



## 9.10 PRINCETON

This section presents the jurisdictional annex for Princeton.

### 9.10.1 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
Marc D. Dashield, Administrator 609-924-5176 mdashield@princetonnj.gov	Kathryn Monzo, Deputy Administrator 609-924-5176 kmonzo@princetonnj.gov

### 9.10.2 MUNICIPAL PROFILE

Princeton is a municipality with a borough form of government and located in northeastern Mercer County. It was established in its current form on January 1, 2013 through a consolidation of the Borough of Princeton and the Township of Princeton. Princeton has a total area of 18.4 square miles. It is bordered to the north by the Township of Montgomery (Somerset County), to the east by the Township of Franklin (Somerset County), and the Townships of South Brunswick and Plainsboro (both Middlesex County), to the south by the Township of West Windsor, and the west by the Townships of Hopewell and Lawrence. There are several unincorporated communities located within the municipality: Cedar Grove, Port Mercer, North Princeton, Princeton Basin, and Jugtown.

The following waterbodies are found within Princeton: Delaware and Raritan Canal, Harrys Brook, Van Horn Brook, Stony Brook, Millstone River, Mountain Brook, Palmer Lake, Carnegie Lake, and Strawberry Run.

### 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 9.10.9 of this annex which illustrates the hazard areas along with the location of potential new development.

Table 9.10-1. Growth and Development

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address and/or Block & Lot	Known Hazard Zone(s)	Description/Status of Development
<b>Recent Development from 2011 to Present</b>					
None identified					
<b>Known or Anticipated Development in the Next Five (5) Years</b>					
Avalon	Residential	280 units (2 buildings)	100 Albert Way		Currently Under Construction
Princeton University - Merwick Stanworth	Residential	320 units (apartments / townhouses)	Bayard Lane (Route 206) at Oak Lane		Currently Under Construction
Princeton University – Lakeside	Residential	329 units (Apartments / townhouses)	Lakeside Road / Faculty Road		Currently Under Construction



Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Address and/or Block & Lot	Known Hazard Zone(s)	Description/Status of Development
Princeton University – Arts & Transit	Education	1 building	University Place and Alexander Street		Currently Under Construction
Princeton – Andlinger	Education	1 building	86 Olden Street		Currently Under Construction

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

### 9.10.3 NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE MUNICIPALITY

Mercer 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 municipality.

Information regarding specific damages at the municipal level, is presented in the table below. This summary is based on reference material or local sources. For further details on these and additional events, refer to Volume I, Section 5.0 of this plan.

**Table 9.10-2. Hazard Event History**

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
March 13, 2010	High Wind	N/A	N/A	Yes – debris management; DPW and Police overtime
March 12 – April 15, 2010	Severe Storms and Flooding	DR-1897	Yes	Yes – debris management; DPW and Police overtime
November 17, 2010	Thunderstorms	N/A	N/A	Yes – debris management; DPW and Police overtime
February 4, 2011	Severe Winter Storm and Snowstorm	DR-1954	Yes	Yes – debris management; DPW and Police overtime
August 26 – September 5, 2011	Hurricane Irene	DR-4021	Yes	Hurricane Irene caused road closures, utility outages, damage to infrastructure, and one fatality in Princeton. The following roads were closed: Rosedale Road, Mercer Road, Quaker Road, Washington Road, Route 27, River Road, and Route 206. Infrastructure damage included the sewage pump station which flooded, the Stony Brook pedestrian bridge was pushed off its abutments, and the Quaker Road/Delaware and Raritan Canal towpath washed out. A residential home on Lavid Meadowbrook Road was damaged as well.
September 28 – October 6, 2011	Remnants of Tropical Storm Lee	DR-4039	Yes	Yes – debris management; DPW and Police overtime
October 26 – November 8, 2012	Hurricane Sandy	DR-4086	Yes	Hurricane Sandy led to road closures, power outages, infrastructure damage, and one fatality. The following roads were closed: Rosedale Road, Mercer Road, Quaker Road, Washington Road, Route 27, River Road, Route 206, up to 200 road closures. The sewer pump station sustained damage and the firehouse generator failed. There was damage to residential, commercial and local businesses.



Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
April 30, 2014	Heavy Rain and Flooding	N/A	N/A	Yes – debris management; DPW and Police overtime
May 1, 2014	Heavy Rain and Flooding	N/A	N/A	Yes – debris management; DPW and Police overtime

### 9.10.4 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 Princeton. 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 Princeton.

**Table 9.10-3. Hazard Risk/Vulnerability Risk Ranking**

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Dam Failure	Damage estimate not available	Occasional	24	Medium
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year MRP: \$0 500-Year MRP: \$4,886,390 2,500-Year MRP: \$82,336,428	Occasional	12	Low
Flood	1% Annual Chance: \$72,303,568	Frequent	18	Medium
Geologic	Exposed to Landslide-Susceptible Areas: \$0	Occasional	12	Low
Hurricane	100-year MRP: \$4,619,440 500-year MRP: \$20,645,396 Annualized: \$211,052	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$4,619,440 500-year MRP: \$20,645,396 Annualized: \$211,052	Frequent	48	High
Severe Winter Weather	1% of GBS: \$63,408,011 5% of GBS: \$317,040,057	Frequent	51	High
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$14,198,179	Frequent	18	Medium
Disease Outbreak	Damage estimate not available	Frequent	36	High
Hazardous Materials	Damage estimate not available	Frequent	42	High

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

- a. The general building stock valuation is based on the custom inventory generated for the County utilizing improved value.
- b. 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. Refer to Section 5.1 for further details on the loss methodology. 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 and the 2012 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 Princeton.

**Table 9.10-4. 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)
Princeton	184	76	\$1,958,301	2	0	31

Source: FEMA Region 2, 2015

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 02/28/15. The total number of repetitive loss properties does not include the severe repetitive loss properties. The number of claims represents claims closed by 02/28/15.
  - (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 the number of critical facilities, by type, in the community located in the effective FEMA flood zones (1% and 0.2% annual chance boundaries).

**Table 9.10-5. Potential Flood Losses to Critical Facilities**

Municipality	1% Annual Chance				0.2% Annual Chance				
	Air	Park	School	Wastewater Pump	Air	Church	Park	School	Wastewater Pump
Princeton	1	2	1	2	1	1	4	1	2

Source: Mercer County; FEMA, 2012

### Other Vulnerabilities Identified by Municipality

According to the 2016 preliminary Flood Insurance Study (FIS) for Mercer County, the low-lying areas of Princeton along Stony Brook and Harrys Brook are subject to flooding. These streams drain hilly areas of relatively impervious soils and result in rapid runoff into these brooks (FEMA 2016).

