



9.13 TOWNSHIP OF WEST WINDSOR

This section presents the jurisdictional annex for the Township of West Windsor 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 West Windsor’s risk and vulnerability, the different capabilities, and an action plan that will be implemented to achieve a more resilient community.

9.13.1 Hazard Mitigation Planning Team

The Township of West Windsor 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 West Windsor 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 9.13-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Timothy Lynch, Emergency Management Coordinator Address: 271 Clarksville Road, West Windsor, NJ 08550 Phone Number: 609-799-8735 Email: tlynch@westwindsortwp.com	Name/Title: Robert Garofalo, Police Chief Address: 271 Clarksville Road, West Windsor, NJ 08550 Phone Number: 609-799-1222 Email: garfo@westwindSORpolice.com
NFIP Floodplain Administrator	
Name/Title: Francis Guzik, Township Engineer Address: 271 Clarksville Road, West Windsor, NJ 08550 Phone Number: 609-799-8735 Email: fguzik@westwindsortwp.com	
Additional Contributors	
Name/Title: Samuel J. Surtees, Manager Division of Land Use Method of Participation: Provided information on Township capabilities, floodplain administration	
Name/Title: Domenick Cardarelli, Construction Official Method of Participation: Provided permit information	
Name/Title: Timothy Lynch, Emergency Management Coordinator Method of Participation: Provided information on past events, previous actions, contributed to mitigation strategy	

9.13.2 Municipal Profile

The Township of West Windsor is located in eastern Mercer County and encompasses an area of 26.3 square miles. The Township was established on February 9, 1797 and incorporated on February 21, 1798 as one of New Jersey’s initial group of 104 municipalities. The Township of West Windsor is bordered to the north by Princeton and Middlesex County (Plainsboro Township); to the east by Middlesex County (Plainsboro and Cranbury



Townships) and East Windsor Township; to the south by Robbinsville and Hamilton Townships; and to the east by Lawrence Township. There are several bodies of water found within the Township: Duck Pond Run (Lower), Stony Brook, Delaware and Raritan Canal, Duck Pond Run, Little Bear Brook, Millstone River, Bear Brook, Miry Run, Assunpink Creek, Shipetaukin Creek, Mercer County Park Lake, Grovers and Mill Pond.

Princeton Junction is an unincorporated, census-designated place located within the Township. There are other unincorporated communities in the Township which includes: Berrien City, Clarksville, Dutch Neck, Edinburg, Edinburg Park, Golf View Manor, Grover's Mill, Millstone, Old Mill Farms, Penns Neck, Port Mercer, Post Corner, Princeton Colonial Park, Princeton Estates, Princeton Ivy East and Sherbrook Estates. A portion of Princeton University covers 400 acres south of Lake Carnegie in the Township.

According to the U.S. Census, the 2010 population for the Township of West Windsor was 27,165. The estimated 2019 population was 27,937, a 2.8 percent increase from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 4.5 percent of the population is 5 years of age or younger and 13.1 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.

9.13.3 Jurisdictional Capability Assessment and Integration

The Township of West Windsor 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 9.13.3). The updated mitigation strategy includes opportunities the Township of West Windsor 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 West Windsor, what is present in the jurisdiction, and code citation and date.

Table 9.13-2. 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
Codes, Ordinances, & Regulations					





	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
Building Code	Yes	Yes	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.), Chapter 63	State and Local	Community Development
How does this reduce risk? Adopts the Uniform Construction Code and establishes the State Uniform Construction Code enforcing agency to be known as the "Division of Code Enforcement," consisting of a Construction Official, Building Subcode Official, Plumbing Subcode Official, Electrical Subcode Official, Fire Protection Subcode Official and such other subcode officials for such additional subcodes as the Commissioner of the Department of Community Affairs, State of New Jersey. The Construction Official is the chief administrator of the enforcing agency.					
Zoning/Land Use Code	Yes	Yes, if the jurisdiction has a planning board	Chapter 200: Land Use Ordinance Part 4 Zoning	Yes	Yes, if the jurisdiction has a planning board
How does this reduce risk? The Zoning part of the Land Use chapter was adopted in order to promote and protect the public health, safety, morals and general welfare of the Township and establish zoning districts to guide development.					
Subdivision Ordinance	Yes	Yes, if the jurisdiction has a planning board	Chapter 200: Land Use Ordinance Part 2 Subdivisions	Local	
How does this reduce risk? The purpose of this Part 2 shall be to provide rules, regulations and standards to guide land subdivision in West Windsor Township in order to promote the public health, safety, convenience and general welfare of said Township and to carry out the objectives of the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.). It shall be administered to ensure the orderly growth and development, the conservation, protection and proper use of land and adequate provisions for circulation utilities and services and the conservation and environmental protection of all land, water and air resources within the jurisdiction of West Windsor Township. Application of these subdivision rules, regulations and standards should also encourage cost-performance methods and designs to enable the construction of low- and moderate-income housing without creating an adverse impact on the public health, safety and general welfare of the Township or for the future residents of the development.					
Stormwater Management Ordinance	Yes	Yes	Chapter 200: Land Use Ordinance 200-99 thru 200-111.1 Part 3 Subdivision and Site Plan, Chapter 150	Local	Community Development Engineering
How does this reduce risk? It is the purpose of this article to establish minimum stormwater management requirements and controls for "major development."					
Post-Disaster Recovery/ Reconstruction Ordinance	No	No	-	-	-
How does this reduce risk?					
Real Estate Disclosure	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.					
Growth Management	No	Yes, if the jurisdiction has a planning board	Overtaken by court	-	-
How does this reduce risk?					
Site Plan Ordinance	Yes (6-15-04)	Yes, if the jurisdiction has a planning board	Chapter 200: Land Use Ordinance, Part 1 Site Plan Review	Yes (6-15-04)	Yes, if the jurisdiction has a planning board
How does this reduce risk? This Part 1 is adopted pursuant to the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.) and subsequent amendments and supplements thereto in order to establish rules, regulations, standards and procedures for approval of all development other than single-family detached dwellings or uses accessory thereto in order to: A. Preserve existing natural resources and give proper consideration to the physical constraints of the land. B. Provide for safe and efficient vehicular and pedestrian circulation. C. Provide for screening, landscaping, signing and lighting. D. Ensure efficient, safe and aesthetic land development. E. Provide for compliance with appropriate design standards to ensure adequate light and air, proper building arrangements and minimum adverse effect on surrounding property. F. Develop proper safeguards to minimize the impact on the environment including but not limited to soil erosion and sedimentation and air and water pollution.					



