



## 9.7 TOWNSHIP OF HOPEWELL

This section presents the jurisdictional annex for the Township of Hopewell and includes resources and information to assist public and private sectors with reducing losses from future hazard events. This annex is not intended as guidance for actions to take during a disaster. Rather, this annex provides actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex includes a general overview of the municipality and who in the community participated in the planning process, an assessment of the Township of Hopewell’s risk and vulnerability, the different capabilities, and an action plan that will be implemented to achieve a more resilient community.

### 9.7.1 Hazard Mitigation Planning Team

The Township of Hopewell followed the planning process described in Section 2 (Planning Process) in Volume I of this plan update and developed the annex over the course of several months with input from many municipal departments as summarized in the table below. The primary and alternate points of contact represented the community on the Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity, including the Township of Hopewell hazard mitigation plan primary and alternate points of contact. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 2 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.7-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
<b>Name/Title:</b> Will Mullen, Public Safety Tech <b>Address:</b> 201 Washington Crossing – Pennington Road Titusville, NJ 08560-1410 <b>Phone Number:</b> 609-737-0605 ext. 5690 <b>Email:</b> <a href="mailto:wmullen@hopewelltp.org">wmullen@hopewelltp.org</a>	<b>Name/Title:</b> Matthew Martin, Chief/Fire Safety <b>Address:</b> 201 Washington Crossing – Pennington Road Titusville, NJ 08560-1410 <b>Phone Number:</b> 609-730-8156 ext. 4010 <b>Email:</b> <a href="mailto:mmartin@hopewelltpfire.org">mmartin@hopewelltpfire.org</a>
<b>NFIP Floodplain Administrator</b>	
<b>Name/Title:</b> George Snyder, Acting Township Administrator/Director of Public Works <b>Address:</b> 201 Washington Crossing – Pennington Road Titusville, NJ 08560-1410 <b>Phone Number:</b> 609-737-0605 <b>Email:</b> <a href="mailto:gsnyder@hopewelltp.org">gsnyder@hopewelltp.org</a>	
<b>Additional Contributors</b>	
<b>Name/Title:</b> George Snyder, Acting Township Administrator/Director of Public Works <b>Method of Participation:</b> Provided information on past events, capabilities, hazard rankings, contributed to mitigation strategy	
<b>Name/Title:</b> Kevin Oswald, Municipal Code Official <b>Method of Participation:</b> Provided permit information	
<b>Name/Title:</b> <b>Method of Participation:</b>	

### 9.7.2 Municipal Profile

Hopewell Township is located in the northwestern corner of Mercer County and encompasses 58.9 square miles. It is bordered to the north by the Townships of East Amwell and West Amwell, to the south by Ewing and Lawrence Townships, to the east by Princeton and the Townships of Montgomery and West Windsor, and to the



west by the Delaware River. In addition to the Delaware River, the following waterbodies are found in the Township: Beden Brook, Stony Brook, Woolsey Brook, Moores Creek, Jacobs Creek, Delaware and Raritan Canal, Rosedale Lake, Baldwin Lake, and Curlis Lake.

There are numerous unincorporated communities in the Township that include: Akers Corner, Baldwins Corner, Bear Tavern, Centerville, Coopers Corner, Federal City, Glenmoore, Harbourton, Harts Corner, Marshalls Corner, Moore, Mount Rose, Pleasant Valley, Stoutsburg, Titusville, Washington Crossing and Woodsville. Washington Crossing State Park is also located in the western part of the Township.

According to the U.S. Census, the 2010 population for the Township of Hopewell was 17,304. The estimated 2019 population was 18,067, a 4.4 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.8 percent of the population is 5 years of age or younger and 16.8 percent is 65 years of age or older. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

### 9.7.3 Jurisdictional Capability Assessment and Integration

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

- An assessment of planning, legal and regulatory capabilities.
- Development and permitting capabilities.
- An assessment of administrative and technical capabilities
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community’s adaptive capacity to withstand hazard events.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. Annex development included reviewing planning and policy documents and surveying each jurisdiction to obtain a better understanding of their progress in plan integration and how risk reduction is supported. Areas with current mitigation integration are summarized in this jurisdictional Capability Assessment (Section 9.7.3). The updated mitigation strategy includes opportunities the Township of Hopewell identified for integration of mitigation concepts to be incorporated into municipal procedures.

#### Planning, Legal, and Regulatory Capability

Section 5 (Capability Assessment) provides an overview of the planning, legal, and regulatory capabilities. The table below summarizes the regulatory tools that are available to the Township of Hopewell, what is present in the jurisdiction, and code citation and date.

**Table 9.7-2. Planning, Legal, and Regulatory Capability**

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Codes, Ordinances, &amp; Regulations</b>					
<b>Building Code</b>	Yes	Yes	State Uniform Construction Code Act	State and Local	Construction



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
			(N.J.S. 52:27D-119 et seq.), Chapter XI		
<p>How does this reduce risk?</p> <ul style="list-style-type: none"> <li>Adopts the International Building Code.</li> <li>The State of New Jersey has adopted the 2018 International Building Code (IBC). Flood design provisions are found in the Building Subcode (Section 1612), Residential Subcode, Rehabilitation Subcode, and Plumbing, Mechanical, and Fuel Gas subcodes. The flood provisions are deemed by FEMA to meet or exceed NFIP requirements for buildings and structures.</li> <li>The IBC includes design requirements for structural wind resistance. Design wind speeds in New Jersey vary based on structure type and location, with higher wind design speeds required in coastal areas.</li> </ul>					
<b>Zoning/Land Use Code</b>	Yes	Yes, if the jurisdiction has a planning board	Revised General Ordinance Chapter XVII – Articles VIII and IX	Local	Community Development
<p>How does this reduce risk?</p> <ul style="list-style-type: none"> <li>The Land Use and Development ordinance includes hazard mitigation related measures to: <ul style="list-style-type: none"> <li>To guide the appropriate use of development of all land in Hopewell Township in a manner which will promote the public health, safety, morals, and general welfare;</li> <li>To secure safety from fire, flood, panic and other natural and man-made disasters;</li> <li>To provide adequate light, air and open space;</li> <li>To promote the establishment of appropriate population densities and concentrations that will contribute to the well being of persons, neighborhoods, communities and regions and preservation of the environment;</li> <li>To encourage the appropriate and efficient expenditure of public funds by the coordination of public development with land use policies;</li> <li>To provide sufficient space in appropriate locations for a variety of agricultural, residential, recreational, commercial and industrial uses and open space, both public and private, according to their respective environmental requirements in order to meet the needs of all New Jersey citizens;</li> <li>To promote the conservation of open space and valuable natural resources and to prevent urban sprawl and degradation of the environment through improper use of land;</li> </ul> </li> </ul>					
<b>Subdivision Ordinance</b>	Yes	Yes, if the jurisdiction has a planning board	Revised General Ordinance Chapter XVII – Article III	Local	Community Development
<p>How does this reduce risk?</p> <ul style="list-style-type: none"> <li>Every subdivision plat must be approved by the planning board (or by the board of adjustment) as a condition for the filing of the plat with the county recording officer.</li> <li>Every use, other than agricultural uses or one or two dwelling unit residential purposes, shall receive site plan approval by the planning board (or by the board of adjustment if it has jurisdiction pursuant to section 17-53g) as a condition for the issuance of a building permit if the work to be done involves (i) a new structure, or a conditional use or use variance, or new parking area or new egress to a public right-of-way; or (ii) the alteration of a structure which would increase the total floor area or any outside dimension of the structure; or (iii) the alteration of a structure which would facilitate a change in the nature of the use resulting in different parking, drainage, and/or other design criteria as required by this chapter; or (iv) the alteration of a residential structure or its parking area or driveway in order to initiate or expand any home occupation or office or professional use of the premises.</li> </ul>					
<b>Stormwater Management Ordinance</b>	Yes	Yes	Revised General Ordinance Chapter XVII – Article VI, Section 17-82	Local	Engineering
<p>How does this reduce risk?</p> <ul style="list-style-type: none"> <li>The purpose of this section is to establish minimum stormwater management requirements and controls for both “major and minor development”, as defined herein, and to reduce the amount of non-point source pollution entering surface groundwater. These requirements proactively guide new development to minimize harmful impacts to natural resources to: <ul style="list-style-type: none"> <li>1. Reduce flood damage, protecting public health, life and property;</li> <li>2. Minimize increased stormwater runoff rates and volumes;</li> <li>3. Minimize the deterioration of existing structures that would result from increased rates of stormwater runoff;</li> </ul> </li> </ul>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<ul style="list-style-type: none"> <li>○ 4. Increase water recharge into the ground wherever suitable infiltration, soil permeability, and favorable geological conditions exist;</li> <li>○ 5. Prevent an increase in non-point source pollution;</li> <li>○ 6. Maintain the integrity and stability of stream channels and buffers for their ecological functions, as well as for drainage, and the conveyance of floodwaters;</li> <li>○ 7. Control and minimize soil erosion and the transport of sediment;</li> <li>○ 8. Minimize public safety hazards at any stormwater detention facility constructed pursuant to a subdivision or site plan approval;</li> <li>○ 9. Maintain adequate base-flow and natural flow regimes in all streams and other surface water bodies to protect the aquatic ecosystem;</li> <li>○ 10. Protect all surface water resources from degradation; and</li> <li>○ 11. Protect groundwater resources from degradation and diminution.</li> </ul> <ul style="list-style-type: none"> <li>● New Jersey municipalities enact stormwater management ordinances to regulate runoff quantity and quality, groundwater recharge, and erosion control. Municipalities are required to update their municipal stormwater control ordinance to reflect amendments to the Stormwater Management rules at N.J.A.C. 7:8, adopted March 2, 2020 and should use NJ DEP's Model Stormwater Control Ordinance for Municipalities.</li> <li>● Stormwater ordinances for major development require mitigating runoff by requiring that peak runoff rates for the 2, 10, and 100-year storms be below pre-construction conditions and not increase flood damage downstream of the site.</li> </ul>					
<b>Post-Disaster Recovery/ Reconstruction Ordinance</b>	No	No	-	-	-
How does this reduce risk?					
<b>Real Estate Disclosure</b>	Yes	Yes	N.J.A.C. 13:45A-29.1	State	State, Division of Consumer Affairs
How does this reduce risk? Before signing a contract of sale, all purchasers must receive a New Jersey Public Offering Statement (POS) approved by the New Jersey Real Estate Commission. The POS provides information such as estimated completion dates for improvements, fees for services and amenities, the type of title and ownership interest being offered, its proximity to hospitals, schools, fire and police, as well as any hazards, risks or nuisances in or around the subdivision.					
<b>Growth Management</b>	Yes	Yes, if the jurisdiction has a planning board	Revised General Ordinance Chapter XVII – Article XVI	Local	Planning Board
How does this reduce risk?					
<b>Site Plan Ordinance</b>	Yes	Yes, if the jurisdiction has a planning board	Revised General Ordinance Chapter XVII – Article III	Local and County	Community Development
How does this reduce risk?					
<b>Environmental Protection Ordinance</b>	Yes	Yes, depends on type of environmental areas	Chapter 12, Environmental Control	Local	Administration
How does this reduce risk? <ul style="list-style-type: none"> <li>● Includes requirements for soil erosion and sediment control, flood damage prevention, stream corridor protection, forest management and tree removal.</li> </ul>					
<b>Flood Damage Prevention Ordinance</b>	Yes	Yes	Revised General Ordinance Chapter XII – Section 12-2	Federal, State, County and Local	Community Development
How does this reduce risk? <ul style="list-style-type: none"> <li>● It is the purpose of this section 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 to: <ul style="list-style-type: none"> <li>○ a. Protect human life and health;</li> <li>○ b. Minimize expenditure of public money for costly flood control projects;</li> </ul> </li> </ul>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<ul style="list-style-type: none"> <li>○ c. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;</li> <li>○ d. Minimize prolonged business interruptions;</li> <li>○ e. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, bridges located in areas of special flood hazard;</li> <li>○ f. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;</li> <li>○ g. Ensure that potential buyers are notified that property is in an area of special flood hazard; and</li> <li>○ h. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.</li> </ul>					
<b>Wellhead Protection</b>	No	No	-	-	-
How does this reduce risk?					
<b>Emergency Management Ordinance</b>	No	No	-	-	-
How does this reduce risk?					
<b>Climate Change Ordinance</b>	No	No	-	-	-
How does this reduce risk?					
<b>Disaster Recovery Ordinance</b>	No	No	-	-	-
How does this reduce risk?					
<b>Disaster Reconstruction Ordinance</b>	No	No	-	-	-
How does this reduce risk?					
<b>Other</b>	No	-	-	-	-
<b>Codes, Ordinances, &amp; Regulations Connection to Mitigation and Safe Growth</b>					
<b>Prior to zoning changes or development approvals, does the jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use? PLACEHOLDER</b>					
<b>Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? PLACEHOLDER</b>					
<b>Does the ordinance require developers to take additional actions to mitigate natural hazard risk? PLACEHOLDER</b>					
<b>Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? PLACEHOLDER</b>					
<b>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? PLACEHOLDER</b>					
<b>Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources? PLACEHOLDER</b>					
<b>Do the regulations allow density/development transfers where hazard areas exist? PLACEHOLDER</b>					
<b>Planning Documents</b>					
<b>Master Plan</b>	Yes, 2009/2011	Yes	HT Planning Board Resolution #11-016	Local	Community Development
How does this reduce risk?					
<ul style="list-style-type: none"> <li>• Outlines long term developments and goals for the Township.</li> </ul>					
<b>Capital Improvement Plan</b>	Yes	Allowed	Annual Budget	Local	Finance