The hazard profiles in Section 5.0 of this plan 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.

Additionally, Princeton identified the following vulnerable areas within the municipality:

- During storms that produce strong winds, downed trees are constantly an issue. There are old trees throughout the entire municipality and pose a threat during periods of strong winds. Princeton has a tree trimming program that focuses on maintenance.



- Floodprone roadways in Princeton include: Princeton Pike, Quaker Street, Rosedale Road, and River Road. During significant rain events, these roadways flood and have to be closed for a period of time. These roadways flood several times a year.

**9.10.5 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
- 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 Princeton.

**Table 9.10-6. 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.)
<b>Planning Capability</b>				
Master Plan	Yes, 2013	Local	Planning	Princeton Community Master Plan
Capital Improvements Plan	Yes	Local		Budget
Floodplain Management / Basin Plan	Yes, 2005	Local	Flood and Stormwater Commission	Flood Mitigation Plan
Stormwater Management Plan	Yes	Local	Engineering	Both Borough and Township
Open Space Plan	Yes	Local	Planning	
Stream Corridor Management Plan	Yes	Local	Planning /Engineering	
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local	OEM	
Emergency Operation Plan	Yes	Local	OEM	
Post-Disaster Recovery Plan	No			
Transportation Plan	Yes	Local	Planning	
Strategic Recovery Planning Report	No			
Other Plans:				
<b>Regulatory Capability</b>				
Building Code	Yes	State & Local	Building	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.) Chapter



**Table 9.10-6. 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.)
				numbers vary depending on Code Book (Borough vs. Township)
Zoning Ordinance	Yes	Local	Zoning	Chapter numbers vary depending on Code Book (Borough vs. Township)
Subdivision Ordinance	Yes	Local	Planning	Chapter numbers vary depending on Code Book (Borough vs. Township)
NFIP Flood Damage Prevention Ordinance	Yes	Federal, State, Local	Engineering	Chapter numbers vary depending on Code Book (Borough vs. Township)
NFIP: Cumulative Substantial Damages	No	Federal, State, Local	Engineering	Chapter numbers vary depending on Code Book (Borough vs. Township)
NFIP: Freeboard	Yes	Federal, State, Local	Engineering	Chapter numbers vary depending on Code Book (Borough vs. Township)
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes	Local	Planning	Chapter numbers vary depending on Code Book (Borough vs. Township)
Stormwater Management Ordinance	Yes	Local	Engineering	Chapter numbers vary depending on Code Book (Borough vs. Township)
Municipal Separate Storm Sewer System (MS4)	Yes	Local	Engineering	Chapter numbers vary depending on Code Book (Borough vs. Township)
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	Local		
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes	Local	Planning	Fire Protection, Soil Erosion and Sediment Control, Solid Waste

**Administrative and Technical Capability**

The table below summarizes potential staff and personnel resources available to Princeton.

**Table 9.10-7. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
<b>Administrative Capability</b>		
Planning Board	Y	Planning Board
Mitigation Planning Committee	N	
Environmental Board/Commission	Y	Environmental Commission
Open Space Board/Committee	Y	Recreation Department
Economic Development Commission/Committee	N	
Maintenance Programs to Reduce Risk	Y	Flood and Stormwater Commission





Table 9.10-7. Administrative and Technical Capabilities

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
Mutual Aid Agreements	Y	With surrounding municipality fire departments; Mercer County mutual aid program (community-wide, not just fire)
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Planning, Engineer
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Planning, Engineer, Building/Construction
Planners or engineers with an understanding of natural hazards	Y	Planning, Engineer, Emergency Management
NFIP Floodplain Administrator	Y	Engineer
Surveyor(s)	N	
Personnel skilled or trained in GIS and/or Hazus-MH applications	N	
Scientist familiar with natural hazards	N	
Emergency Manager	Y	Office of Emergency Management
Grant Writer(s)	N	
Staff with expertise or training in benefit/cost analysis	Y	Office of Emergency Management, Finance, DPW – joint staff effort
Professionals trained in conducting damage assessments	Y	Office of Emergency Management, Fire Marshall – joint staff effort

**Fiscal Capability**

The table below summarizes financial resources available to Princeton.

Table 9.10-8. 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	Yes
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	Unknown
Other Federal or State Funding Programs	Yes
Open Space Acquisition Funding Programs	Yes
Other	N/A





Education/Outreach and Community Classifications

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

Table 9.10-9. Education/Outreach and Community Classifications

Table with 4 columns: Program, Do you have/participate in this? (Yes/No), Classification (if applicable), Date Classified (if applicable). Rows include Community Rating System (CRS), Building Code Effectiveness Grading Schedule (BCEGS), Public Protection (ISO Fire Protection Classes 1 to 10), Storm Ready, Firewise, Disaster/Safety Programs in/for Schools, Organizations with Mitigation Focus, Public Education Program/Outreach, and Public-Private Partnerships.

N/A = Not applicable; NP = Not participating

The classifications listed above relate to the municipality’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the municipality’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.

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

**Table 9.10-10. 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
Capability to Integrate Mitigation into Municipal Processes and Activities.			X

### National Flood Insurance Program

#### NFIP Floodplain Administrator (FPA)

Jack West, Land Use Engineer

#### Flood Vulnerability Summary

Princeton does not maintain lists/inventories of properties that have been damaged by floods. During Hurricane Irene, two homes were damaged. One of the homes was acquired by the municipality, torn down and the area was turned into a park. Substantial damage estimates are not made by the Engineering Department. There is currently no interest in mitigation (elevation or acquisition) in the municipality.

#### Resources

The FPA is the sole person assuming the responsibilities of floodplain administration for Princeton. There is additional staff to use as support if needed. The FPA provides permit review and determines if a property is located in a flood hazard area. However, there is no education or outreach provided to the community regarding flood hazards/risk or flood risk reduction.

The FPA indicated that he feels adequately supported and trained to fulfill his responsibilities as the floodplain administrator for Princeton. Additionally, he would consider attending continuing education and/or certification training on floodplain management if it were offered in Mercer County.

#### Compliance History

Princeton is currently in good standing with the NFIP; however, it is unknown as to when the most recent compliance audit was conducted.

#### Regulatory

Princeton’s flood damage prevention ordinances meets the FEMA and state minimum requirements. The municipality ensures that no building/development occurs in the flood hazard areas of Princeton.