	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
<p>G. Ensure the provision of adequate water supply, drainage and stormwater management, sanitary facilities and other utilities and services.</p> <p>H. Provide for recreation, open space and public use areas.</p> <p>I. Encourage cost-performance methods and designs to enable the construction of low and moderate impact without creating an adverse impact on the public health, safety and general welfare of the Township or for the future residents of the development.</p>					
Environmental Protection Ordinance	Yes	Yes, depends on type of environmental areas	Chapter 200: Land Use Ordinance 200-238 (December 1986)	Local	Community Development
How does this reduce risk?					
Flood Damage Prevention Ordinance	Yes	Yes	Chapter 200: Land Use Ordinance,	Yes	Yes
<p>How does this reduce risk?</p> <p>It is the purpose of this Part 6 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:</p> <p>A. To protect human life and health.</p> <p>B. To minimize expenditure of public money for costly flood control projects.</p> <p>C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.</p> <p>D. To minimize prolonged business interruptions.</p> <p>E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines and streets and bridges located in areas of special flood hazard.</p> <p>F. To help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas.</p> <p>G. To ensure that potential buyers are notified that property is in an area of special flood hazard.</p> <p>H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.</p> <p>In order to accomplish its purposes, this Part 6 includes methods and provisions for:</p> <p>A. Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities.</p> <p>B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.</p> <p>C. Controlling the alteration of natural floodplains, stream channels and natural protective barriers which help accommodate or channel floodwaters.</p> <p>D. Controlling filling, grading, dredging and other development which may increase flood damage.</p> <p>E. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.</p>					
Wellhead Protection	No	No	-	-	-
How does this reduce risk?					
Emergency Management Ordinance	No	No	-	-	-
How does this reduce risk?					
Climate Change Ordinance	No	No	-	-	-
How does this reduce risk?					
Disaster Recovery Ordinance	No	No	-	-	-
How does this reduce risk?					
Disaster Reconstruction Ordinance	No	No	-	-	-
How does this reduce risk?					
Other	No	No	-	-	-
Codes, Ordinances, & Regulations Connection to Mitigation and Safe Growth					
How are codes, ordinances and regulations contributing to risk reduction in your community?					
<ul style="list-style-type: none"> • <u>Building Code:</u> <ul style="list-style-type: none"> ○ 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. ○ 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. • <u>Flood Damage Prevention Ordinance:</u> 					



