1	1	0	0	9	High
Hardyston-2	Implement Fire Wise Program throughout Township. Create an education program and set up town hall meetings.	1	1	1	0	1	0	1	1	1	0	0	1	1	1	10	High
Hardyston-3	Conduct engineering study on the flooding issues with Fire Company #1 and First Aid Squad buildings located on Colson Terrace. Once completed, identify mitigation actions to correct the problem.	1	1	1	1	1	1	0	1	0	0	1	1	1	0	10	Medium
Hardyston-4	Stormwater management study to correct storm drainage system located on Colson Terrace.	1	1	1	1	1	1	0	1	0	0	1	1	1	0	10	High
Hardyston-5	Conduct engineering study to determine the correct actions for retrofitting the roof of the elementary school to meet current snow load standards. Once completed, identify mitigation actions to correct the problem.	1	1	1	1	1	1	0	1	0	0	1	1	1	0	10	Medium
Hardyston-6	Conduct engineering study to determine the correct actions for retrofitting the gymnasium windows of the elementary school to make them impact resistant. Once completed, identify mitigation actions to correct the problem.	1	1	1	1	1	1	0	1	0	0	1	1	1	0	10	Medium
Hardyston-7	Conduct engineering study to determine the correct actions for retrofitting the windows on the southwest side of the municipal building to make them impact resistant. Once completed, identify mitigation actions to correct the problem.	1	1	1	1	1	1	0	1	0	0	1	1	1	0	10	Medium
Hardyston-8	Educate citizens on hazard mitigation and preparedness through Town Hall meetings and outreach programs.	1	1	1	1	1	1	1	0	1	1	1	0	0	0	10	High
Hardyston-9	Establish a line item for mitigation project funding in both the municipal budget and Capital Improvement Plan.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Hardyston-10	Adopt and enforce codes and standards beyond FEMA and state NFIP minimum requirements.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Hardyston-11	Where applicable, Township job descriptions will incorporate hazard mitigation.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Hardyston-12	Incorporate hazard mitigation in the daily practice of the Township; all projects identified in Township's annex will be a goal of the municipality.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Hardyston-13	Establish a community resilience committee and advisor for the Township which will increase the Township's capacity to prepare for, mitigate, respond to and recover from hazard events in the community.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Hardyston-14	Provide informational handouts or meetings to share best practices of hazard mitigation and increase the knowledge of mitigation throughout the Township.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium
Hardyston-15	Develop a continuity of operations (COOP) plan which will identify mitigation opportunities.	1	1	1	1	0	0	1	0	0	1	1	1	0	0	8	Medium





Table 9.12-12. 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	Total	High / Medium / Low
Hardyston-16	Correct the stormwater drainage on Colson Terrace.	1	1	1	1	1	1	0	1	0	0	1	1	1	0	10	High

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

DRAFT



9.12.6 Future Needs To Better Understand Risk/Vulnerability

None at this time.

9.12.7 Hazard Area Extent and Location

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

9.12.8 Additional Comments

None at this time.