## Community Rating System

Princeton is not currently a part of the Community Rating System; however, Princeton has considered joining and would attend a seminar if offered locally.

## 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

Princeton participates in planning initiatives, as opportunities arise and as funding permits. This allows the community to develop comprehensive regional and local guidelines to ensure appropriate development, strategizing, and enhancement of the Borough to benefit residents and local businesses.

Princeton demonstrates its commitment to hazard mitigation integration by developing many integrated documents. The most notable one with ties to the hazard mitigation plan is a 2005 Flood Mitigation Plan (developed for Princeton Township, prior to the merging of the Borough and Township). This valuable resource assesses flood vulnerability and potential losses for the community, examines the history and impacts of flooding in Princeton, and develops a mitigation strategy and action plan to reduce the impact of flooding on the community.

The Princeton Regional Planning Board drafted the last full Master Plan in 1996. The community has regularly reviewed the Master Plan for revisions and upgrades, with the most recent reexamination in 2007 and amendments through 2013. The jurisdiction is currently in the midst of drafting a Bicycle Plan as part of its Master Plan, with the most recent meeting being held February 10, 2016. The Master Plan demonstrates the community's dedication to smart land use and growth practices, which including avoiding development in hazard prone areas. Because many of the revisions and amendments to the Plan were prior to the Borough and Township merging, Princeton website maintains copies of documents from both the Borough and the Township to ensure a comprehensive approach to planning and regulations.

Princeton has a stormwater management plan from both the former Borough and former Township that is used to help manage stormwater flooding and associated runoff. These documents comply with State stormwater regulations and provide information on water resources in the jurisdiction, maintenance requirements, and mitigation activities. The documents integrate the community Master Plan, land use ordinances, and other existing standards and documents to ensure a cohesive approach to stormwater management.

### Regulatory and Enforcement (Ordinances)

Princeton has multiple codes and ordinances pertaining to the mitigation of hazards. These ordinances include Construction Code Enforcement, Environmental Design Review of Site Elements, Fire Protection, Flood Damage Prevention, Housing Standards, Land Use regulations, Sewers and Sewage Disposal, Soil Erosion and Sediment Control, Subdivision of Land, and Solid Wastes, as well as the establishment of several key boards and councils.

The municipal Code Book is available on the jurisdiction's website and can be located at: <http://clerkshq.com/default.aspx?clientsite=princeton-nj>.



### Operational and Administration

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The Borough of Pennington has established a Construction Board of Appeals, Environmental Commission, Flood and Stormwater Commission, Planning Board, Zoning Board of Adjustment, and Site Plan Review Advisory Board, all of which support land use decisions and public health/safety, as well as ensure compliance with regulations, codes, and the Master Plan. The Hopewell Valley Green Team is a regional initiative.

Princeton Borough and Princeton Township merged to form the community of Princeton. Although the jurisdiction does not classify itself as a Borough, it follows the Borough form over government and is governed by a Mayor and six-member Council. Princeton has multiple departments to oversee the successful operations of the community. Public Works, Planning, and Emergency Management are three of many departments playing pivotal roles in maintaining a prepared and resilient jurisdiction.

### Funding

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Princeton's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster. When possible, the jurisdiction applies for State and Federal grant funds. The 2015 budget has revenue line items for Infrastructure Preparedness (anticipated funds for 2014) and Sustainable Jersey (anticipated funds for 2015).

Additionally the jurisdiction allocates funds for capital improvements. In 2015, Princeton appropriated funds for projects which will also have hazard mitigation benefits; these include infrastructure and operations improvements (including parks and open space), engineering, and fire related projects.

### Education and Outreach

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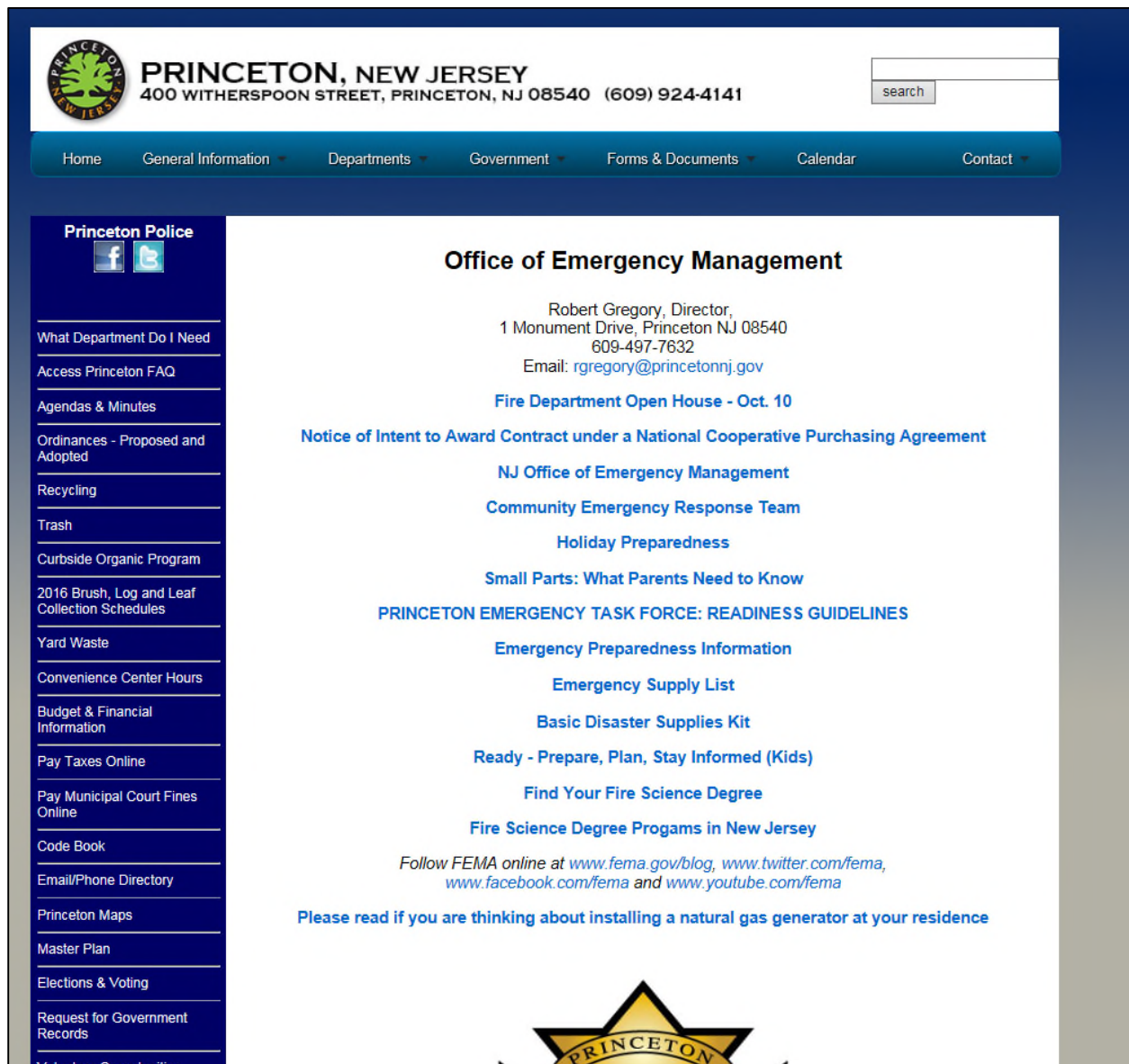
Princeton staff attend trainings and classes sponsored by Mercer County Department of Public Safety and Emergency Management, Mercer County Planning Department, or by state and federal agencies, as able and in order to meet all professional requirements.