	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"> o A local flood damage prevention ordinance sets design standards for reducing flood losses and is required for participation in the National Flood Insurance Program. o The local flood damage prevention ordinance requires permits for floodplain development, adopts and enforces flood maps, requires new and substantially improved structures be elevated above the base flood elevation, among other standards. o In the State of New Jersey, all new and substantially improved structures are required to be elevated at least one foot above the base flood elevation. • <u>Stormwater Ordinance</u> <ul style="list-style-type: none"> o New Jersey municipalities enact stormwater management ordinances to regulate runoff quantity and quality, groundwater recharge, and erosion control. West Windsor has updated their municipal stormwater control ordinance to reflect amendments to the Stormwater Management rules at N.J.A.C. 7:8, adopted March 2, 2020. o 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 flooding downstream of the site. <p>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? No</p> <p>Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains? Yes, but not all “natural areas;” only those with environmental constraints. Unconstrained vacant lands in a natural state can be developed if privately owned.</p> <p>Does the ordinance require developers to take additional actions to mitigate natural hazard risk? Developers are required to assess the existing capacity of infrastructure (roads, sewer, drainage) and make improvements if found to be under capacity or deteriorated.</p> <p>Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? Yes</p> <p>Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas? Yes</p> <p>Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources? Yes. Clustering is in the Code as a way of concentrating development and preserving more open space</p> <p>Do the regulations allow density/development transfers where hazard areas exist? No increased density/transfer of development rights provisions relative to hazard areas are in the Township Code.</p>					
Planning Documents					
Master Plan	Yes	Yes	Master Plan, August 2010	Local	Community Development
How does this reduce risk? Describes goals for long term investment and development in the Township.					
Capital Improvement Plan	Yes	Allowed	2016-2021 Capital Improvement Program (CIP)	Local	Administration
How does this reduce risk? Allocates funding for potential mitigation projects.					
Disaster Debris Management Plan	No	No	-	-	-
How does this reduce risk?					
Floodplain Management or Watershed Plan	Yes	No	Part of Conservation Plan Element and Stormwater Management Plan Element of Master Plan (6-18-08)	Local	Community Development
How does this reduce risk? Discusses flood risk and controls to protect from flood damage.					
Stormwater Management Plan	Yes	Yes	Element of Master Plan (August 2010)	Local	Community Development
How does this reduce risk? Establishes long term goals for Stormwater Management.					
Stormwater Pollution Prevention Plan	Yes	Yes	Chapter 150 Storm Water Pollution Prevention Plan	Local	Police, Public Works, Health
How does this reduce risk? Establishes requirements for prevention stormwater pollution.					
Urban Water Management Plan	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>					
Habitat Conservation Plan	No	No	-	-	-
<i>How does this reduce risk?</i>					
Economic Development Plan	Yes	No	Part of Land Use Element of Master Plan (August 2010)	Local	Community Development
<i>How does this reduce risk?</i> Discusses goals for expansion of the local economy.					
Shoreline Management Plan	No	No	-	-	-
<i>How does this reduce risk?</i>					
Community Wildfire Protection Plan	No	No	-	-	-
<i>How does this reduce risk?</i>					
Community Forest Management Plan	Yes	No	Community Forestry Management Plan 2016-2020, Sub-Element of the Conservation Plan Element of the Master Plan	Local	Community Development
<i>How does this reduce risk?</i> The Plan includes goals to: <ul style="list-style-type: none"> • Examine, update and publicize Township standards pertaining to the regulation of the Community Forest. • Maintain and protect the Community Forest resource on public properties in a sustainable, productive and safe condition. 					
Transportation Plan	Yes	No	Circulation Element of Master Plan (2-27-2008)	Local, County, State	Community Development
<i>How does this reduce risk?</i> Discusses goals for improvements to the transportation system for the Township.					
Agriculture Plan	Yes	No	Farmland Preservation Plan, Element of the Master Plan	Local	Community Development
<i>How does this reduce risk?</i> The Plan is an Element of the Twp Master Plan, which is updated every six years.					
Climate Action/ Resiliency Plan	No	No	-	-	-
<i>How does this reduce risk?</i>					
Tourism Plan	No	No	-	-	-
<i>How does this reduce risk?</i>					
Business/ Downtown Development Plan	Yes	No	Chapter 200; Land Use Ordinance 200-257 thru 269.3	Local	Community Development
<i>How does this reduce risk?</i>					
Other	No	-	-	-	-
Planning Connection to Mitigation and Safe Growth					
How are your plans contributing to risk reduction in your community? Plans reduce development in areas of poor soils, high groundwater, or susceptible to natural disasters, like flooding, and encourage redevelopment in the downtown area. They encourage preservation of farmland and existing open space through acquisition or purchase of development rights. They identify where future improvements to existing infrastructure are anticipated in order to accommodate growth.					
Does the future land use map clearly identify natural hazard areas? Yes					
Do the land use policies discourage development or redevelopment within natural hazard areas? Yes					
Does the land use plan provide adequate space for expected future growth in areas located outside natural hazard areas? Yes. It also requires the natural hazard areas be respected and, in some cases, preserved (steep slopes, riparian corridors, greenbelt along streams).					
Is transportation policy used to guide growth to safe locations? Yes, but indirectly as higher densities are identified where transportation infrastructure can support it.					



	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
<p>Are transportation systems designed to function under disaster conditions (e.g. evacuation)? Roadways are designed to be outside of constrained lands, and drainage systems able to convey the 100-year design storm with minimal road flooding. There are a few County owned bridges in the town that flood at or below the 100-year storm event.</p> <p>Are environmental systems that protect development from hazards identified and mapped (i.e., dunes, rip rap, defensible space, wetlands/natural shoreline)? Yes – steep slopes, riparian zones and greenbelt areas along streams are examples of this, in both the Master Plan and in the Land Use Code.</p> <p>Do environmental policies maintain and restore protective ecosystems? Yes</p>					
Response/Recovery Planning					
Emergency Operations Plan	Yes	Yes	Emergency Operations Plan	Local	Public Safety/Emergency Management
<p><i>How does this reduce risk?</i></p> <ul style="list-style-type: none"> The Township EOP covers short-term response for communications, evacuation and housing, but does not address long-term recover. 					
Strategic Recovery Planning Report	No	No	-	-	-
<i>How does this reduce risk?</i>					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	No	-	-	-
<i>How does this reduce risk?</i>					
Post-Disaster Recovery Plan	Yes	No	Post-Disaster Recovery Plan, 2013	Local/ State	Emergency Management
<i>How does this reduce risk?</i>					
Continuity of Operations Plan	Yes	No	Continuity of Operations Plan	Local	Clerk, Emergency Management
<p><i>How does this reduce risk?</i></p> <ul style="list-style-type: none"> The Continuity of Operations Plan discusses responsibilities during an emergency event to ensure continuity of critical government services. 					
Public Health Plan	???	No	???	???	???
<i>How does this reduce risk?</i>					
Other	Yes	Yes	Emergency Action Plan for Grover’s Mill Dam revised July 12, 2019	Local	Township BA, Engineer, OEM
Response/Recovery Planning Connection to Mitigation and Safe Growth					
<p>How do your response/recovery plans contribute to risk reduction in your community?</p> <ul style="list-style-type: none"> Emergency Operations Plan (EOP): <ul style="list-style-type: none"> 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. 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. 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. Emergency operations plans must be certified for approval by the New Jersey Office for Emergency Management. <p>Does your EOP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards? The Township EOP covers short-term response for communications, evacuation and housing, but does not address long-term recover.</p>					

Development and Permitting Capability

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



Table 9.13-3. 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	Zoning Permit is required for all types of development in the community, through the Land Use Division within Community Development.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	Not tracked because they are the exception and a rarity.
Do you have a buildable land inventory? - If yes, describe. - If no, quantitatively describe the level of buildout in the jurisdiction.	Yes	Outlined within the Land Use Element of the Master Plan along with a buildout analysis.