	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
How does this reduce risk? <ul style="list-style-type: none"> <li>Allocates funds for potential mitigation projects.</li> </ul>					
<b>Disaster Debris Management Plan</b>	No	No	-	-	-
How does this reduce risk? <ul style="list-style-type: none"> <li>The Township intends to develop a Disaster Debris Management Plan.</li> </ul>					
<b>Floodplain Management or Watershed Plan</b>	Yes	No	A Multi-Jurisdictional Flood Mitigation Plan for Municipalities in the Non-tidal, New Jersey Section of the Delaware River Basin, 2008	Regional	Delaware River Basin Commission
How does this reduce risk?					
<b>Stormwater Management Plan</b>	Yes	Yes	HT Planning Board Resolution # 05-20	Local	Engineering
How does this reduce risk? <ul style="list-style-type: none"> <li>Guides stormwater management within the Township.</li> </ul>					
<b>Stormwater Pollution Prevention Plan</b>	No	Yes	-	-	-
How does this reduce risk?					
<b>Urban Water Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Habitat Conservation Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Economic Development Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Shoreline Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Community Wildfire Protection Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Community Forest Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Transportation Plan</b>	Yes 2009-2010	No	Route 546 Bikeway Planning and Development Study (with Lawrence Township and Pennington Borough)	Local, Regional	Community Development
<i>How does this reduce risk?</i>					
<b>Agriculture Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Climate Action/ Resiliency Plan</b>	No	No	-	-	-





	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<i>How does this reduce risk?</i>					
<b>Tourism Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Business/ Downtown Development Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Other</b>	No	-	-	-	-
<b>Planning Connection to Mitigation and Safe Growth</b>					
<b>How are your plans contributing to risk reduction in your community?</b> PLACEHOLDER					
<b>Does the future land use map clearly identify natural hazard areas?</b> PLACEHOLDER					
<b>Do the land use policies discourage development or redevelopment within natural hazard areas?</b> PLACEHOLDER					
<b>Does the land use plan provide adequate space for expected future growth in areas located outside natural hazard areas?</b> PLACEHOLDER					
<b>Is transportation policy used to guide growth to safe locations?</b> PLACEHOLDER					
<b>Are transportation systems designed to function under disaster conditions (e.g. evacuation)?</b> PLACEHOLDER					
<b>Are environmental systems that protect development from hazards identified and mapped (i.e., dunes, rip rap, defensible space, wetlands/natural shoreline)?</b> PLACEHOLDER					
<b>Do environmental policies maintain and restore protective ecosystems?</b> PLACEHOLDER					
<b>Response/Recovery Planning</b>					
<b>Emergency Operations Plan</b>	Yes	Yes	OEM Annexes for Public Works, Health, etc.	Local	OEM
<i>How does this reduce risk?</i>					
<b>Strategic Recovery Planning Report</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Post-Disaster Recovery Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Continuity of Operations Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Public Health Plan</b>	Yes	Yes	OEM Annexes for Public Works, Health, etc.	Local	OEM
<i>How does this reduce risk?</i>					
<b>Other</b>	No	-	-	-	-
<b>Response/Recovery Planning Connection to Mitigation and Safe Growth</b>					
<b>How do your response/recovery plans contribute to risk reduction in your community?</b>					
<ul style="list-style-type: none"> <li>Emergency Operations Plan (EOP):</li> </ul>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<ul style="list-style-type: none"> <li>o NJ Rev Stat § App.A:9-43.2 (2013) requires a written Emergency Operations Plan (EOP) for each county and municipality in the State that coordinates with neighboring jurisdictions.</li> <li>o EOPs must address the needs of animals and individuals with animals; evacuation procedures for hospitals and health care facilities; and addressing evacuation of families and dependents of emergency responders.</li> <li>o EOPs must include a basic plan as well as Emergency Support Functions (ESF) annexes that address public information, hazardous materials, emergency warnings, and related subjects.</li> <li>o Emergency operations plans must be certified for approval by the New Jersey Office for Emergency Management.</li> </ul>					
<p><b>Does your EOP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards? Yes</b></p>					

### Development and Permitting Capability

The table below summarizes the capabilities of the Township of Hopewell to oversee and track development.

**Table 9.7-3. Development and Permitting Capability**

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? - If yes, what department is responsible? - If no, what is your process for development?	Yes	Municipal Code Official
Are permits tracked by hazard area? (For example, floodplain development permits.)		
Do you have a buildable land inventory? - If yes, describe. - If no, quantitatively describe the level of buildout in the jurisdiction.		

### Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Township of Hopewell and their current responsibilities which contribute to hazard mitigation.

**Table 9.7-4. Administrative and Technical Capabilities**

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
<b>Administrative Capability</b>		
Planning Board	Yes	Community Development. The statutory functions and powers of the Planning Board are: <ul style="list-style-type: none"> <li>• To develop and update the Master Plan of the Township, which guides the land uses and development of the Township.</li> <li>• To develop, maintain, and recommend changes to the Official Zoning Map and the Land Use and Zoning Ordinance.</li> <li>• To review and control the creation of land subdivisions, site plans of permitted non-</li> </ul>





Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
		residential uses and conditional use applications within the Township. <ul style="list-style-type: none"> <li>To review, if authorized, the Township Capital Improvement Program.</li> </ul>
Zoning Board of Adjustments	Yes	Board of Adjustment. The Board of Adjustment has the power to grant variances and other relief from the zoning ordinances of the Township.
Planning Department	Yes	Community Development. The Community Development Department staff assist the Planning Board with coordination of development applications and planning studies.
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Community Development, Environmental Commission. The Hopewell Township Environmental Commission has been organized and functioning for years. It meets monthly and advises Hopewell Township on matters of environmental import ranging from development reviews to matters of sustainability to matters of open space and environmental stewardship.
Open Space Board/Committee	Yes	Community Development, Open Space Commission. The purpose of the Committee is to embark along with Hopewell Valley partner municipalities upon a long range program to acquire and preserve natural resources, manage the pace of growth and enhance the quality of life for the residents of Hopewell Township, Hopewell Borough and Pennington Borough.
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Department of Public Works. The Department of Public Works includes the following areas of responsibility: public works administration; 144 miles of roads including winter maintenance; buildings and grounds; fleet maintenance for all township vehicles including police; stormwater systems; sanitary sewer collection and conveyance systems; water supply systems; parks, recreation and open space maintenance; and 24/7 support during emergencies and catastrophic events. These areas of responsibility require adherence to guidelines, law, and rules set forth by Federal, State and Local agencies.
Construction/Building/Code Enforcement Department	Yes	<p>The Construction Department is responsible for enforcing the regulations of the State Uniform Construction Code, to make sure that new construction (commercial, industrial, and residential) conforms to minimum standards and safety.</p> <p>Township inspectors review structural construction, plumbing, heating and air conditioning, and electrical work prior to the issuance of a certificate of occupancy to insure compliance with the New Jersey edition of the International Building Code, International Residential Code, and State Uniform Construction Code.</p>
Emergency Management/Public Safety Department	Yes	Police Department