The Princeton Office of Emergency Management maintains a detailed website with useful preparedness information for residents, including notices on open houses, links to federal and state resources, information on the Community Emergency Response Team (CERT), supplies list and preparedness kits, and preparing kids for disasters. Princeton also encourages all residents to register for their emergency phone notification system, which accepts both home and mobile phone numbers. Additionally, residents can register for the Mercer County Emergency Notification System.

A screenshot of the Princeton OEM website is provided below:



Figure 9.10-1. Princeton OEM Webpage



The screenshot shows the Princeton, New Jersey municipal website. At the top left is the Princeton logo and contact information: "PRINCETON, NEW JERSEY 400 WITHERSPOON STREET, PRINCETON, NJ 08540 (609) 924-4141". A search bar is located at the top right. A navigation menu includes links for Home, General Information, Departments, Government, Forms & Documents, Calendar, and Contact. On the left side, there is a "Princeton Police" sidebar with social media icons and a list of links such as "What Department Do I Need", "Access Princeton FAQ", "Agendas & Minutes", "Ordinances - Proposed and Adopted", "Recycling", "Trash", "Curbside Organic Program", "2016 Brush, Log and Leaf Collection Schedules", "Yard Waste", "Convenience Center Hours", "Budget & Financial Information", "Pay Taxes Online", "Pay Municipal Court Fines Online", "Code Book", "Email/Phone Directory", "Princeton Maps", "Master Plan", "Elections & Voting", and "Request for Government Records".

The main content area is titled "Office of Emergency Management" and lists the following information:

- Robert Gregory, Director, 1 Monument Drive, Princeton NJ 08540, 609-497-7632, Email: [rgregory@princetonnj.gov](mailto:rgregory@princetonnj.gov)
- [Fire Department Open House - Oct. 10](#)
- [Notice of Intent to Award Contract under a National Cooperative Purchasing Agreement](#)
- [NJ Office of Emergency Management](#)
- [Community Emergency Response Team](#)
- [Holiday Preparedness](#)
- [Small Parts: What Parents Need to Know](#)
- [PRINCETON EMERGENCY TASK FORCE: READINESS GUIDELINES](#)
- [Emergency Preparedness Information](#)
- [Emergency Supply List](#)
- [Basic Disaster Supplies Kit](#)
- [Ready - Prepare, Plan, Stay Informed \(Kids\)](#)
- [Find Your Fire Science Degree](#)
- [Fire Science Degree Programs in New Jersey](#)

At the bottom of the main content area, it says: "Follow FEMA online at [www.fema.gov/blog](http://www.fema.gov/blog), [www.twitter.com/fema](https://www.twitter.com/fema), [www.facebook.com/fema](https://www.facebook.com/fema) and [www.youtube.com/fema](https://www.youtube.com/fema)". Below this is a link: "Please read if you are thinking about installing a natural gas generator at your residence". At the very bottom center is a Princeton logo.



### 9.10.7 MITIGATION STRATEGY AND PRIORITIZATION

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

#### Past Mitigation Initiative Status

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The following table indicates progress on both the Township and Borough's mitigation strategies 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.

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Table 9.10-11. Past Mitigation Initiative Status

2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Description of Status 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)?	Next Step (Include in 2016 HMP, Discontinue)	Description of Next Step(s) 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
Hardening/Retrofitting, burying utility lines along Snowden Lane.	Borough DPW Administrator	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening/Retrofitting, burying utility lines along Witherspoon Street.	Borough DPW Administrator	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening/Retrofitting, burying utility lines along Hamilton Avenue.	Borough DPW Administrator	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening/Retrofitting, burying utility lines along Harrison Street.	Borough DPW Administrator	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening/Retrofitting, burying utility lines along Alexander Street.	Borough DPW Administrator	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Storm water management upgrade/improvement along Hamilton Avenue at Harrison Street.	Borough DPW Administrator	Complete	Stormwater management upgrade/improvement has been completed along Hamilton Avenue and was funded through the municipal budget.	Include in 2016 HMP	Upgrade/improvement the stormwater management system along Harrison Street.
Retrofit roof to meet current high wind standards for Borough Hall.	Borough Administrator	No Progress	At the time of this plan update, the municipal building does need new windows.	Include in 2016 HMP	When it comes time to replace the windows and doors of the municipal building, the windows will meet current high wind standards.
Retrofit structural reinforcement of all the windows and doors to meet high wind standards for Borough Hall.	Borough Administrator	No Progress	At the time of this plan update, the municipal building does need new windows or doors.	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Install emergency backup generator for Borough Hall.	Borough OEM Coordinator	In Progress	In the process of purchasing a new generator, funded through FEMA HMGP (Sandy)	Include in 2016 HMP	Purchase and install emergency backup generator for the municipal building.