Administrative and Technical Capability

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

Table 9.13-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Administrative Capability		
Planning Board	Yes	Community Development – The Planning Board is responsible for preparing the Township’s Master Plan, as well as subdivision and site plan review in compliance with the requirements of the New Jersey Municipal Land Use Law and the Township Land Use Code, Chapter 200. They also make recommendations to Township Council regarding proposed changes to the zoning ordinances and the official Zoning Map of the Township. Help insure incursions into natural hazard areas are minimized and Code compliant, and stormwater standards are followed.
Zoning Board of Adjustments	Yes	Community Development - The purpose of the Zoning Board of Adjustment is to rule on deviations from the Township’s zoning laws as outlined in the Land Use Code, Chapter 200. They hear and rule on cases of requests for variances, like setbacks to structures and exceedances of a lot’s permitted improvement coverage, as well as interpret “use” applications that differ from approved uses in a zoning district. Help ensure incursions into natural hazard areas are minimized and Code compliant, and stormwater standards are followed.
Planning Department	Yes	Land Use Division – liaison to Planning Board and Zoning Board. Coordinates both Boards, along with reports by Township professionals and insuring public is aware of Township development standards. Review all property Zoning Permits against Land Use codes.
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Community Development - The Commission advises the Mayor, Township Administration, and local officials on environmental issues and actions that may affect the natural resources and inhabitants of the community. They advocate for environmentally



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
		sensitive and sustainable practices. They will conduct or review research and studies, offer recommendations, and monitor or promote initiatives that preserve, conserve, or restore natural resources, in balance with societal activities.
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Public Works - Facilities & Open Space is responsible for tree maintenance and post-disaster tree clearing of public trees. Sewer Maintenance is responsible for the proper functioning of the Township-owned storm sewer and sanitary sewer systems, which includes six (6) pumping stations. Streets & Roads is responsible for general road and pothole repairs, street sweeping, roadside mowing, yard waste and white goods collection, and maintenance of DPW vehicles and equipment. Winter road maintenance and snow removal is another important function of the Department.
Construction/Building/Code Enforcement Department	Yes	Community Development - Code Enforcement, headed by the Construction Official, is responsible for the enforcement of the Uniform Construction Code for all pre-existing and new construction in the Township. The Division performs all building, electrical, plumbing and fire plan reviews and inspections and issues permits and Certificates of Occupancy (COs). Post disaster they assess the safety of damaged structures for occupancy.
Emergency Management/Public Safety Department	Yes	The Office of Emergency Management, established in accordance with state statute, is responsible for the planning, coordinating, directing and control of all emergency management operations. Specific activities include community hazard analysis, corporate emergency planning and preparedness and readiness planning, All Township Departments and Divisions are required to assist and cooperate with the Office of Emergency Management when incidents occur.
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	Nixle
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	This is addressed by Public Works and outside contractors, as necessary, who are retained annually for detention basin maintenance and street tree/cul-de-sac island maintenance.
Mutual aid agreements	Yes	Hopewell Township, Stony Brook Regional Sewerage Authority
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	No	-
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development – In-house staff include two licensed professional engineers and one professional



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
		planner. Participate in Board reviews and Zoning Permit reviews.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community Development - Code Enforcement Class I agency facility with Subcode Officials and Inspectors for Building, Plumbing, Electrical and Fire. Engineering in-house staff include two licensed professional engineers, one professional planner and a landscape architect/certified tree expert.
Planners or engineers with an understanding of natural hazards	Yes	Community Development (Planning & Engineering)
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	Community Development - Code Enforcement Class I agency facility with Subcode Officials and Inspectors for Building, Plumbing, Electrical and Fire. Engineering in-house staff include two licensed professional engineers, one professional planner and a landscape architect/certified tree expert.
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	Yes	Community Development (Engineering) utilize an in-house GIS system which include data layers for natural hazard areas and can be used to identify properties within them.
Scientist familiar with natural hazards	No	-
Surveyor(s)	No	-
Emergency Manager	Yes	Office of Emergency Management
Grant writer(s)	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	Engineering in-house staff includes a landscape architect/certified tree expert whom participate in Board reviews and Zoning Permit reviews. Also manages maintenance contractors and performs hazard tree assessments and removals.
How do your administrative/technical capabilities contribute to risk reduction in your community? Staff are trained to handle and address emergency events and identify opportunities for risk reduction.		

Fiscal Capability

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

Table 9.13-5. 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)	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	Yes – sewer only
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	N/A this utility would have to be created



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?
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A
Fiscal Connection to Mitigation and Safe Growth	
How do your fiscal capabilities contribute to risk reduction in your community? PLACEHOLDER	
<p>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.</p> <p>Annually, the jurisdiction will review mitigation actions when allocating funding.</p> <p>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards? PLACEHOLDER</p> <p>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? Yes</p> <p>Do budgets provide funding for hazard mitigation projects identified in the County HMP? PLACEHOLDER</p>	

Education and Outreach Capability

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

Table 9.13-6. 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	No	-
Personnel skilled or trained in website development	Yes	Municipal website content managed by staff and such content could be developed in coordination with website site host. This has worked successfully through the COVID-19 pandemic.
Hazard mitigation information available on your website	Yes	Information on hurricanes and emergency preparedness hosted on municipal website.
Social media for hazard mitigation education and outreach	Yes	Both the Township and the Township Police Department maintain public Facebook pages for brief postings on current events and happenings. These have been used successfully in the past during extreme weather events and also the COVID-19 pandemic.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Other programs already in place that could be used to communicate hazard-related information	No	-
Warning systems for hazard events	Yes	Nixle



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.
Natural disaster/safety programs in place for schools	No	-
Other	No	-

Community Classifications

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

Table 9.13-7. Community Classifications

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Unknown	Unknown
Sustainable Jersey	Yes	Silver	October 28, 2019
StormReady Certification	No	-	-
Firewise Communities classification	No	-	-

Note:

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

West Windsor Township’s silver certification in the Sustainable Jersey program was supported by the following actions that relate to hazard mitigation:

- *Rain Garden:* The West Windsor Township has established a demonstration rain garden.
- *Environmental Commission:* West Windsor Township’s Environmental Commission was established by Township ordinance several decades ago and remains active today. The Environmental Commission participates in every Planning Board meeting. In addition, a member of the Township Council is a liaison to the Commission as well as a Class III board member, ensuring that council is fully informed regarding all development activities. As an additional step to ensure that environmental issues related to development are thoroughly addressed, the Environmental Commission liaison and Township environmental consultant also review and issue reports on land use applications made to the technical review committee, Planning Board, and Zoning Board of Adjustments.
- *Community Forest Management Plan:* West Windsor Township has achieved approved status under the NJ Community Forestry Assistance Act since 2000.
- *Tree Maintenance Program:* West Windsor Township has implemented policies, a training program, and regular tree maintenance programs to improve the integrity and health of street tree and community forest resources.