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Swift 911, Guardian software
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works
Mutual aid agreements	Yes	Administration, Hopewell Police (Hopewell Borough)
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?		
Other	Yes	Health Department. The Hopewell Township Health Department provides state-mandated services and is staffed by State licensed public health professionals. These include a Health Officer, Registered Environmental Health Specialist, Animal Control Officer, Registered Nurse and Registrar of Vital Statistics.  The department provides prevention oriented health services as well as regulatory environmental and communicable disease services in the community.
<b>Technical/Staffing Capability</b>		
Planners or engineers with knowledge of land development and land management practices	Yes	Municipal Engineer and Consulting Planner
Engineers or professionals trained in building or infrastructure construction practices	Yes	Municipal Engineer and Construction Official
Planners or engineers with an understanding of natural hazards	Yes	Municipal Engineer
Staff with expertise or training in benefit/cost analysis	Yes	Municipal Engineer/Chief Financial Officer
Professionals trained in conducting damage assessments	Yes	Construction Official
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	Police/Dispatcher
Scientist familiar with natural hazards	No	-
Surveyor(s)	Yes	Consulting Surveyor
Emergency Manager	Yes	Police Chief
Grant writer(s)		Are data and maps from the HMP used to support documentation in grant applications?
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)		
<b>How do your administrative/technical capabilities contribute to risk reduction in your community? PLACEHOLDER</b>		

### Fiscal Capability

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



**Table 9.7-5. Fiscal Capabilities**

Financial Resources	Are these accessible or eligible to use for mitigation? (Yes/No) If yes, please describe. If no, can this be used to support in the future?
Community development Block Grants (CDBG, CDBG-DR)	No
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	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No
<b>Fiscal Connection to Mitigation and Safe Growth</b>	
<b>How do your fiscal capabilities contribute to risk reduction in your community?</b> PLACEHOLDER	
<b>When constructing upcoming budgets, hazard mitigation actions will be funded as budget allows. Construction projects will be evaluated to see if they meet the hazard mitigation goals.</b> PLACEHOLDER	
<b>Annually, the jurisdiction will review mitigation actions when allocating funding.</b> PLACEHOLDER	
<b>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards?</b> PLACEHOLDER	
<b>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards?</b> PLACEHOLDER	
<b>Do budgets provide funding for hazard mitigation projects identified in the County HMP?</b> PLACEHOLDER	

**Education and Outreach Capability**

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

**Table 9.7-6. Education and Outreach Capabilities**

Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Public information officer or communications office		
Personnel skilled or trained in website development		
Hazard mitigation information available on your website		
Social media for hazard mitigation education and outreach	Yes	Website, Social Media



Outreach Resources	Available? (Yes/No)	Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events? If yes, please describe.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Green Team, Deer Management Advisory Committee, Historic Preservation Commission, Open Space Advisory Commission
Other programs already in place that could be used to communicate hazard-related information		
Warning systems for hazard events	Yes	Swift911, Guardian Tracking software
Natural disaster/safety programs in place for schools		
Other	No	-

### Community Classifications

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

**Table 9.7-7. Community Classifications**

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	Unknown	Unknown
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	04/4Y	June 2015
Sustainable Jersey	Yes	Bronze	October 13, 2017
StormReady Certification	No	-	-
Firewise Communities classification	No	-	-

Note:

- N/A Not applicable
- NP Not participating
- Unavailable

The Township participates in the Sustainable Jersey program and has achieved bronze certification. The Township earned credit for the following actions relating to hazard mitigation:

- *Environmental Commission:* The Hopewell Township Environmental Commission has been organized and functioning for years. It meets monthly and advises Hopewell Township on matters of environmental import ranging from development reviews to matters of sustainability to matters of open space and environmental stewardship.
- *Tree Protection Ordinance:* In furtherance the Master Plan goals, the Hopewell Township Environmental Commission worked with the Hopewell Township Planning Board to develop criteria by which tree removal would be regulated. The effort began in 2008 and culminated in 2012 with the Hopewell Township Committee adopting Ordinance #12-1554 titled “Forest Management and Tree Removal”. Work product was reviewed at public meeting of the Environmental Commission and Hopewell Township Planning Board.



### Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2014). In other words, it describes a jurisdiction’s current capabilities to adjust to, protect from, or withstand a future hazard event, future conditions, and changing risk. The table below summarizes the adaptive capacity for each hazard of concern and the jurisdiction’s rating.

**Table 9.7-8. Adaptive Capacity**

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Dam Failure	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Earthquake	Moderate
Flood	Weak
Geological Hazards	Moderate
Hazmat	Moderate
Hurricane	Moderate
Infestation and Invasive Species	Moderate
Nor’Easter	Moderate
Severe Weather	Moderate
Severe Winter Weather	Strong
Wildfire	Moderate

\*Strong = Capacity exists and is in use, Moderate = Capacity may exist; but is not used or could use some improvement, Weak = Capacity does not exist or could use substantial improvement.

### 9.7.4 National Flood Insurance Program (NFIP) Compliance

The table below provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the NFIP.

**Table 9.7-9. NFIP Summary**

NFIP Topic	Comments
<b>Flood Vulnerability Summary</b>	
<ul style="list-style-type: none"> <li># NFIP Policies: 86</li> <li># RL properties: 5</li> <li># SRL properties: 3</li> <li># RL/SRL mitigated: 0</li> </ul>	<ul style="list-style-type: none"> <li># claims filed: 37</li> <li>Total loss payments: \$1,268,298</li> </ul>
Describe areas prone to flooding in your jurisdiction.	Areas that are flood-prone include locations along the southern and north ends of the Township near the Delaware River and along Stony Brook Creek.
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation, and if so, how many are interested in (elevation or acquisition)?	
How do you make Substantial Damage determinations? <ul style="list-style-type: none"> <li>How many were declared for recent flood events in your jurisdiction?</li> </ul>	Yes, work with state and partner agencies.
Detail any RiskMAP projects currently underway in your jurisdiction.	



NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	
<b>NFIP Administration</b>	
What local department is responsible for floodplain management?	Township Administrator
Are any staff certified floodplain managers (CFMs) or is a consultant retained?	
Provide an explanation of who in your municipality provides NFIP administration services (permit review, GIS, education/outreach, inspections, engineering capability).	
What specific training or support does your floodplain management staff need to support its floodplain management program?	
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	
Do you have access to resources to determine possible future flooding conditions from climate change?	
<b>NFIP Compliance</b>	
List any outstanding NFIP compliance violations.	
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	October 17, 1994
What is the local law number or municipal code of your flood damage prevention ordinance? What is the date that your flood damage prevention ordinance was last amended?	Revised General Ordinance Chapter XII – Section 12-2, 2016
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets but the Flood Damage Prevention Ordinance requires update.
Are there other local ordinances, plans, or programs (site plan review, consideration of flood risk reduction when granting height variances) that support floodplain management and meeting the NFIP requirements?	
Does your jurisdiction participate in CRS? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No

Source: FEMA Region 2 2016

Notes:

RL—Repetitive Loss; SRL—Severe Repetitive Loss; NA—Not applicable

### 9.7.5 Growth/Development Trends

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to understanding a jurisdiction’s overall risk to its hazards of concern. The table below summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.

The Assistant Community Development Coordinator advised that SFHA totals for permits are not available.





Table 9.7-10. Recent and Expected Future Development

Type of Development	2016		2017		2018		2019		2020		2021	
Number of Building Permits for New Construction Issued Since the Previous HMP* (within regulatory floodplain/ outside regulatory floodplain)												
	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA	Total	Within SFHA
Single Family	9	N/A	5	N/A	8	N/A	2	N/A	5	N/A	3	N/A
Multi-Family	0	N/A	0	N/A	2	N/A	0	N/A	0	N/A	0	N/A
Other (commercial, mixed-use, etc.)	13	N/A	4	N/A	18	N/A	19	N/A	17	N/A	3	N/A
<b>Total Permits Issued</b>	<b>22</b>	<b>N/A</b>	<b>9</b>	<b>N/A</b>	<b>28</b>	<b>N/A</b>	<b>21</b>	<b>N/A</b>	<b>22</b>	<b>N/A</b>	<b>6</b>	<b>N/A</b>
Property or Development Name	Type of Development	# of Units / Structures		Location (address and/or block and lot)		Known Hazard Zone(s)*		Description / Status of Development				
<b>Recent Major Development and Infrastructure from 2015 to Present</b>												
None identified												
<b>Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years</b>												
None anticipated												

SFHA Special Flood Hazard Area (1% annual chance flood event)

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

### 9.7.6 Jurisdictional Risk Assessment

The hazard profiles in Section 4 (Risk Assessment) provide detailed information regarding each plan participant’s vulnerability to the identified hazards. Section 4.2 (Methodology and Tools), Section 4.3 (Hazards of Concern), and Section 4.4 (Hazard Ranking) provide a detailed summary for the Township of Hopewell’s risk assessment results, and data used to determine the hazard ranking are discussed later in this section.

Hazard area extent and location maps provided below illustrate the probable areas impacted within the jurisdiction. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps were only generated for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Hopewell has significant exposure. The maps also show the location of potential new development, where available.