2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Description of Status 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)?	Next Step (Include in 2016 HMP, Discontinue)	Description of Next Step(s) 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
Retrofit roof to meet current high wind standards for municipal facility located on Harrison Street.	Borough DPW Administrator	No Progress	At the time of this plan update, the municipal building does need a new roof.	Include in 2016 HMP	When it comes time to replace the roof of the municipal facility on Harrison Street, the roof will meet current high wind standards.
Install emergency backup generator for municipal facility located on Harrison Street.	Borough OEM Coordinator	No Progress	Due to budget constraints, has not been completed	Include in 2016 HMP	Install emergency backup generator for municipal facility located on Harrison Street.
Retrofit roof to meet current high wind standards for fire company located on Chestnut Street.	Borough Station Commander	No Progress	At the time of this plan update, the fire company building does need new windows.	Include in 2016 HMP	When it comes time to replace the windows and doors of the fire company building on Chestnut Street, the windows will meet current high wind standards.
Retrofit structural reinforcement of all the windows and doors to meet high wind standards for fire company located on Chestnut Street.	Borough Station Commander	No Progress	At the time of this plan update, the fire company building does need new windows or doors.	Include in 2016 HMP	When it comes time to replace the windows and doors of the fire company building on Chestnut Street, the windows will meet current high wind standards.
Install emergency backup generator for fire company located on Chestnut Street.	Borough OEM Coordinator	Complete	Generator installed – municipal budget	Discontinue	This project has been completed; therefore, it will not be included in the 2016 HMP update.
Retrofit roof to meet current high wind standards for high school located on Walnut Lane.	School Board Administrator	Complete	New roof installed – funded through School Board/budget	Discontinue	The high school on Walnut Lane has been renovated; therefore, this project will not be included in the 2016 HMP update.
Install emergency backup generator for municipal facility located on Harrison Street.	Borough OEM Coordinator	No Progress	Due to budget constraints, has not been completed	Include in 2016 HMP	Install emergency backup generator for municipal facility located on Harrison Street.
Elevation/Flood Proofing of one Repetitive Loss property on Meadowbrook Drive.	Township OEM Coordinator	Complete	Home was acquired by Princeton and turned into a park	Discontinue	This project has been completed; therefore, it will not be included in the 2016 HMP update.
Elevation/Flood Proofing of one Repetitive Loss property on Locust Lane.	Township OEM Coordinator	No Progress	Due to budget constraints, not completed	Include in 2016 HMP	
Hardening utility lines by burying them along Crooked Tree Lane.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying along All Saints Road.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.







2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Description of Status 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)?	Next Step (Include in 2016 HMP, Discontinue)	Description of Next Step(s) 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
Hardening utility lines by burying them along Winfield Road.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Herrontown Circle.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Pond View Road.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Snowden Lane.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Witherspoon Street.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Harrison Street.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Alexander Street.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Terhune Road.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Mount Lucas Lane.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.



2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Description of Status 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)?	Next Step (Include in 2016 HMP, Discontinue)	Description of Next Step(s) 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
Hardening utility lines by burying them along Rosedale Road.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Hardening utility lines by burying them along Herrontown Road.	Township Department of Public Works Supervisor	No Progress	Due to cost, not completed	Include in 2016 HMP	Work with utility companies to identify areas where hardening/retrofitting and/or burying utility lines along the roadway would be beneficial.
Harden School located on Rosedale Road to FEMA 361 Standards.	Township School Board Administrator	Complete	The school has been fully renovated and funded by the school budget.	Discontinue	
Backup generator for school located on Rosedale Road.	Township OEM Coordinator	No Progress	Due to cost, not completed	Include in 2016 HMP	Purchase and install backup generator for the school located on Rosedale Road.
Harden School located on Witherspoon Street to FEMA 361 Standards.	Township School Board Administrator	Complete	The school has been fully renovated and funded by the school budget.	Discontinue	
Backup generator for school located on Witherspoon Street.	Township OEM Coordinator	No Progress	Due to cost, not completed	Include in 2016 HMP	Purchase and install backup generator for the school located on Witherspoon Street.
Harden School located on Riverside Drive to FEMA 361 Standards.	Township School Board Administrator	Complete	The school has been fully renovated and funded by the school budget.	Discontinue	
Backup generator for school located on Riverside Drive.	Township OEM Coordinator	No Progress	Due to cost, not completed	Include in 2016 HMP	Purchase and install backup generator for the school located on Riverside Drive.
Harden School located on Littlebrook Road to FEMA 361 Standards.	Township School Board Administrator	Complete	The school has been fully renovated and funded by the school budget.	Discontinue	
Backup generator for school located on Littlebrook Road.	Township OEM Coordinator	No Progress	Due to cost, not completed	Include in 2016 HMP	Purchase and install backup generator for the school located on Littlebrook Road.
Harden School located on Walnut Lane to FEMA 361 Standards.	Township School Board Administrator	Complete	The school has been fully renovated and funded by the school budget.	Discontinue	
Retrofit roofs to meet current high wind standards on 2 municipal buildings on Witherspoon Street.	Township School Board Administrator	In Progress	DPW building – torn down; no longer exists. The roof of the other municipal building is not in	Include in 2016 Update	When the roof of the municipal building on Witherspoon Street needs to be



2011 Mitigation Action	Responsible Party	Status (In progress, No progress, Complete)	Description of Status 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)?	Next Step (Include in 2016 HMP, Discontinue)	Description of Next Step(s) 1. If including action in the 2016 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why
			need of replacement at the time of this HMP update.		replaced, it will meet current high wind standards.
Retrofit roof to meet current high wind standards on Fire Station building located on Witherspoon Street.	Township School Board Administrator	Completed	Roof was replaced – municipal budget	Discontinue	This project has been completed; therefore, it will not be included in the 2016 HMP Update.
Backup generator for Fire Station located on Witherspoon Street.	Township OEM Coordinator	In Progress	Old generator needs to be replaced; due to budget constraints, this project has been completed	Include in 2016 HMP Update	Purchase and install a generator at the fire station located on Witherspoon Street.
Retrofit roof to meet current high wind standards on Emergency Medical Services Squad building located on Harrison Street.	Township OEM Coordinator	No Progress	The EMS Squad is a non-profit LLC. They are currently fundraising to build a new facility. This project has not been completed because of this effort.	Discontinue	
Backup generator for Emergency Medical Services Squad located on Harrison Street.	Township OEM Coordinator	No Progress	The EMS Squad is a non-profit LLC. They are currently fundraising to build a new facility. This project has not been completed because of this effort.	Discontinue	
Harden Jadwin Gym located on Facility Road to FEMA 361 Standards.	Township School Board Administrator	No Progress	Property is owned by the University; Princeton is not responsible for it	Discontinue	This property is not owned by the municipality; therefore, it will not be included in the 2016 HMP update.
Develop "All Hazards" public education and outreach program for hazard mitigation and preparedness.	Township and Borough OEM Coordinator	In Progress	Programs in place	Include in 2016 HMP	

OEM = Office of Emergency Management.



### **Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy**

There are no additional mitigation projects/activities identified that have also been completed but were not identified in the previous mitigation strategy in the 2011 Plan.