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 9.13-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Dam Failure	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Earthquake	Moderate
Flood	Moderate
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.

9.13.4 National Flood Insurance Program (NFIP) Compliance

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

Table 9.13-9. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
<ul style="list-style-type: none"> # NFIP Policies: 138 # RL properties: 11 # SRL properties: 1 # RL/SRL mitigated: 1 (elevation or acquisition and funding source: XXX) 	<ul style="list-style-type: none"> # claims filed: 65 Total loss payments: \$3,728,366
Describe areas prone to flooding in your jurisdiction.	<p>Areas along Little Bear Brook, from Bear Brook Road to the Millstone River – including bridges at Alexander Road and Washington Road (County Route 571).</p> <p>Areas bordering Grover’s Mill Pond – Cranbury Road (County Route 615), Clarksville Road (County Route 638) and North Mill Road.</p>
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation, and if so, how many are interested in (elevation or acquisition)?	No
How do you make Substantial Damage determinations? <ul style="list-style-type: none"> How many were declared for recent flood events in your jurisdiction? 	???
Detail any RiskMAP projects currently underway in your jurisdiction.	None



NFIP Topic	Comments
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Administration	
What local department is responsible for floodplain management?	Community Development
Are any staff certified floodplain managers (CFMs) or is a consultant retained?	No
Provide an explanation of who in your municipality provides NFIP administration services (permit review, GIS, education/outreach, inspections, engineering capability).	Zoning Officer is designated Floodplain Administrator and consults with the Township Engineer and Construction Code Official on matters requiring engineering or construction expertise or judgements.
What specific training or support does your floodplain management staff need to support its floodplain management program?	CFM Training
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Review tax assessment records for the structure(s) on the property. Require the property owner to provide sealed and signed construction cost estimate from licensed architect with regard to costs of improvements being sought.
Do you have access to resources to determine possible future flooding conditions from climate change?	No
NFIP Compliance	
List any outstanding NFIP compliance violations.	None
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	January 7, 2011
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?	Part 6 Section 200-270 thru 288, July 2016
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets minimum requirements
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?	Unknown
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 2019

Notes:

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

9.13.5 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.



Table 9.13-10. 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	3	0	16	0	36	0	13	0	2	0	1	0
Multi-Family	0	0	6	0	6	0	0	0	12	0	0	0
Other (commercial, mixed-use, etc.)	1	0	3	0	1	0	7	0	2	0	0	0
Total Permits Issued	4	0	25	0	43	0	20	0	16	0	1	0
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			
Recent Major Development and Infrastructure from 2015 to Present												
None identified												
Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years												
Woodstone	Residential		443 Apartments		Wheeler Way and Canal Pointe Boulevard/Block 7 Lot 61.01, and Block 7.02 Lot 1		None identified		Construction in progress			
Bear Brook Homes	Residential		3 Townhouses and 7 Single-Family Dwellings		106 and 110 Bear Brook Road/Block 9 Lots 55 and 56		0.2 Percent Annual Chance Flood		Construction in progress			
VCC Princeton Junction	Mixed_use		12,870 Square Feet of Daycare, 10,514 Square Feet of Retail, and 12 Apartments		47 Princeton Hightstown Road/Block 12.04 Lot 18		None identified		Construction in progress			
Princeton Ascend	Mixed_use		17 Apartments, 6 Townhouses, 12,248 Square Feet of Retail		43 Princeton Hightstown Road/Block 12.04 Lot 25		None identified		Construction in progress			
Ellsworth Center	Mixed_use		30 Apartments and 53,000 Square Feet of Retail		15-19 Cranbury Road/Block 5 Lot 20, 62, and 76		None identified		Construction in progress			
Senior Living @ Bear Creek	Residential		220 Senior Apartments		289 Village Road East/Block 33 Lot 1.02		None identified		Approved			
Windsor Oaks	Residential		2 Single-Family Dwellings		1203 Windsor Road/Block 34 Lot 4		None identified		Approved			
Heritage Village at West Windsor	Residential		193 Townhouses, 1 Four-Bedroom		2044 Old Trenton Rd and 424 Hightstown		None identified		Approved			