Figure 9.7-1. Township of Hopewell Hazard Area Extent and Location Map 1

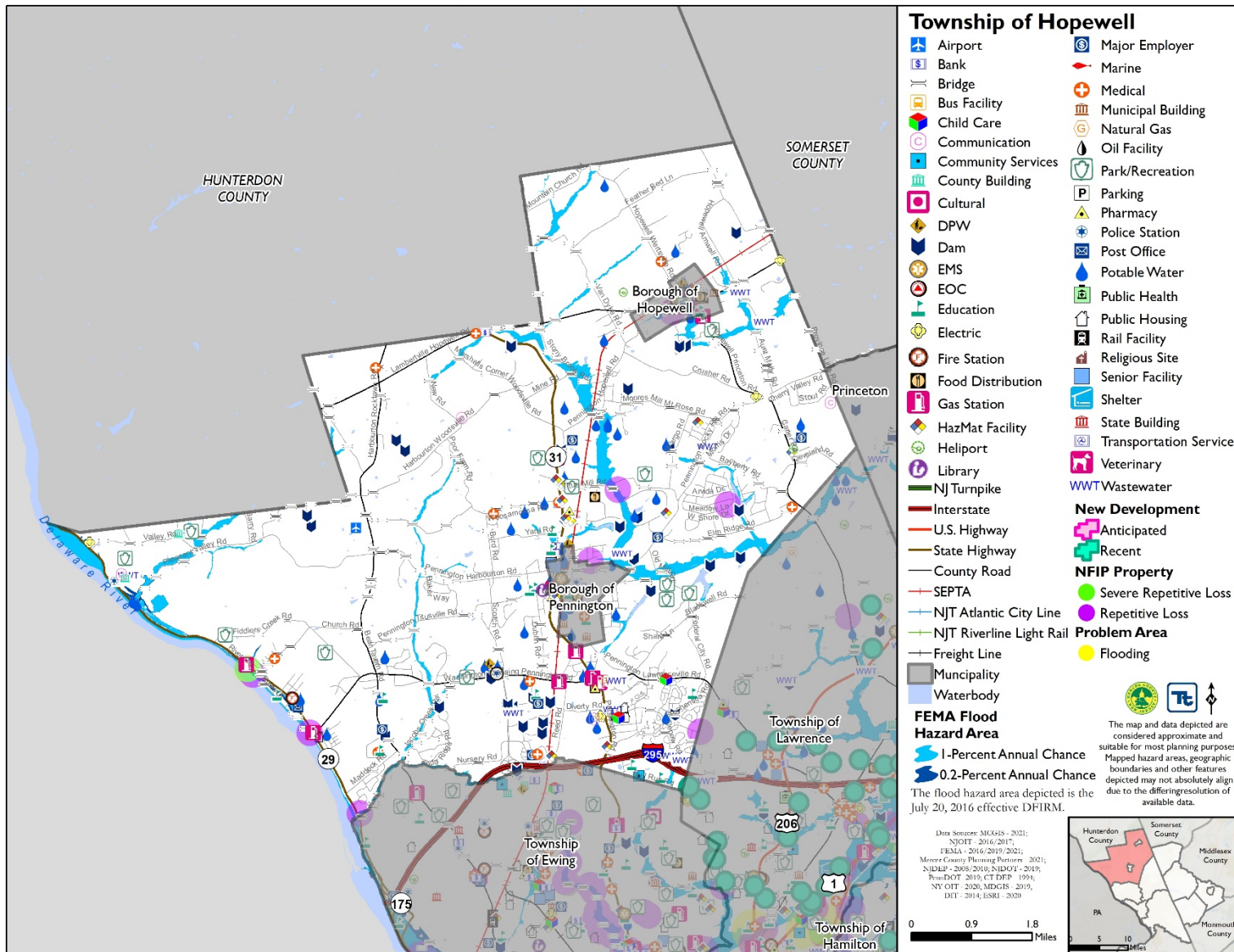




Figure 9.7-2. Township of Hopewell Hazard Area Extent and Location Map 2

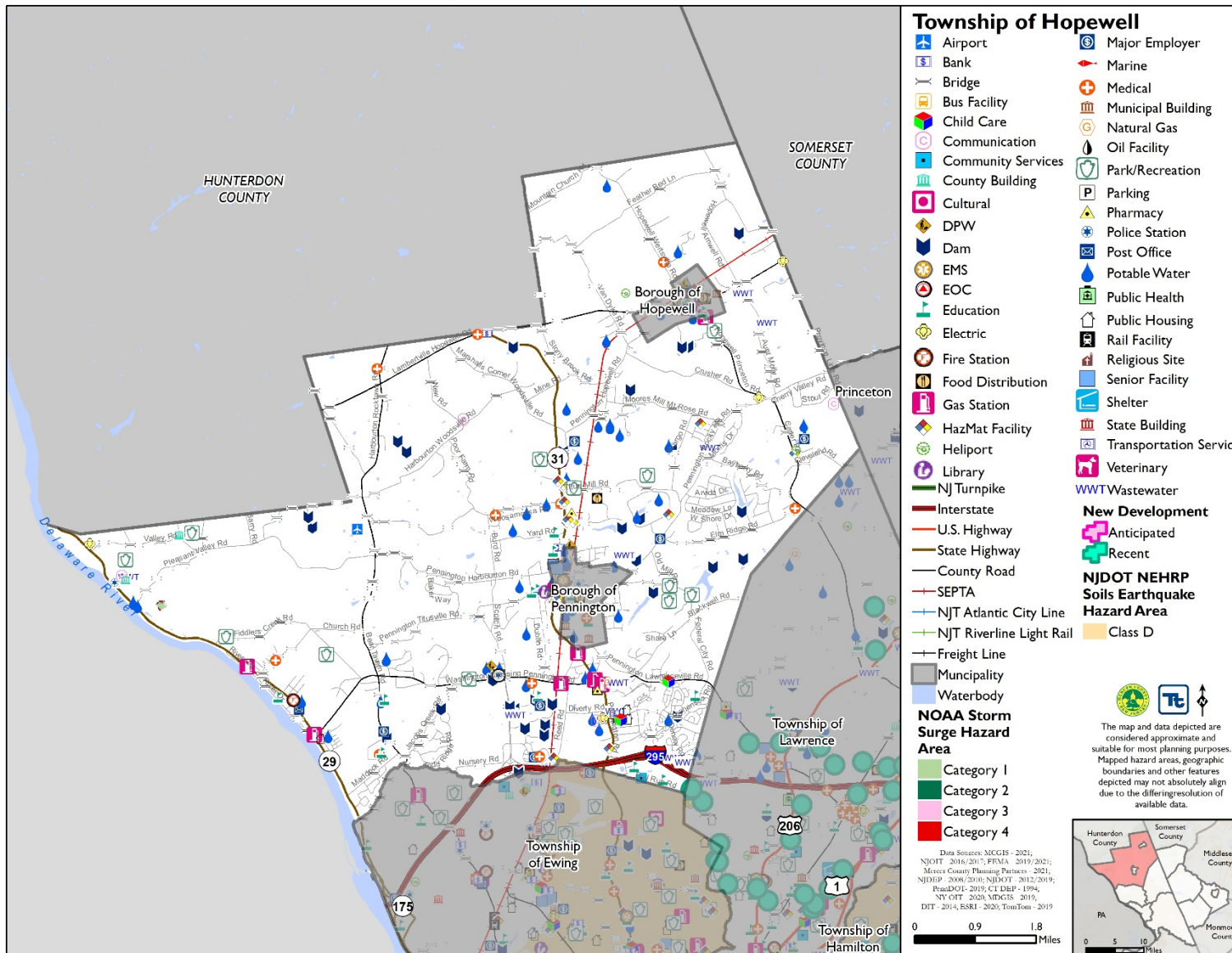






Figure 9.7-3. Township of Hopewell Hazard Area Extent and Location Map 3

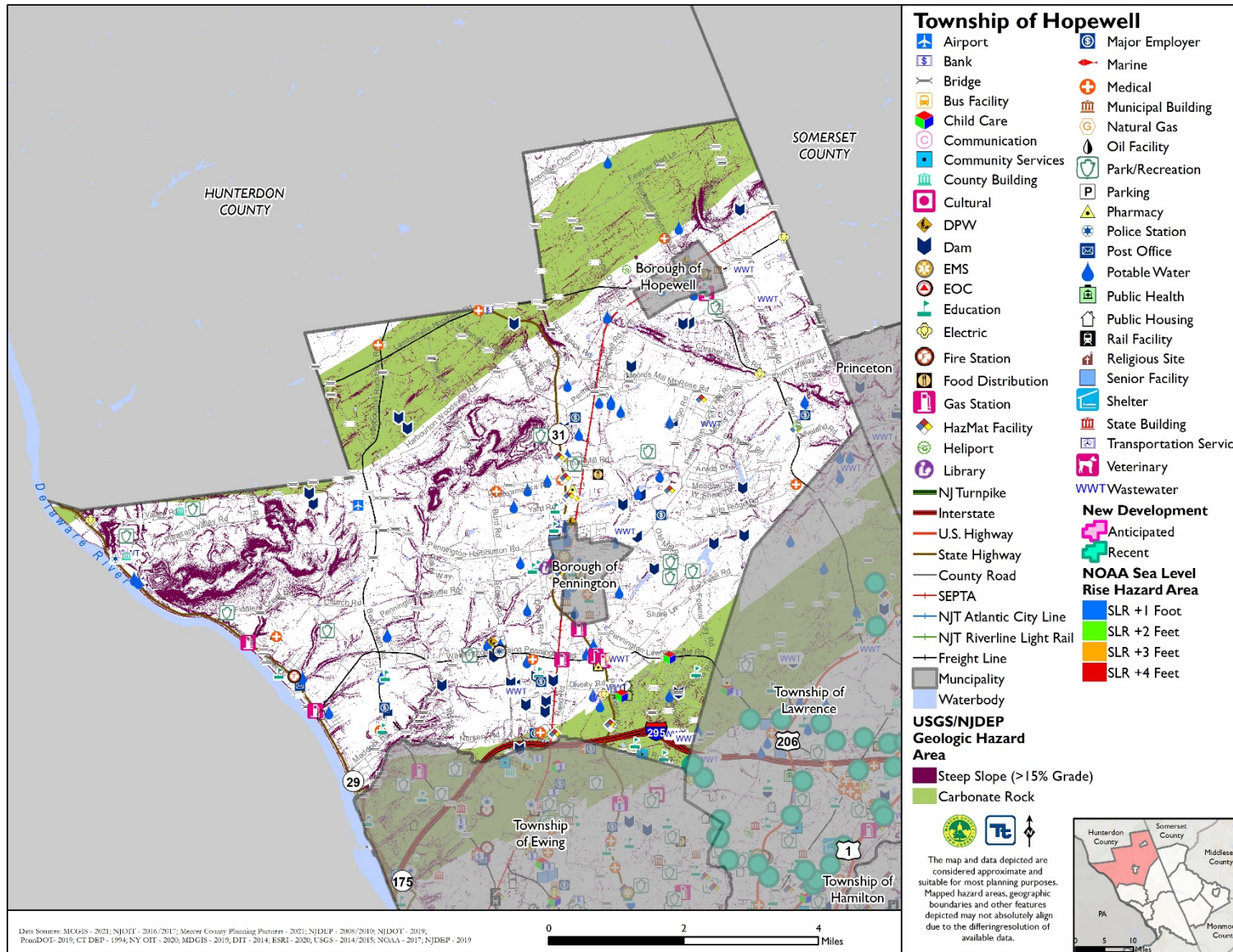
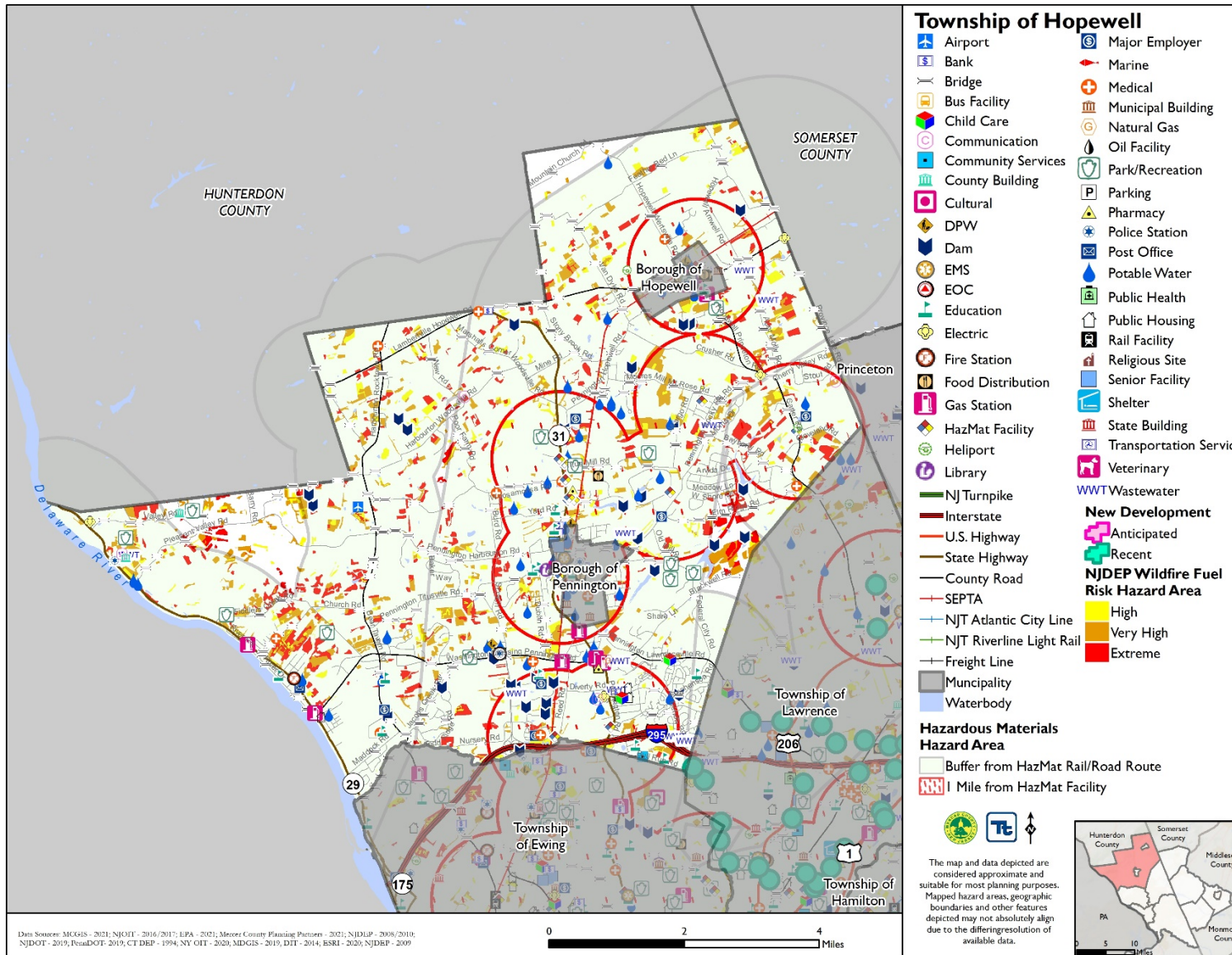




Figure 9.7-4. Township of Hopewell Hazard Area Extent and Location Map 4







**Hazard Event History**

Mercer County has a history of natural hazard events as detailed in Section 4 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the county and its municipalities.

The Township of Hopewell’s history of federal declarations (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Mercer County. The table below provides details regarding municipal-specific loss and damages the County experienced during hazard events since the last hazard mitigation plan update. Information provided in the table below is based on reference material or local sources.

**Table 9.7-11. Hazard Event History**

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
February 13-14, 2015	Cold/Wind Chill	No	The center of an arctic air mass brought some of the lowest wind chills and temperatures of the winter season to New Jersey. Wind chill factors were recorded as low as 22 degrees below zero, with actual temperatures reaching - 2°F.	Many local governments across the area set up Code Blue shelters for the vulnerable population
January 22 – 24, 2016	Blizzard (DR-4264-NJ)	Yes	A low-pressure system moved up along the Carolina Coast intensifying into a major nor’easter, producing record snowfall in New Jersey on January 23. Wind gusts reached upwards of 60 mph and visibility was one-quarter mile or less throughout the region. Damages across the state were estimated at \$82.6 million.	Up to 24 inches of snow was reported in Mercer County.
March 7, 2018	Winter Storm	No	A low pressure system moved northeast across Delaware and New Jersey bringing a wintery snow/rain mix overnight on March 6. Across the state, snowfall totals ranged from 6 to 24 inches. Heavy, wet snow downed trees and limbs leaving 350,000 customers state-wide without power.	Up to 11.5 inches of snowfall was reported in Mercer County.
August 4, 2020	Tropical Storm	N/A	Tropical Storm Isaias brought high winds, heavy rain, several tornadoes, and coastal flooding to the mid-Atlantic region, becoming the most impactful tropical cyclone to impact most of the region since Sandy in 2012.	24 downed trees. 20 roads closed.
January 20, 2020 – Present	Covid-19 Pandemic (EM-3451-NJ) (DR-4488-NJ)	Yes	Beginning on January 20, 2020, the pandemic resulting from the Coronavirus Disease (COVID-19) created conditions of sufficient severity and magnitude to warrant a disaster declaration in the State of New Jersey.	The coronavirus pandemic resulted in closures and masking and social distancing requirements.

**Hazard Ranking and Vulnerabilities**

The hazard profiles in Section 4.3 (Hazards of Concern) of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the Township of Hopewell’s risk assessment results and data used to determine the hazard ranking.







**Hazard Ranking**

This section provides the community specific identification of the primary hazard concerns based on identified problems, impacts and the results of the risk assessment as presented in Section 4 (Risk Assessment) of the plan. The ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy as well as community capability and changing future climate conditions. This input supports the mitigation action development to target those hazards with highest level of concern.