### **Proposed Hazard Mitigation Initiatives for the Plan Update**

Mercer County hosted a mitigation action workshop in November 2015 where the following FEMA publications were provided to all plan participants to use as a resource as part of the municipal 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 December 2015, 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. Additionally, Princeton attended a mitigation action webinar held in April 2016.

Table 9.10-12 summarizes the comprehensive-range of specific mitigation initiatives Princeton 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.’ Table 9.10-13 summarizes the evaluation of each mitigation initiative, listed by Action Number.



Table 9.10-12. 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
Princeton-1	In the municipal/operating budget and the capital improvements budget, include a line item for mitigation project funding.	N/A	All	All	Administration	High	Low	Municipal Budget	Short Term	Medium	LPR	PR, ES
Princeton-2	Purchase and install a generator at the following facilities: <ul style="list-style-type: none"> <li>• Monument Hall / Senior Center</li> <li>• Municipal Pump Stations</li> <li>• Municipal facility on Harrison Street</li> <li>• All public schools in Princeton</li> <li>• Fire Station on Witherspoon Street</li> </ul>	Existing	All	1, 2, 6	Administration	High	High	HMGP with local cost share; municipal budget	Short Term / DOF	High	SIP	PP
Princeton-3	Purchase portable generators and lights to use during emergencies and utility outages.	N/A	All	1, 2, 6	DPW	High	Medium to High	Municipal Budget; grant funding where available	Short term / DOF	High	SIP	PP, ES
Princeton-4	Purchase a tree truck and utility bucket truck to meet the needs of the municipality.	N/A	All	1, 2, 6	DPW	High	High	Municipal Budget; grant funding where available	Short term / DOF	Medium	SIP	PP, ES
Princeton-5	Continue to enhance tree trimming program in the municipality.	Existing	Hurricane / Tropical Storm, Severe Weather, Severe Winter Weather	1, 2, 6	DPW and Engineering	Medium	Low	Municipal Budget	Short Term / Ongoing	High	NSP	NR
Princeton-6	Create mutual aid agreements with Princeton University, Montgomery (Somerset County), and Lawrence Township.	N/A	All	1, 2, 5, 6	DPW	Medium	Low	Municipal Budget	Short Term / Ongoing	High	LPR	ES, PR





Table 9.10-12. 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
Princeton-7	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable. Phase 1: Identify appropriate candidates and determine most cost-effective mitigation option (in progress). Phase 2: Work with the property owners to implement selected action based on available funding and local match availability.											
	See above.	Existing	Flood, Severe Weather, Wildfire, Severe Winter Weather	All	Engineering via NFIP FPA with NJOEM, FEMA support	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Ongoing (outreach and specific project identification); Long term DOF (specific project application and implementation)	High	SIP	PP
Princeton-8	Work with utility companies to identify areas where hardening / retrofitting and/or burying utility lines along the roadway would be beneficial.	Existing	All	1, 2, 4, 6	DPW, Administration, Utility Companies	Medium to High	High	Grant funding where available	DOF	Medium	LPR	PR
Princeton-9	Upgrade/improve the stormwater management system along Harrison Street.	Existing	Flood, Severe Weather	1, 2, 6	DPW, Administration	High	Medium	Municipal Budget	Short Term / DOF	High	SIP	PP
Princeton-10	When it comes time to replace the windows and doors of the municipal building, the windows will meet current high wind standards.	Existing	Hurricane / Tropical Storm, Severe Weather, Severe Winter Weather	1, 2	Administration	Medium	Medium	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Princeton-11	When it comes time to replace the roof of the municipal facility on Harrison Street, the roof will meet current high wind standards.	Existing	Hurricane / Tropical Storm, Severe Weather, Severe Winter Weather	1, 2	DPW, Administration	Medium	Medium	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Princeton-12	When it comes time to replace the windows and doors of the	Existing	Hurricane / Tropical	1, 2	Fire Chief	Medium	Medium	Municipal Budget	Short Term / DOF	Medium	LPR	PR





Table 9.10-12. 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
	fire company building on Chestnut Street, the windows will meet current high wind standards.		Storm, Severe Weather, Severe Winter Weather									
Princeton-13	When the roof of the municipal building on Witherspoon Street needs to be replaced, it will meet current high wind standards.	Existing	Hurricane / Tropical Storm, Severe Weather, Severe Winter Weather	1, 2	Administration	Medium	Medium	Municipal Budget	Short Term / DOF	Medium	LPR	PR
Princeton-14	Develop "All Hazards" public education and outreach program for hazard mitigation and preparedness.	New and Existing	All	All	OEM	High	Low	Municipal Budget	Short Term / Ongoing	High	LPR, EAP	PR, PI

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  
 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 (discontinued)  
 SRL Severe Repetitive Loss Grant Program (discontinued)

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:

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:







Costs:

- 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:

- 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 9.10-13. 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
Princeton-1	In the municipal/operating budget and the capital improvements budget, include a line item for mitigation project funding.	0	0	1	1	1	1	1	0	0	1	1	1	0	0	8	Medium
Princeton-2	Purchase and install a generator at the following facilities: <ul style="list-style-type: none"> <li>• Monument Hall / Senior Center</li> <li>• Municipal Pump Stations</li> <li>• Municipal facility on Harrison Street</li> <li>• All public schools in Princeton</li> <li>• Fire Station on Witherspoon Street</li> </ul>	1	1	1	1	0	0	0	0	1	1	1	1	1	0	9	High
Princeton-3	Purchase portable generators and lights to use during emergencies and utility outages.	1	1	1	1	0	0	0	0	1	1	1	1	1	0	9	High
Princeton-4	Purchase a tree truck and utility bucket truck to meet the needs of the municipality.	1	1	1	1	0	0	0	1	0	0	1	1	1	0	8	Medium
Princeton-5	Continue to enhance tree trimming program in the municipality.	1	1	1	1	0	0	1	1	1	1	1	1	0	0	10	High
Princeton-6	Create mutual aid agreements with Princeton University, Montgomery (Somerset County), and Lawrence Township.	1	1	1	1	0	0	1	1	1	1	1	1	0	0	10	High
Princeton-7	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage, with repetitive loss and severe repetitive loss properties as a priority when applicable.	1	1	1	1	0	0	0	1	1	1	1	1	0	0	9	High
Princeton-8	Work with utility companies to identify areas where hardening / retrofitting and/or burying utility	0	1	1	1	0	0	0	1	1	1	1	0	0	0	7	Medium





Table 9.10-13. 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
	lines along the roadway would be beneficial.																
Princeton-9	Upgrade/improvement the stormwater management system along Harrison Street.	1	1	1	1	1	1	0	1	1	1	1	0	0	0	10	High
Princeton-10	When it comes time to replace the windows and doors of the municipal building, the windows will meet current high wind standards.	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium
Princeton-11	When it comes time to replace the roof of the municipal facility on Harrison Street, the roof will meet current high wind standards.	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium
Princeton-12	When it comes time to replace the windows and doors of the fire company building on Chestnut Street, the windows will meet current high wind standards.	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium
Princeton-13	When the roof of the municipal building on Witherspoon Street needs to be replaced, it will meet current high wind standards.	1	1	1	1	0	0	0	0	1	1	1	0	0	0	7	Medium
Princeton-14	Develop "All Hazards" public education and outreach program for hazard mitigation and preparedness.	1	1	1	1	0	1	1	0	1	1	1	1	0	0	10	High

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



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### 9.10.8 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

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None at this time.