SECTION 9.13 - TOWNSHIP OF WEST WINDSOR

		Group Home, 60 Apartments	Road/Block 28 Lots 15 and 21		
Garden Homes (Duck Pond)	Residential	360 Condominiums	3478 US Route 1/Block 8 Lot 8	1 Percent Annual Chance Flood	Approved
400 Steps	Residential	144 Apartments	15 Cranbury Road/Block 5 Lots 19 and 20	None identified	Approved
Princeton Executive Park	Mixed_use	656 Apartments, 130-Room Hotel, 16,000 Square Feet of Retail, 6,915 Square Feet of Restaurant	US Route 1 North & Meadow Road/Block 9 Lots 12.01 and 12.03; Block 9.03 Lot 12.02	None identified	Approved
Windsor 1	Commercial	5,585 Square Feet of Retail, 8 Fueling Stations, and 120-Room Hotel	3499 US Route 1/Block 7 Lot 59	None identified	Approved
Nassau Park - Kohl's Outparcel	Commercial	1,000 Square Feet of Retail	721-731, 600- 700, 311 Nassau Park Boulevard/Block 7 Lots 78.01, 78.04, 78.15	None identified	Approved
Nassau Park - Gateway Outparcel	Commercial	8,000 Square Feet of Retail	721-731, 600- 700, 311 Nassau Park Boulevard/Block 7 Lots 78.01, 78.04, 78.15	None identified	Approved
Windsor Business Park West	Commercial	26,466 Square Feet of Office	186 Hightstown Road/Block 21.04 Lot 1.01	None identified	Approved
Princeton Overlook	Commercial	140,000 Square Feet of Office	3641-3651 US Route 1/Block 7.13 Lot 9.01	None identified	Approved
Rite Aid Phase II	Commercial	6,000 Square Feet of Retail	39 and 41 Hightstown Road/Block 12.04 Lot 10.01	None identified	Approved
PJ Metro Office Park	Commercial	97,024 Square Feet of Office	3 Vaughn Drive/Block 6 Lot 79.01	1 Percent Annual Chance Flood	Approved
Carnegie Center II (East Side)	Commercial	656,700 Square Feet of Office	404-406, 408, and 402 Carnegie Center Drive/Block 9 Lots 83, 84, and 85	None identified	Approved



Carnegie Center III (West Side)	Commercial	814,800 Square Feet of Office	Brunswick Pk/Block 7.13 Lot 12.06	None identified	Approved
Carnegie Center West	Commercial	130,000 Square Feet of Office	108 Brandon Road/Block 7.15 Lot 12.09	Wildfire – very high	Approved
Princeton International Trading and Consulting, LTD	Commercial	5,236 Square Feet of Office	3637 US Route 1/Block 7.13 Lot 10.01	None identified	Approved
19 Roszel Road Associates	Commercial	50,250 Square Feet of Office	19-21 Roszel Road/Block 9 Lot 62	None identified	Approved
Eden	Commercial	15,590 Square Feet of Educational Space	2031 Old Trenton Road/Block 37.01 Lot 2	None identified	Approved
Aqueduct Associates	Commercial	29,414 Square Feet of Office	1 Meadow Road/Block 86 Lot 58.02	None identified	Approved
Tri-State Petro	Commercial	4,960 Square Feet of Retail, 3,377 Square Feet of Car Wash, 16 Fueling Stations	351 Princeton Hightstown Road/Block 22 Lot 3.02	None identified	Approved
Princeton Arms Center	Commercial	37,760 Square Feet of Retail	2025 Old Trenton Road/Block 37.01 Lot 8	None identified	Approved
Cherry Grove	Residential	7 Residential Dwellings	67 Penn Lyle Road/Block 16 Lots 24.01 and 69.01	None identified	Approved
Hilton West	Residential	88 Townhouse Units	2001 Old Trenton Road/Block 37 Lots 6 and 7	None identified	Anticipated
Avalon @ Princeton Junction	Mixed_use	23,432 Square Feet of Nonresidential Space, 150 Townhouse Units, 535 Apartment Units, 48 Condominium Units, 135 Senior Living Units	Washington Road and Station Drive/Block 6 Lots 8, 54, 55.01, and 76	None identified	Anticipated



SECTION 9.13 - TOWNSHIP OF WEST WINDSOR

Princeton Junction Commons	Commercial	78,700 Square Feet of Mini-Storage	201 Clarksville Road/Block 10 Lot 15.03	Wildfire – high	Anticipated
HSC West Windsor	Commercial	15,529 Square Feet of Urgent Care Office, 19,097 Square Feet of Retail, and 128-Room Hotel	3498, 3496, and 3500 US Route 1/Block 8 Lots 17, 24, and 30	None identified	Anticipated
Federal Realty Investment Trust	Commercial	3,200 Square Feet of Urgent Care Office	4201 Quakerbridge Road/Block 7.16 Lot 1.01	None identified	Anticipated
Penns Neck Redevelopment Area	Commercial	33,000 Square Feet of Retail and 8 Fueling Stations	US Route 1, between Mather Avenue and Washington Road/Block 38 Lots 1, 2, 3, 25, and 45, and Block 39 Lots 4, 5, 7, 16, and 27	None identified	Anticipated
East Ridge Development, LLC	Commercial	5,896 Square Feet of Retail, 8 Fueling Stations, and 4,541 Square Feet of Restaurant	Princeton Hightstown Road and Southfield Road/Block 47 Lots 2, 3, 4, 5, and 6	None identified	Anticipated
Howard Hughes Tract	Commercial	5,500,000 Square Feet of Warehouse and 150,000 Square Feet of Retail	US Route 1 and Quakerbridge Road/Block 8 Lots 1, 2, 2 (QFarm), 3, 16, 20, 28, 32.01, 39, 40, 41, 45, 46, and 49 as well as Block 15.14 Lots 18, 18 (QFarm), 19, 19 (QFarm), 20, 20 (QFarm), 22 (QFarm), 26 (QFarm), and 75	None identified	Anticipated
SRI Tract	Commercial	3,000,000 Square Feet of Office	3730 and 3740 US Route 1/Block 5 Lots 8.04 and 8.05	None identified	Anticipated
Trustees of Princeton University GDP	Other	550 Graduate Beds, 985,000 Square Feet of Campus	Washington Road, US Rt. 1, & Lower Harrison Street/Block 3	None identified	Anticipated



		Nonresidential Use	Lots 1.011 and 1.012		
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SFHA Special Flood Hazard Area (1% annual chance flood event)

* Only location-specific hazard zones or vulnerabilities identified.