As discussed in Section 4.4 (Hazard Ranking), each participating jurisdiction can have differing degrees of risk exposure and vulnerability compared with Mercer County as a whole. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the Township of Hopewell. The Township of Hopewell reviewed the community’s hazard risk/vulnerability risk ranking table, including municipal-specific results, to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard/vulnerability risk ranking, the Township of Hopewell indicated the following:

- The Township agreed with the calculated hazard rankings.

**Table 9.7-12. Hazard Ranking Input**

Dam Failure	Disease Outbreak	Drought	Earthquake	Flood	Geological Hazards	Hazardous Materials
High	High	Medium	Low	High	Low	High

Hurricane/ Tropical Storm	Infestation and Invasive Species	Nor’Easter	Severe Weather	Severe Winter Weather	Wildfire
High	High	Medium	High	High	Medium

Note: The scale is based on the hazard rankings established in Section 4.4 (Hazard Ranking) and modified as appropriate during review by the jurisdiction.

**Critical Facilities**

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

**Table 9.7-13. Potential Flood Losses to Critical Facilities**

Name	Type	Exposure	
		1% Event	0.2% Event
214.12 - PENNINGTON-HARBOURTON RD CR 623 OVER JACOBS CRK	Bridge	X	X
252.2 - HOPEWELL-ROCKY HILL RD RT 518 OVER BEDEN BRK TRIB	Bridge	X	X
252.14 - AUNT MOLLY RD OVER BEDEN BRK TRIB	Bridge	X	X
237.5 - VAN DYKE RD OVER STONY BRK TRIB	Bridge	X	X
233.20 - FEDERAL CITY RD OVER STONY BRK TRIB	Bridge	X	X
230.7 - PENNINGTON-ROCKY HILL RD CR 624 OVER STONY BRK	Bridge	X	X
211.4 - VALLEY RD OVER MOORES CRK	Bridge	X	X
250.2 - AUNT MOLLY RD OVER BEDEN BRK	Bridge	X	X





Name	Type	Exposure	
		1% Event	0.2% Event
230.9 - OLD MILL RD OVER STONY BRK	Bridge	X	X
216.6 - WASHINGTON CROSSING-PENNINGTON RD RT 546 OVER WOOLSEYS BRK	Bridge	X	X
214.4 - WASHINGTON CROSSING-PENNINGTON RD RT 546 OVER JACOBS CRK	Bridge	X	X
250.1 - PROVINCE LINE RD OVER BEDEN BRK	Bridge	X	X
239.3 - LAMBERTVILLE-HOPEWELL RD RT 518 OVER WOODSVILLE BRK	Bridge	X	X
211.12 - PLEASANT VALLEY RD OVER MOORES CRK TRIB	Bridge	X	X
212.12 - RIVER DR OVER FIDDLERS CRK	Bridge	X	X
214.3 - JACOBS CREEK RD CR 637 OVER JACOBS CRK TRIB	Bridge	X	X
214.14 - PENNINGTON-HARBOURTON RD CR 623 OVER JACOBS CRK TRIB	Bridge	X	X
214.15 - WOOSAMONSA RD OVER JACOBS CRK	Bridge	X	X
216.1 - JACOBS CREEK RD CR 637 OVER WOOLSEYS BRK TRIB	Bridge	X	X
234.6 - LAMBERTVILLE-HOPEWELL RD RT 518 OVER STONY BRK TRIB	Bridge	X	X
211.6 - PLEASANT VALLEY RD OVER MOORES CRK TRIB	Bridge	X	X
STONY BROOK W.S. # 5 (BALDWIN) DAM	Dam	X	X
STONY BROOK #3 (ROSEDALE LAKE) DAM	Dam	X	X
STONY BROOK #4 (CURLIS LAKE) DAM	Dam	X	X
214.2 - BEAR TAVERN RD RT 579 OVER JACOBS CRK	Bridge	X	X
2-442.5 - BULL RUN RD OVER SHABAKUNK CRK	Bridge	X	X
230.3 - MINE RD OVER STONY BRK	Bridge	X	X
211.13 - HUNTER RD OVER MOORES CRK	Bridge	X	X
250.3 - HOPEWELL-PRINCETON RD RT 569 OVER BEDEN BRK	Bridge	X	X
230.10 - PENNINGTON-HOPEWELL RD CR 654 OVER STONY BRK	Bridge	X	X
239.2 - MARSHALLS CORNER-WOODSVILLE RD CR 612 OVER WOODSVILLE BRK	Bridge	X	X
214.6 - PENNINGTON-TITUSVILLE RD OVER JACOBS CRK	Bridge	X	X
233.8 - FEDERAL CITY RD OVER STONY BRK TRIB	Bridge	X	X
236.3 - YARD RD OVER BALDWIN LK TRIB (BALDWINS CRK)	Bridge	X	X
232.1 - ELM RIDGE RD CR 625 OVER HONEY BR	Bridge	X	X
234.8 - LAMBERTVILLE-HOPEWELL RD RT 518 OVER STONY BRK TRIB	Bridge	X	X