### 9.10.9 HAZARD AREA EXTENT AND LOCATION

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Hazard area extent and location maps have been generated for Princeton 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 Princeton has significant exposure. Figure 9.10-2 and Figure 9.10-3 illustrate the hazard area extent for the municipality.

### 9.10.10 ADDITIONAL COMMENTS

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None at this time.

DRAFT



Figure 9.10-2. Princeton Hazard Area Extent and Location Map 1

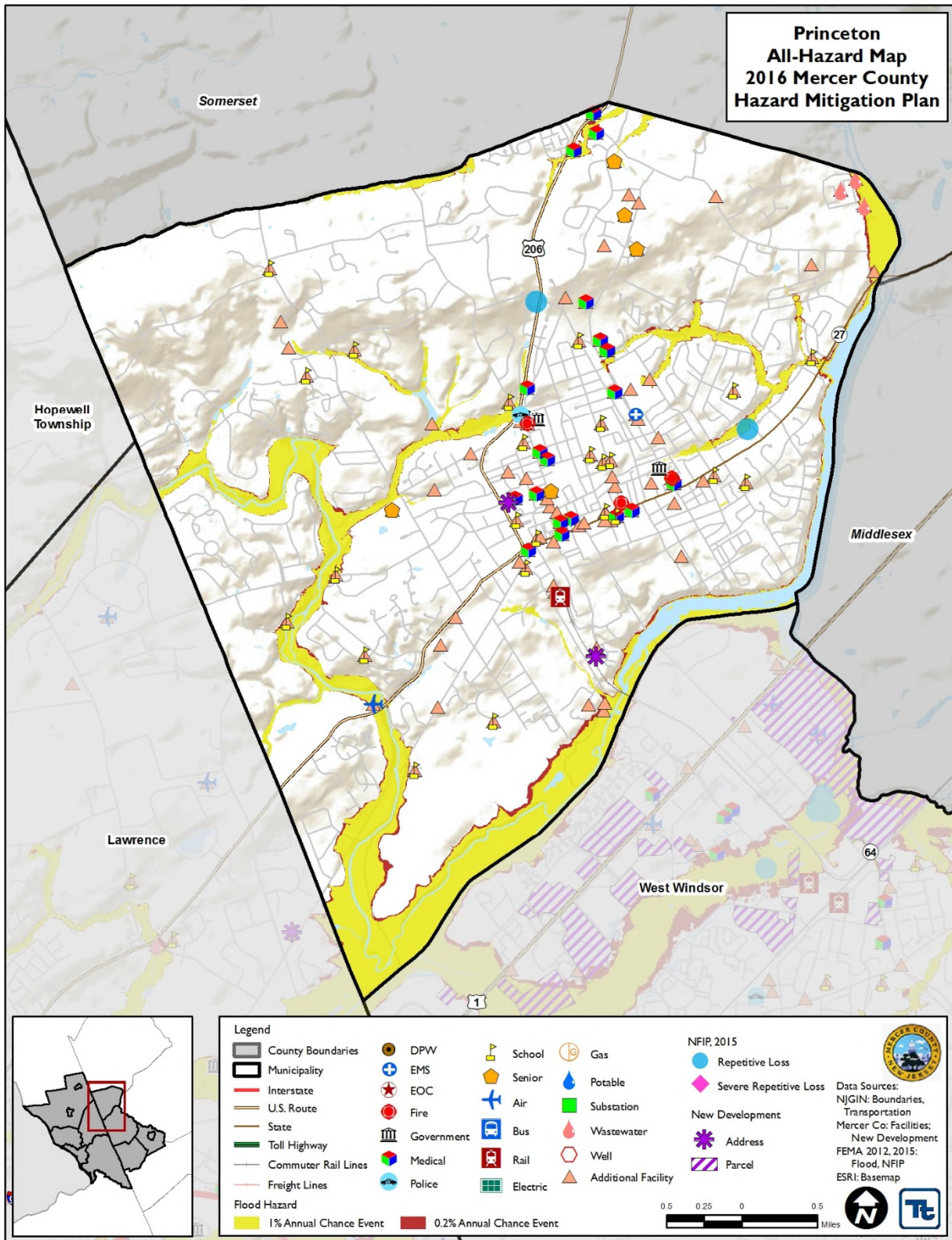
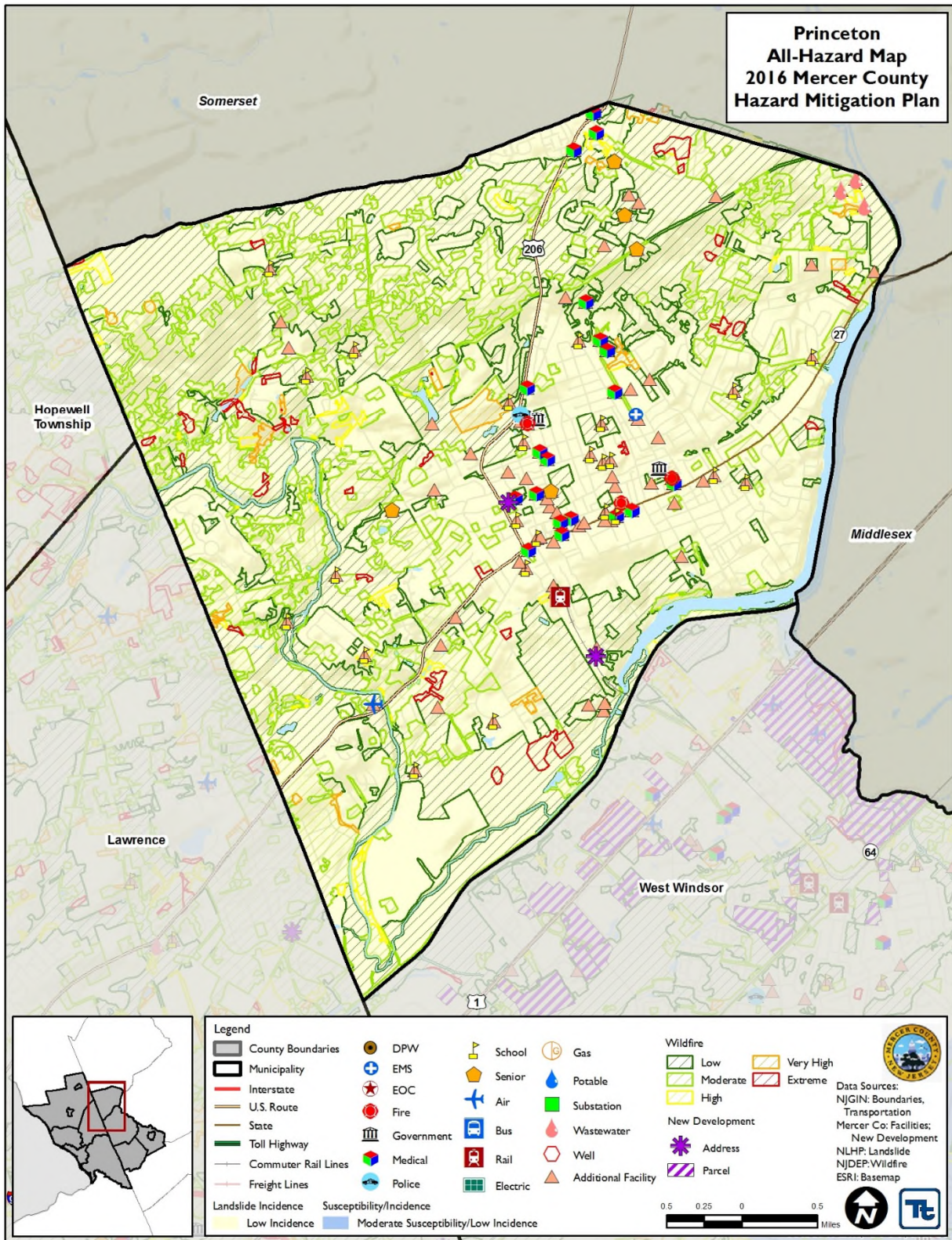