9.13.6 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 West Windsor’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 West Windsor has significant exposure. The maps also show the location of potential new development, where available.

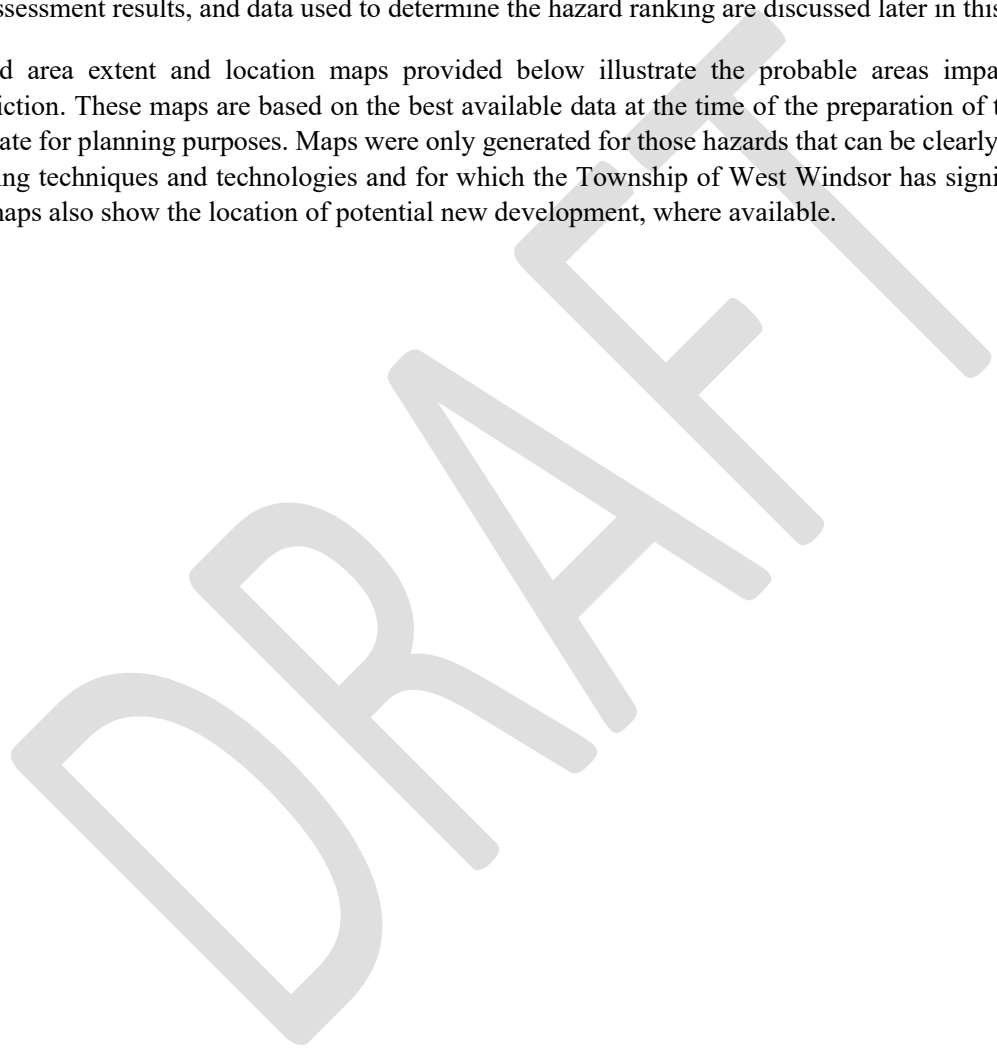