Name	Type	Exposure	
		1% Event	0.2% Event
230.5 - TITUS MILL RD OVER STONY BRK	Bridge	X	X
217.5 - RIVER DR OVER DELAWARE RIV TRIB	Bridge	X	X
218.1 - RIVER DR OVER DELAWARE RIV TRIB	Bridge	X	X
230.6 - PENNINGTON-ROCKY HILL RD CR 624 OVER STONY BRK TRIB	Bridge	X	X
230.8 - OLD MILL RD OVER STONY BRK TRIB	Bridge	X	X
232.3 - PENNINGTON-ROCKY HILL RD OVER HONEY BR	Bridge	X	X
232.9 - BAYBERRY RD OVER HONEY BR TRIB	Bridge	X	X
234.4 - LAMBERTVILLE-HOPEWELL RD RT 518 OVER STONY BRK TRIB	Bridge	X	X
237.1 - STONY BROOK RD OVER STONY BRK TRIB	Bridge	X	X
237.2 - VAN DYKE RD OVER STONY BRK TRIB	Bridge	X	X
237.4 - MOUNTAIN CHURCH RD OVER STONY BRK TRIB	Bridge	X	X
252.8 - HOPEWELL-ROCKY HILL RD RT 518 OVER BEDEN BRK TRIB	Bridge	X	X
234.7 - VAN DYKE RD OVER STONY BRK TRIB	Bridge	X	X
234.9 - STONY BROOK RD OVER STONY BRK TRIB	Bridge	X	X
235.2 - TITUS MILL RD OVER STONY BRK TRIB	Bridge	X	X
235.8 - STONY BROOK RD OVER STONY BRK TRIB	Bridge	X	X
HOWELL LIVING FARM MAIN BUILDING	Park/Recreation	X	X
TITUSVILLE PRESBYTERIAN CHURCH	Religious	-	X
STONY BROOK SEWERAGE AUTHORITY PLANT 1	Wastewater Treatment Plant	X	X
HOPEWELL VALLEY GOLF CLU	Potable Water Well	X	X
HOPEWELL VALLEY GOLF CLU	Potable Water Well	X	X
WELL 4	Potable Water Well	X	X
WELL 1	Potable Water Well	X	X
WELL 3	Potable Water Well	X	X
218.2 - RIVER DR OVER DELAWARE RIV TRIB	Bridge	X	X
STONY BROOK #14 (HONEY LAKE) DAM	Dam	X	X
218.3 - RIVER DR OVER DELAWARE RIV TRIB	Bridge	X	X
211.5 - PLEASANT VALLEY RD OVER MOORES CRK TRIB	Bridge	X	X



Name	Type	Exposure	
		1% Event	0.2% Event
236.1 - N MAIN ST (FORMER ALIGNMENT) OVER BALDWIN LK TRIB (BALDWINS CRK)	Bridge	X	X
250.4 - OLD MOUNT ROSE RD OVER BEDEN BRK	Bridge	X	X
235.7 - PENNINGTON-HOPEWELL RD (FORMER ALIGNMENT) OVER STONY BRK	Bridge	X	X

Source: Mercer County 2021, FEMA 2016

### Identified Issues

After review of the Township of Hopewell’s hazard event history, hazard rankings, jurisdiction specific vulnerabilities, hazard area extent and location, and current capabilities, the Township of Hopewell has identified the following vulnerabilities within their community:

- Hilhela Pond is an important water resource for fire suppression. The pond is used to draw water from as fire hydrants are limited in the area. Over time, the pond has become silted in and over vegetated, making drawing water difficult. The pond also has overflowed and caused flooding during recent heavy rain events. A beaver has further complicated efforts to maintain fire department access and reduce flooding.
- The CSX 39.05 bridge over Titus Mill Road is clogged with debris, increasing the flood risk.
- Stony Brook overtopping Old Mill and Titus Mill Roads. The bridges have been replaced. However, they are overtopped 1-4 times a year impacting emergency services. These are Mercer County bridges, but the Township owns the attached roadways.
- Electric supply infrastructure is very vulnerable to power outages. The PSE&G Mount Rose Substation serves approximately 11,000 customers who reside in and around the Mount Rose portion of Hopewell Township, including Hopewell Borough. In the past several years the station has experienced outages which has resulted in service interruptions to customers.
- Additional outreach and emergency notification capabilities are needed.
- The Township has various needs for disaster response and maintenance needed to reduce risk.
- The current flood damage prevention information contained within the land use chapter of the Township code does not meet the state’s recommendation for a code-coordinated flood damage prevention ordinance.
- The Township lacks an adopted Disaster Debris Management Plan.
- Additional integration of hazard mitigation concepts is needed in Township planning and budgeting.
- Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Township has five repetitive loss properties and three severe repetitive loss properties but other properties may be impacted by flooding as well. Areas that are flood-prone include locations along the southern and north ends of the Township near the Delaware River and along Stony Brook Creek.
- Backup power sources are necessary to maintain critical services for critical facilities. The backup power source for the Well House is undersized and needs to be replaced and upgraded.
- Power failure events occur within the Township. Utilities are privately controlled.

Specific areas of concern based on resident response to the citizen survey include:

- Electric supply infrastructure is very vulnerable to power outages.





### 9.7.7 Mitigation Strategy and Prioritization

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

#### Past Mitigation Initiative Status

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The following table indicates progress on the Township of Hopewell’s mitigation strategy identified in the 2016 HMP. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and are discussed in the ‘Capability Assessment’ presented previously in this annex.

DRAFT



Table 9.7-14. Status of Previous Mitigation Actions

2017 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2021 HMP?	
				Check if Yes	Enter 2021 HMP Action #
Hopewell Twp-1 (new)	When updating the Township’s master plan, natural hazard risk/mitigation will be incorporated.	Township Administration	In Progress	X	2021-Township of Hopewell-009
Hopewell Twp-2 (new)	When updating the Transportation Plan, include wording that limits access to hazard areas.	Township Administration	No Progress	-	-
Hopewell Twp-3 (new)	When updating the municipal ordinances, make hazard mitigation a priority.	Township Administration	No Progress	-	-
Hopewell Twp-4 (new)	During the preparation of the municipal budget, include a line item for mitigation project funding.	Township Administration	No Progress	X	2021-Township of Hopewell-009
Hopewell Twp-5 (new)	Through the Capital Improvement Budget, fund mitigation projects identified in the HMP.	Township Administration	In Progress	X	2021-Township of Hopewell-009
Hopewell Twp-6 (new)	Establish a Township community resilience committee and appoint an advisor.	Township Administration	No Progress	-	-
Hopewell Twp-7 (new)	Provide training to employees and residents regarding hazard mitigation.	Township Administration	Ongoing Capability	-	-
Hopewell Twp-8 (new)	Prepare a Continuity of Operations (COOP) plan and integrate mitigation into the plan.	Township Administration	Completed	-	-
Hopewell Twp-9 (old Hopewell Township 10)	Meet with utility companies to review work effort and establish costs for elevating utilities on floodprone properties.	OEM Coordinator and utility companies	In Progress	X	2021-Township of Hopewell-012
Hopewell Twp-10 (old Hopewell Township 11)	The Township is currently in the process of joining CRS; documentation has been completed; maintenance of plan.	OEM Coordinator	No Progress	-	-
Hopewell Twp-11	Ensure continuity of operations at critical facilities and municipal buildings. Purchase	Township	Completed	-	-







2017 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2021 HMP?	
				Check if Yes	Enter 2021 HMP Action #
(old Hopewell Township 7)	and install an emergency backup generator for shelter at Hopewell Valley Central High School on Penning Titusville Drive (two total).				
Hopewell Twp-12 (new)	Elevate Stony Brook Road to mitigate flooding.	Township and DPW	No Progress	X	2021-Township of Hopewell-003
Hopewell Twp-13 (new)	Evaluate placing utilities underground on Crusher Road	Township with utility providers	In Progress	X	2021-Township of Hopewell-012
Hopewell Twp-14 (new)	Drainage improvement on Titusmill Road adjacent roadway berms.	Township and DPW	Complete	-	-
Hopewell Twp-15 (new)	Drainage improvement on Titusmill Road underneath railroad Bridge	Township and DPW	Ongoing Capability	-	-
Hopewell Twp-16 (new)	Dredge Pond used for firefighting operations to improve water supply	DPW, Fire Department	Ongoing Capability	-	-
Hopewell Twp-17 (new)	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. Phase 2: Work with the property owners to implement selected action based on available funding and local match availability.	Engineering via NFIP FPA with NJOEM, FEMA support	No Progress	X	2021-Township of Hopewell-010



**Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy**

The Township of Hopewell has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2017 HMP:

- None identified

**Proposed Hazard Mitigation Initiatives for the HMP Update**

The Township of Hopewell participated in a mitigation action workshop in June 2021 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).

The table below indicates the range of proposed mitigation action categories.