Figure 9.10-3. Princeton Hazard Area Extent and Location Map 2





Action Number: Princeton-2

Mitigation Action/Initiative: Generators

Assessing the Risk	
Hazard(s) addressed:	All
Specific problem being mitigated:	Lack of emergency backup power for essential facilities and shelters in Princeton
Evaluation of Potential Actions/Projects	
Actions/Projects Considered (name of project and reason for not selecting):	1. Purchase and install generators at identified facilities
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
Description of Selected Action/Project	Purchase and install a generator at the following facilities: <ul style="list-style-type: none"> <li>• Monument Hall / Senior Center</li> <li>• Municipal Pump Stations</li> <li>• Municipal facility on Harrison Street</li> <li>• All public schools in Princeton</li> <li>• Fire Station on Witherspoon Street</li> </ul>
Action/Project Category	SIP
Goals/Objectives Met	1, 2, 6
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	Administration
Local Planning Mechanism	Hazard Mitigation, Budget
Potential Funding Sources	HMGP with local cost share; municipal budget
Timeline for Completion	Short Term / DOF
Reporting on Progress	
Date of Status Report/ Report of Progress	Date: Progress on Action/Project:





**Action Number:** Princeton-2

**Mitigation Action/Initiative:** Generators

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Allow essential facilities to function during periods of power outages
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	Need to seek grant funding; use municipal budget where available
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:**

Princeton-3

**Mitigation Action/Initiative:**

Purchase portable generators and lights to use during emergencies and utility outages.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	Lack of portable generators and lights to use during emergencies
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Purchase portable generators and lights to use during emergencies and utility outages.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase portable generators and lights to use during emergencies and utility outages.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	N/A
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	DPW
<b>Local Planning Mechanism</b>	Budget
<b>Potential Funding Sources</b>	Grant funding where available; municipal budget
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



**Action Number:** Princeton-3

**Mitigation Action/Initiative:** Purchase portable generators and lights to use during emergencies and utility outages.

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	0	
Legal	0	
Fiscal	0	Need to seek grant funding if available; use municipal budget where available
Environmental	0	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	9	
<b>Priority (High/Med/Low)</b>	High	



**Action Number:** Princeton-4  
**Mitigation Action/Initiative:** Purchase a tree truck and utility bucket truck to meet the needs of the municipality.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	There is a need for a tree truck and a utility bucket truck in Princeton to assist with maintaining the tree maintenance program
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Purchase a tree truck and utility bucket truck to meet the needs of the municipality.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase a tree truck and utility bucket truck to meet the needs of the municipality.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	N/A
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium to High
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	DPW
<b>Local Planning Mechanism</b>	Budget
<b>Potential Funding Sources</b>	Municipal Budget; grant funding where available
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



Action Number: Princeton-4

Mitigation Action/Initiative: Purchase a tree truck and utility bucket truck to meet the needs of the municipality.

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	Protect properties from tree damage
Cost-Effectiveness	1	
Technical	1	
Political	0	
Legal	0	
Fiscal	0	Lack of funding; need to seek grant funding if available or use budget to purchase
Environmental	1	
Social	0	
Administrative	0	
Multi-Hazard	1	
Timeline	1	
Local Champion	1	
Other Community Objectives	0	
Total	8	
Priority (High/Med/Low)	Medium	



**Action Number:** Princeton-9  
**Mitigation Action/Initiative:** Upgrade/improvement the stormwater management system along Harrison Street.

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	Inadequate stormwater management system long Harrison Street
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Upgrade/improvement the stormwater management system along Harrison Street.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Upgrade/improvement the stormwater management system along Harrison Street.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	DPW
<b>Local Planning Mechanism</b>	Budget
<b>Potential Funding Sources</b>	Municipal Budget
<b>Timeline for Completion</b>	Short Term / DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



Action Number: Princeton-9

Mitigation Action/Initiative: Upgrade/improvement the stormwater management system along Harrison Street.

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	Need to use municipal budget to fund
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	0	
Local Champion	0	
Other Community Objectives	0	
Total	10	
Priority (High/Med/Low)	High	