DRAFT



Figure 9.12-1. Township of Hardyston Hazard Area Extent and Location Map 1

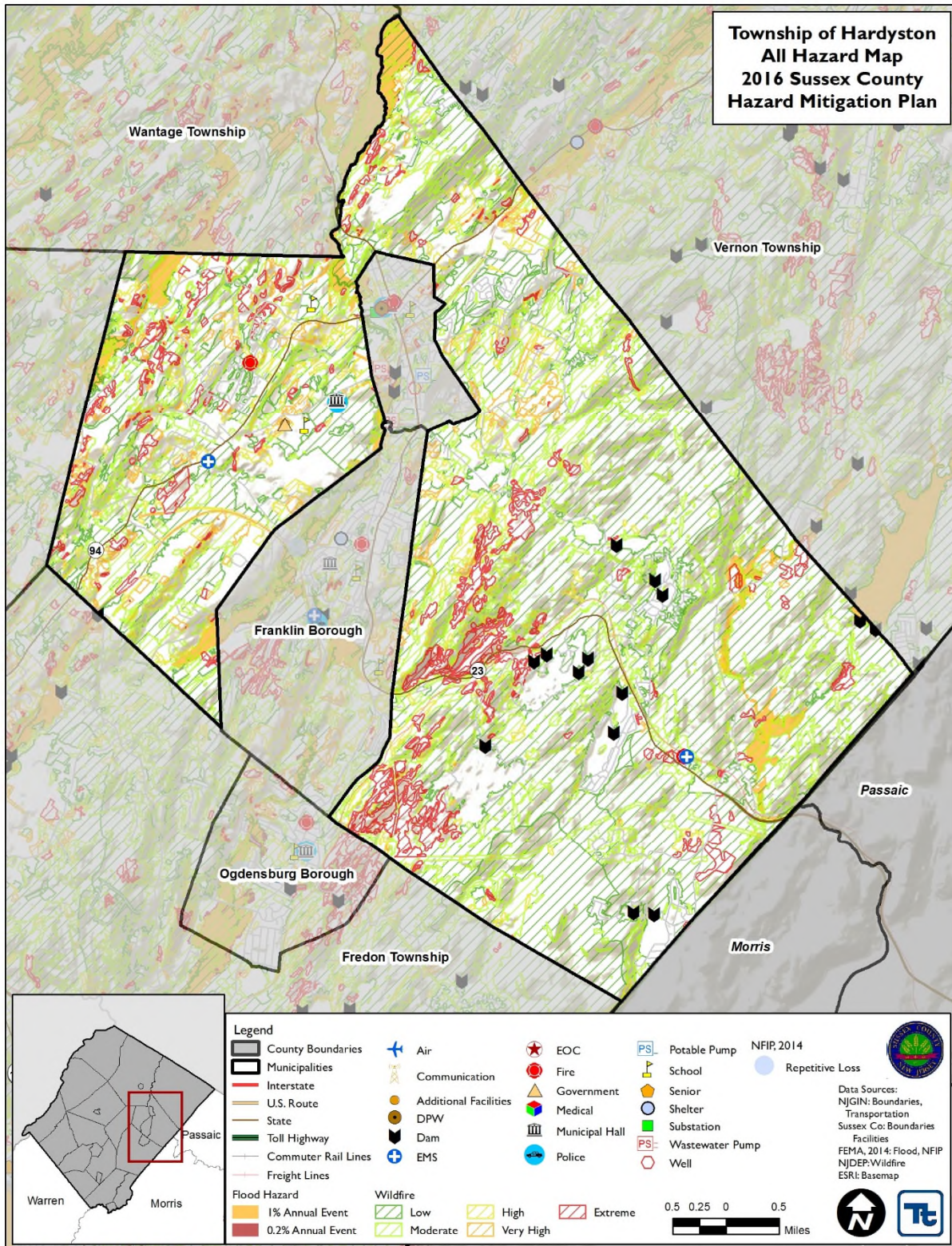
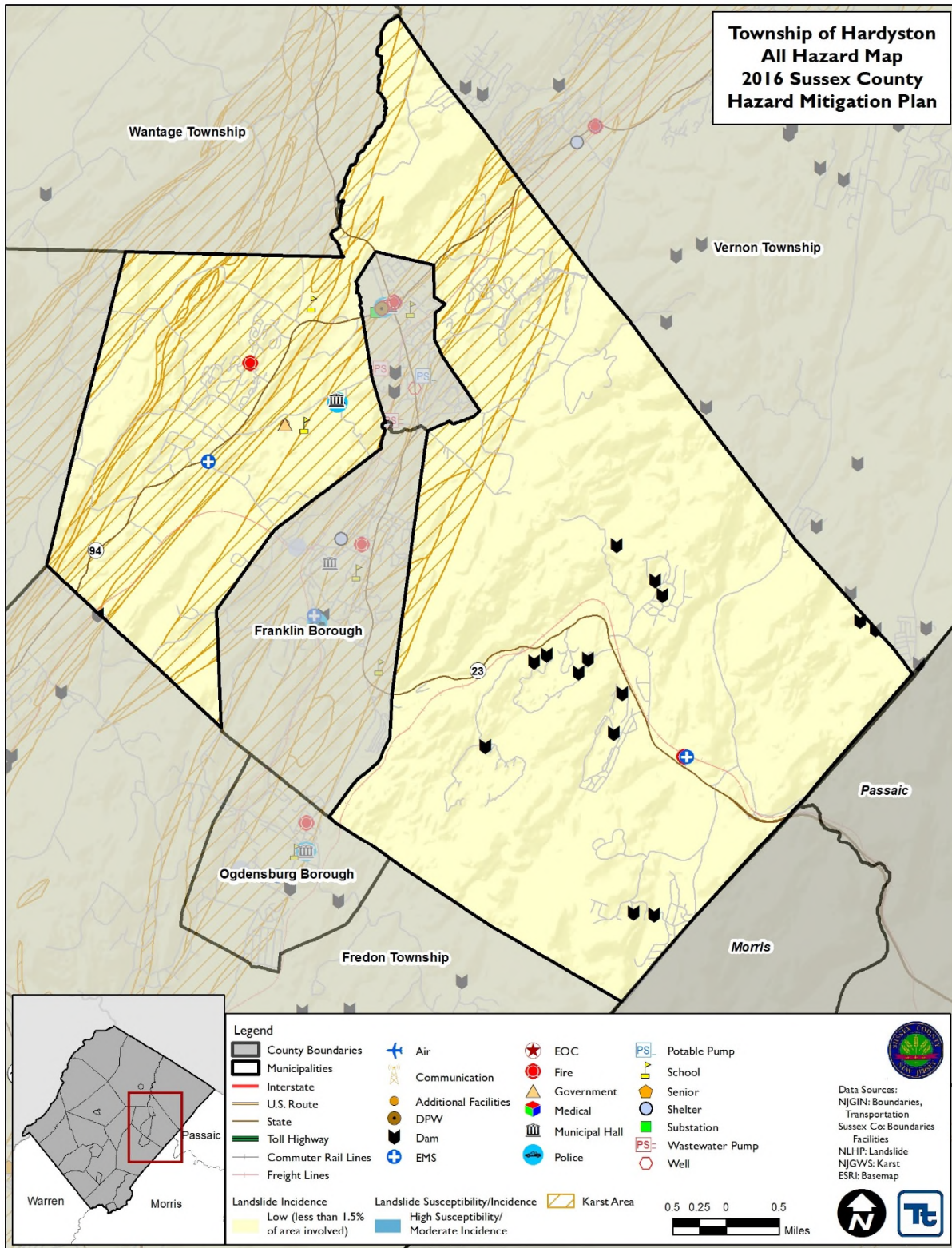