**Table 9.7-15. Analysis of Mitigation Actions by Hazard and Category**

Hazard	FEMA						CRS			
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X		X	X		X			X
Disease Outbreak	X	X		X	X		X			X
Drought	X	X	X	X	X		X	X		X
Earthquake	X	X		X	X		X			X
Flood	X	X	X	X	X	X	X	X	X	X
Geological Hazards	X	X		X	X		X			X
Hazmat	X	X		X	X		X			X
Hurricane	X	X		X	X	X	X			X
Infestation and Invasive Species	X	X		X	X		X			X
Nor’Easter	X	X		X	X	X	X			X
Severe Weather	X	X	X	X	X	X	X	X	X	X
Severe Winter Weather	X	X		X	X	X	X			X
Wildfire	X	X	X	X	X		X	X		X

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

The table below summarizes the comprehensive range of specific mitigation initiatives the Township of Hopewell 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 9.1-17 provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.



Table 9.7-16. Proposed Hazard Mitigation Initiatives and Associated Priority

Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Timeline	Priority	Mitigation Category	CRS Category
2021-Township of Hopewell -001	Hiohela Pond	<p><b>Problem:</b> Hiohela Pond is an important water resource for fire suppression. The pond is used to draw water from as fire hydrants are limited in the area. Over time, the pond has become silted in and over vegetated, making drawing water difficult.</p> <p>The pond also has overflowed and caused flooding during recent heavy rain events. A beaver has further complicated efforts to maintain fire department access and reduce flooding.</p> <p><b>Solution:</b> The Township is working to secure permits and complete work to clear vegetation, trap the beaver, and dredge the lake.</p> <p>As work is completed, the Township will conduct a feasibility assessment to reduce flooding while maximizing the ability of the pond to be used for a water supply for firefighting, primarily through the installation of a stand pipe. Cost effective measures will be implemented.</p>	N/A	Flood, Severe Weather, Drought, Wildfire	1, 2, 5, 6	OEM, Administration, Fire Department	HMGP, BRIC, Emergency Management Grant Program, Assistance to Firefighters Grant Program, Township budget	Reduced flooding, increased firefighting capability	High	Within 5 years	High	NSP, SIP	NR, ES
2021-Township of Hopewell -002	CSX 39.05 Bridge Over Titus Mill Road	<p><b>Problem:</b> The CSX 39.05 bridge over Titus Mill Road is clogged with debris, increasing the flood risk.</p> <p><b>Solution:</b> The Township will work to clear the culvert of debris and conduct a feasibility assessment to determine if mitigation measures could be completed to reduce threat</p>	Existing	Flood, Severe Weather	1, 2	Public Works, Engineering	HMGP, BRIC, municipal budget	Reduced flood risk	High	1 year	High	SIP	SP





Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Timeline	Priority	Mitigation Category	CRS Category
		<p>of blockages and flooding. Potential measures include:</p> <ul style="list-style-type: none"> <li>Upsizing of the culvert</li> <li>Raising the bridge and roadway elevation</li> <li>Redirection of stormwater away from the area</li> </ul> <p>Cost effective measures will be implemented.</p>											
2021-Township of Hopewell -003	Elevate Bridges	<p><b>Problem:</b> Stony Brook overtopping Old Mill and Titus Mill Roads. The bridges have been replaced. However, they are overtopped 1-4 times a year impacting emergency services. These are Mercer County bridges, but the Township owns the attached roadways.</p> <p><b>Solution:</b> The Township will work with the County to elevate the bridges. An engineering study will be taken to design the elevation. The improvements will then be implemented.</p>	Existing	Flood	2	Mercer County, Engineer	County, Municipal budgets	Reduction in flood damages	High	Within 5 years	High	SIP	PP
2021-Township of Hopewell -004	Update to Mt. Rose Sub-Station	<p><b>Problem:</b> Electric supply infrastructure is very vulnerable to power outages. The PSE&amp;G Mount Rose Substation serves approximately 11,000 customers who reside in and around the Mount Rose portion of Hopewell Township, including Hopewell Borough. In the past several years the station has experienced outages which has resulted in service interruptions to customers.</p> <p><b>Solution:</b> A 69LW update to the Mt. Rose Station. It is a reconfiguration and a critical construction project that</p>	Existing	Severe Weather, Severe Winter Weather, Hurricane, Nor'Easter	1, 2, 6	PSE&G	PSE&G	Reduction in power outages	\$Multi-Million	3 years	High	SIP	PP





Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Timeline	Priority	Mitigation Category	CRS Category
		will help PSE&G continue to deliver safe, reliable electric service for residents and business in the Hopewell area, as well as central and southern New Jersey. PSE&G received authorization by PJM Interconnection, the organization responsible for supervising the transmission system in our region, to reconfigure the station to improve station reliability. This project is a multimillion-dollar investment designed to replace and upgrade electrical equipment including an additional 69kv line for power factor correction allowing for greater station resiliency.											
2021-Township of Hopewell -005	Outreach and Emergency Notification Improvements	<b>Problem:</b> Additional outreach and emergency notification capabilities are needed. <b>Solution:</b> The Township will implement Constant Contact services and purchase and use four variable message boards for outreach and emergency notifications.	N/A	All Hazards	3	OEM	Emergency Management Grant Program, Township budget	Increased awareness, preparedness	Medium	2 years	High	EAP	PI
2021-Township of Hopewell -006	Emergency Equipment	<b>Problem:</b> The Township has various needs for disaster response and maintenance needed to reduce risk. <b>Solution:</b> The Township will work to identify funding sources and purchase the following: <ul style="list-style-type: none"> <li>• Brush collection equipment</li> <li>• High water rescue vehicles</li> <li>• Portable light tower/generator trailers</li> </ul>	N/A	All Hazards	5	Public Works, OEM	Emergency Management Grant Program, Township budget	Increased emergency response and hazard maintenance capabilities	High	Within 5 years	High	SIP	ES





Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Timeline	Priority	Mitigation Category	CRS Category
		<ul style="list-style-type: none"> <li>portable pumps and generators</li> </ul>											
2021-Township of Hopwell-007	Update Building Code for Flood Issues	<p><b>Problem:</b> The current flood damage prevention information contained within the land use chapter of the Township code does not meet the state’s recommendation for a code-coordinated flood damage prevention ordinance.</p> <p><b>Solution:</b> The Township will update the flood damage prevention section of the land use chapter using the NJ DEP’s model code coordinated ordinance to create better coordination between NFIP implementation by the floodplain administrator, the New Jersey Flood Hazard Area Control Act (FHACA) implemented at the State level by the NJDEP, and the Uniform Construction Code (UCC) implemented by the Construction Official.</p>	New	Flood	2, 5	Floodplain Administrator, Administration	Township budget	Meet state and FEMA standards for flood damage prevention, reduce flood risk on new development	Staff time	6 months	Medium	LPR	PR
2021-Township of Hopwell-008	Disaster Debris Management Plan	<p><b>Problem:</b> The Township lacks an adopted Disaster Debris Management Plan.</p> <p><b>Solution:</b> The Township will complete and adopt a Disaster Debris Management Plan.</p>	Existing	All Hazards	5	Public Works, OEM	Township budget	Increased planning for post-disaster response and cleanup.	Staff time	6 months	High	LPR	ES
2021-Township of Hopwell-009	Hazard Mitigation Integration	<p><b>Problem:</b> Additional integration of hazard mitigation concepts is needed in Township planning and budgeting.</p> <p><b>Solution:</b> The Township will use information developed in the hazard mitigation planning process to</p>	N/A	All Hazards	5	Administration	Township budget	Increased integration of hazard mitigation and allocation of funding for	Staff time	1 year	High	LPR	PR







Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Timeline	Priority	Mitigation Category	CRS Category
		integrate hazard mitigation concepts when updating the Master Plan and consider allocating funding for mitigation projects in the Township budget and Capital Improvement Plan.						mitigation projects					
2021-Township of Hopwell-010	Repetitive Loss Mitigation	<p><b>Problem:</b> Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Township has five repetitive loss properties and three severe repetitive loss properties but other properties may be impacted by flooding as well. Areas that are flood-prone include locations along the southern and north ends of the Township near the Delaware River and along Stony Brook Creek.</p> <p><b>Solution:</b> Conduct outreach to 30 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).</p>	Existing	Flood, Severe Weather	1, 2	NFIP Floodplain Administrator, supported by homeowners	FEMA HMGP and FMA, local cost share by residents	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	\$3Million	3 years	High	SIP	PP
2021-Township of Hopwell-011	Generator for Well House	<p><b>Problem:</b> Backup power sources are necessary to maintain critical services for critical facilities. The backup power source for the Well House is</p>	Existing	Severe Weather, Severe Winter Weather,	1, 6	Engineer, Public Works	FEMA HMGP and BRIC, USDA Community	Ensures continuity of operations	\$75,000	Within 5 years	High	SIP	ES





Project Number	Mitigation Initiative Name	Description of Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Costs	Timeline	Priority	Mitigation Category	CRS Category
		undersized and needs to be replaced and upgraded.  <b>Solution:</b> The Engineer will research what size generator is needed to power the Well House. The Township will then purchase and install the selected generator and necessary electrical components to supply backup power to the Well House.		Hurricane, Nor'Easter			Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget	of Well House					
2021-Township of Hopwell-012	Coordinate with Utility Companies	<b>Problem:</b> Power failure events occur within the Township. Utilities are privately controlled.  <b>Solution:</b> Meet with utility companies to review work effort and establish costs for elevating utilities on flood-prone properties. Evaluate placing utilities underground on Crusher Road.	Existing	Severe Weather, Severe Winter Weather, Nor'Easter, Hurricane, Flood	5	Utility companies, Administration	Utility Companies	Planning completed to protect utilities	Staff time	2 years	High	EAP	PI

Notes:

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

Acronyms and Abbreviations:

- CAV Community Assistance Visit
- CRS Community Rating System
- DPW Department of Public Works
- EHP Environmental Planning and Historic Preservation
- 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
- BRIC Building Resilient Infrastructure and Communities Program

Timeline:

The time required for completion of the project upon implementation

Cost:

The estimated cost for implementation.

Benefits:

A description of the estimated benefits, either quantitative and/or qualitative.