Figure 9.12-2. Township of Hardyston Hazard Area Extent and Location Map 2





Action Number: Hardyston-1

Mitigation Action/Initiative: Hardyston Township Critical Facilities Generators

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Loss of power to the community prevents the critical facilities from functioning in the event of an emergency
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase and install generators for critical facilities in the Township
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Hardyston Township Critical Facilities Generators
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
Applies to existing and/or new development; or not applicable	New and Existing
Benefits (losses avoided)	High
Estimated Cost	Medium
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	OEM
Local Planning Mechanism	Emergency Management
Potential Funding Sources	HMGP with local cost share
Timeline for Completion	Short Term
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hardyston-1

Mitigation Action/Initiative: Hardyston Township Critical Facilities Generators

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Provide power for those impacted during emergencies
Property Protection	1	Allow for continuity of operations
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	0	
Other Community Objectives	0	
Total	9	
Priority (High/Med/Low)	High	



Action Number: Hardyston-15

Mitigation Action/Initiative: Flood proofing Colson Terrace and correct stormwater draining

Assessing the Risk	
Hazard(s) addressed:	Flood, Severe Weather
Specific problem being mitigated:	Fire Station 1 and the EMS Squad building flood and the buildings are damaged during these flooding events
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	Flood proofing Colson Terrace and correct storm water draining for the 1. Hardyston Twp. Fire Station 1 and EMS building located on Colson Terrace. 2. Develop storm water plan and implement 3. Relocate fire and EMS stations
Action/Project Intended for Implementation	
Description of Selected Action/Project	Flood proofing Colson Terrace and correct storm water draining for the Hardyston Twp. Fire Station 1 and EMS building located on Colson Terrace.
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 5, 6
Applies to existing and/or new development; or not applicable	New and Existing
Benefits (losses avoided)	High
Estimated Cost	High
Priority	High
Plan for Implementation	
Responsible/Lead Agency/Department	Township OEM and DPW
Local Planning Mechanism	Stormwater Management
Potential Funding Sources	FEMA with local cost share
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:



Action Number: Hardyston-15

Mitigation Action/Initiative: Flood proofing Colson Terrace and correct stormwater draining

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	If water levels prevent fire trucks and EMS service from leaving fire station life and property risk greatly increase
Property Protection	1	Protect buildings in the area from flood damage
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	
Fiscal	0	
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	