Mitigation Category:

- *Local Plans and Regulations (LPR)* – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- *Structure and Infrastructure Project (SIP)* - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- *Natural Systems Protection (NSP)* – These are actions that minimize damage and losses, and 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 9.7-17. Summary Evaluation and Action Priority

Project Number	Project Name	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low
2021-Township of Hopewell-001	Hiohela Pond	1	1	0	1	1	1	0	1	1	1	1	0	1	1	11	High
2021-Township of Hopewell-002	CSX 39.05 Bridge Over Titus Mill Road	1	1	0	1	1	1	0	1	1	0	1	0	1	1	10	High
2021-Township of Hopewell-003	Elevate Bridges	1	1	1	1	1	0	0	1	1	1	0	0	1	1	10	High
2021-Township of Hopewell-004	Update to Mt. Rose Sub-Station	1	1	1	1	1	0	1	1	1	1	1	1	1	1	13	High
2021-Township of Hopewell-005	Outreach and Emergency Notification Improvements	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2021-Township of Hopewell-006	Emergency Equipment	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2021-Township of Hopewell-007	Update Building Code for Flood Issues	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2021-Township of Hopewell-008	Disaster Debris Management Plan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High
2021-Township of Hopewell-009	Hazard Mitigation Integration	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2021-Township of Hopewell-010	Repetitive Loss Mitigation	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2021-Township of Hopewell-011	Generator for Well House	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2021-Township of Hopewell-012	Coordinate with Utility Companies	1	1	0	0	1	0	0	0	1	0	1	1	1	1	8	Medium

Note: Section 6 (Mitigation Strategy), which conveys guidance on prioritizing mitigation actions. Low (0-4), Medium (5-8), High (9-14).

This action has been identified as being of highest importance to the municipality and an action that the municipality would like to complete as soon as funding is received.





### **9.7.8 Action Worksheets**

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The following action worksheets have been developed by the Township of Hopewell to aid in the submittal of grant applications to support the funding of high priority proposed actions. The State of New Jersey requires at least two projects be developed with action worksheets.

DRAFT





Action Worksheet			
<b>Project Name:</b>	Hiohela Pond		
<b>Project Number:</b>	2021-Township of Hopewell-001		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Flood, Severe Weather, Drought, Wildfire		
<b>Description of the Problem:</b>	<p>Hilhela Pond is an important water resource for fire suppression. The pond is used to draw water from as fire hydrants are limited in the area. Over time, the pond has become silted in and over vegetated, making drawing water difficult.</p> <p>The pond also has overflowed and caused flooding during recent heavy rain events. A beaver has further complicated efforts to maintain fire department access and reduce flooding.</p>		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	<p>The Township is working to secure permits and complete work to clear vegetation, trap the beaver, and dredge the lake.</p> <p>As work is completed, the Township will conduct a feasibility assessment to reduce flooding while maximizing the ability of the pond to be used for a water supply for firefighting, primarily through the installation of a stand pipe. Cost effective measures will be implemented.</p>		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<b>Level of Protection:</b>	TBD by feasibility assessment	<b>Estimated Benefits (losses avoided):</b>	Reduced flooding, increased firefighting capability
<b>Useful Life:</b>	TBD by feasibility assessment	<b>Goals Met:</b>	1, 2, 5, 6
<b>Estimated Cost:</b>	High	<b>Mitigation Action Type:</b>	Natural Systems Protections, Structure and Infrastructure Projects
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 5 years
<b>Estimated Time Required for Project Implementation:</b>	5 years	<b>Potential Funding Sources:</b>	HMGP, BRIC, Emergency Management Grant Program, Assistance to Firefighters Grant Program, Township budget
<b>Responsible Organization:</b>	OEM, Administration, Fire Department	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard mitigation planning, emergency planning
Three Alternatives Considered (including No Action)			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Current problem continues
	Elevate nearby roadways	\$500,000	Costly and may not solve problem
	Buyout homes exposed to flooding	High	Costly, negative social impacts
Progress Report (for plan maintenance)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Hiohela Pond	
<b>Project Number:</b>	2021-Township of Hopewell-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Firefighting capability increased
Property Protection	1	Reduction in flooding risk
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	1	Project would reduce flooding impacts.
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather, Drought, Wildfire
Timeline	0	Within 5 years
Agency Champion	1	OEM, Administration, Fire Department
Other Community Objectives	1	
<b>Total</b>	11	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	CSX 39.05 Bridge Over Titus Mill Road		
<b>Project Number:</b>	2021-Township of Hopewell-002		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Flood, Severe Weather		
<b>Description of the Problem:</b>	The CSX 39.05 bridge over Titus Mill Road is clogged with debris, increasing the flood risk.		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	<p>The Township will work to clear the culvert of debris and conduct a feasibility assessment to determine if mitigation measures could be completed to reduce threat of blockages and flooding. Potential measures include:</p> <ul style="list-style-type: none"> <li>• Upsizing of the culvert</li> <li>• Raising the bridge and roadway elevation</li> <li>• Redirection of stormwater away from the area</li> </ul> <p>Cost effective measures will be implemented.</p>		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<b>Level of Protection:</b>	TBD by feasibility assessment	<b>Estimated Benefits (losses avoided):</b>	Reduction in flood risk
<b>Useful Life:</b>	TBD by feasibility assessment	<b>Goals Met:</b>	1, 2
<b>Estimated Cost:</b>	High	<b>Mitigation Action Type:</b>	Structure and Infrastructure Projects
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 5 years
<b>Estimated Time Required for Project Implementation:</b>	6 months	<b>Potential Funding Sources:</b>	HMGP, BRIC, municipal budget
<b>Responsible Organization:</b>	Public Works, Engineering	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard mitigation planning
Three Alternatives Considered (including No Action)			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Current problem continues
	Elevate roadway	\$500,000	Costly and may not solve problem
	Relocate roadway	N/A	Not possible
Progress Report (for plan maintenance)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	CSX 39.05 Bridge Over Titus Mill Road	
<b>Project Number:</b>	2021-Township of Hopewell-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects life from flooding.
Property Protection	1	Protects culvert and roadway from flood damage
Cost-Effectiveness	0	
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	1	Project would reduce flooding impacts
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather
Timeline	0	Within 5 years
Agency Champion	1	Public Works, Engineering
Other Community Objectives	1	
<b>Total</b>	10	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	Repetitive Loss Mitigation		
<b>Project Number:</b>	2021-Township of Hopwell-010		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Flood, Severe Weather		
<b>Description of the Problem:</b>	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Township has five repetitive loss properties and three severe repetitive loss properties but other properties may be impacted by flooding as well. Areas that are flood-prone include locations along the southern and north ends of the Township near the Delaware River and along Stony Brook Creek.		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	Conduct outreach to 30 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<b>Level of Protection:</b>	1% annual chance flood event + freeboard ( <i>in accordance with flood ordinance</i> )	<b>Estimated Benefits (losses avoided):</b>	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.
<b>Useful Life:</b>	Acquisition: Lifetime Elevation: 30 years (residential)	<b>Goals Met:</b>	1, 2
<b>Estimated Cost:</b>	\$3Million	<b>Mitigation Action Type:</b>	Structure and Infrastructure Project
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	6-12 months
<b>Estimated Time Required for Project Implementation:</b>	Three years	<b>Potential Funding Sources:</b>	FEMA HMGP and FMA, local cost share by residents
<b>Responsible Organization:</b>	NFIP Floodplain Administrator, supported by homeowners	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard Mitigation
Three Alternatives Considered (including No Action)			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Current problem continues
	Elevate homes	\$500,000	When this area floods, the entire area is impacted; elevating homes would not eliminate the problem and still lead to road closures and impassable roads
Elevate roads	\$500,000	Elevated roadways would not protect the homes from flood damages	
Progress Report (for plan maintenance)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			





Action Worksheet		
<b>Project Name:</b>	Repetitive Loss Mitigation	
<b>Project Number:</b>	2021-Township of Hopwell-010	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Families moved out of high-risk flood areas.
Property Protection	1	Properties removed from high-risk flood areas.
Cost-Effectiveness	1	Cost-effective project
Technical	1	Technically feasible project
Political	1	
Legal	1	The Township has the legal authority to conduct the project.
Fiscal	0	Project will require grant funding.
Environmental	1	
Social	0	Project would remove families from the flood prone areas of the Township.
Administrative	0	
Multi-Hazard	1	Flood, Severe Weather
Timeline	0	
Agency Champion	1	NFIP Floodplain Administrator, supported by homeowners
Other Community Objectives	1	
<b>Total</b>	10	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	Generator for Well House		
<b>Project Number:</b>	2021-Township of Hopwell-011		
<b>Risk / Vulnerability</b>			
<b>Hazard(s) of Concern:</b>	Severe Weather, Severe Winter Weather, Hurricane, Nor'Easter		
<b>Description of the Problem:</b>	Backup power sources are necessary to maintain critical services for critical facilities. The backup power source for the Well House is undersized and needs to be replaced and upgraded.		
<b>Action or Project Intended for Implementation</b>			
<b>Description of the Solution:</b>	The Engineer will research what size generator is needed to power the Well House. The Township will then purchase and install the selected generator and necessary electrical components to supply backup power to the Well House.		
<b>Is this project related to a Critical Facility?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
<b>Level of Protection:</b>	N/A	<b>Estimated Benefits (losses avoided):</b>	Ensures continuity of operations of Well House
<b>Useful Life:</b>	20 years	<b>Goals Met:</b>	1, 6
<b>Estimated Cost:</b>	\$75,000	<b>Mitigation Action Type:</b>	Structure and Infrastructure Projects (SIP)
<b>Plan for Implementation</b>			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 5 years
<b>Estimated Time Required for Project Implementation:</b>	1 year	<b>Potential Funding Sources:</b>	FEMA HMGP and BRIC, USDA Community Facilities Grant Program, Emergency Management Performance Grants (EMPG) Program, Municipal Budget
<b>Responsible Organization:</b>	Engineer, Public Works	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard Mitigation, Emergency Management
<b>Three Alternatives Considered (including No Action)</b>			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Problem continues.
	Install solar panels	\$100,000	Weather dependent; need large amount of space for installation; expensive if repairs needed
	Install wind turbine	\$100,000	Weather dependent; poses a threat to wildlife; expensive repairs if needed
<b>Progress Report (for plan maintenance)</b>			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Generator for Well House	
<b>Project Number:</b>	2021-Township of Hopwell-011	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect critical services of Well House
Property Protection	1	Project will protect building from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	1	The Township has the legal authority to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Severe Weather, Severe Winter Weather, Hurricane, Nor'Easter
Timeline	0	Within 5 years
Agency Champion	1	Engineer, Public Works
Other Community Objectives	1	
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	