Figure 9.13-1. Township of West Windsor Hazard Area Extent and Location Map 1

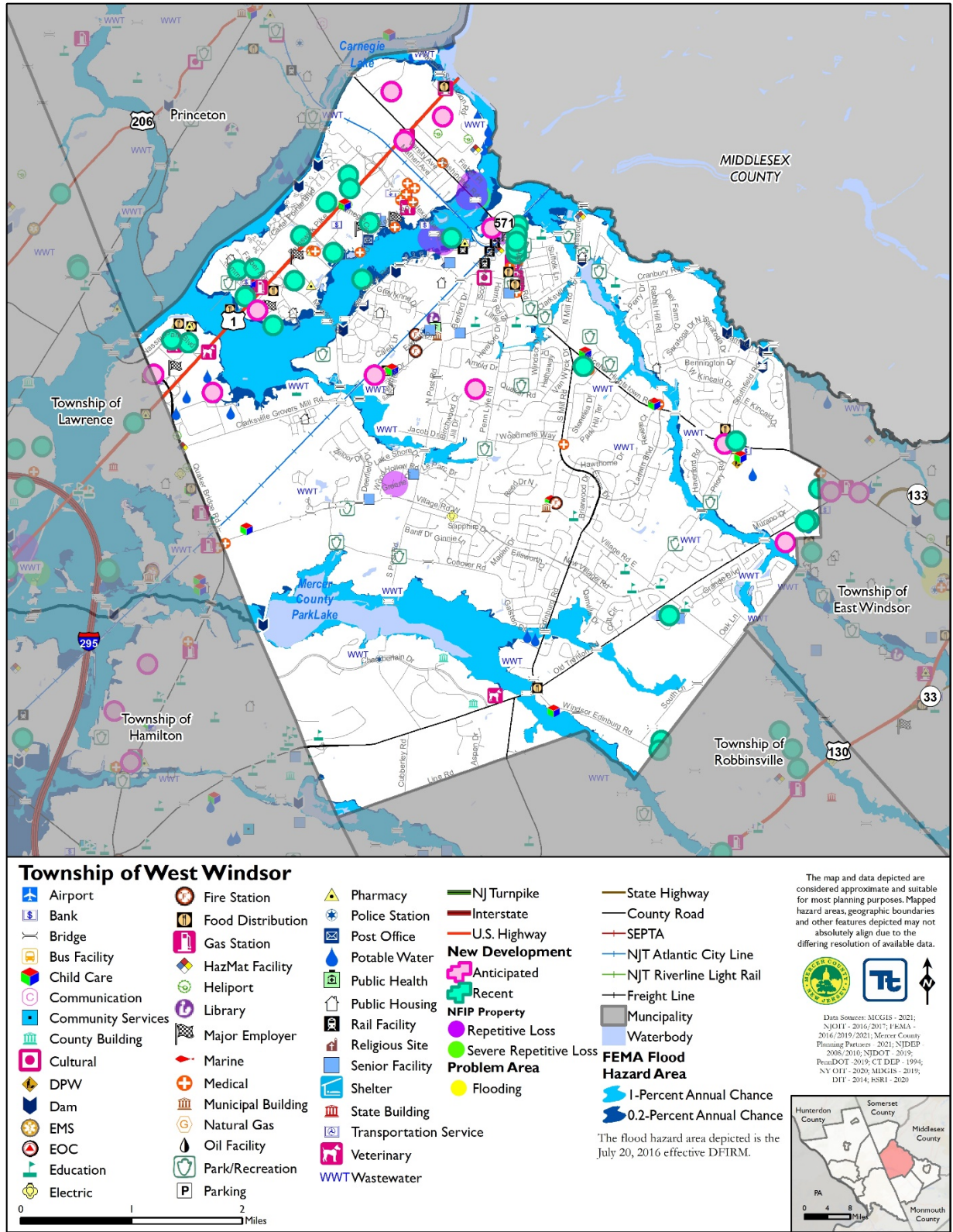




Figure 9.13-2. Township of West Windsor Hazard Area Extent and Location Map 2

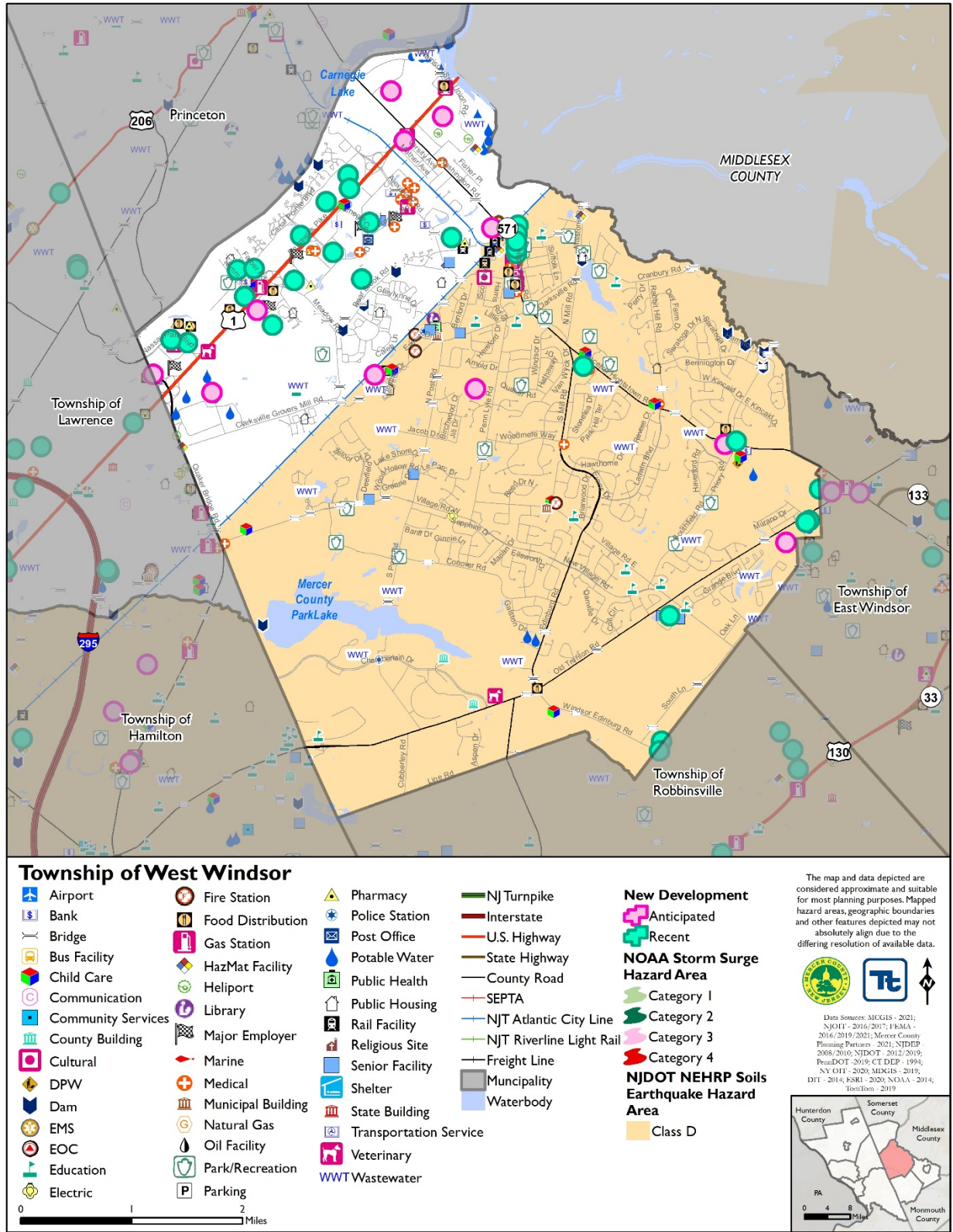




Figure 9.13-3. Township of West Windsor Hazard Area Extent and Location Map 3

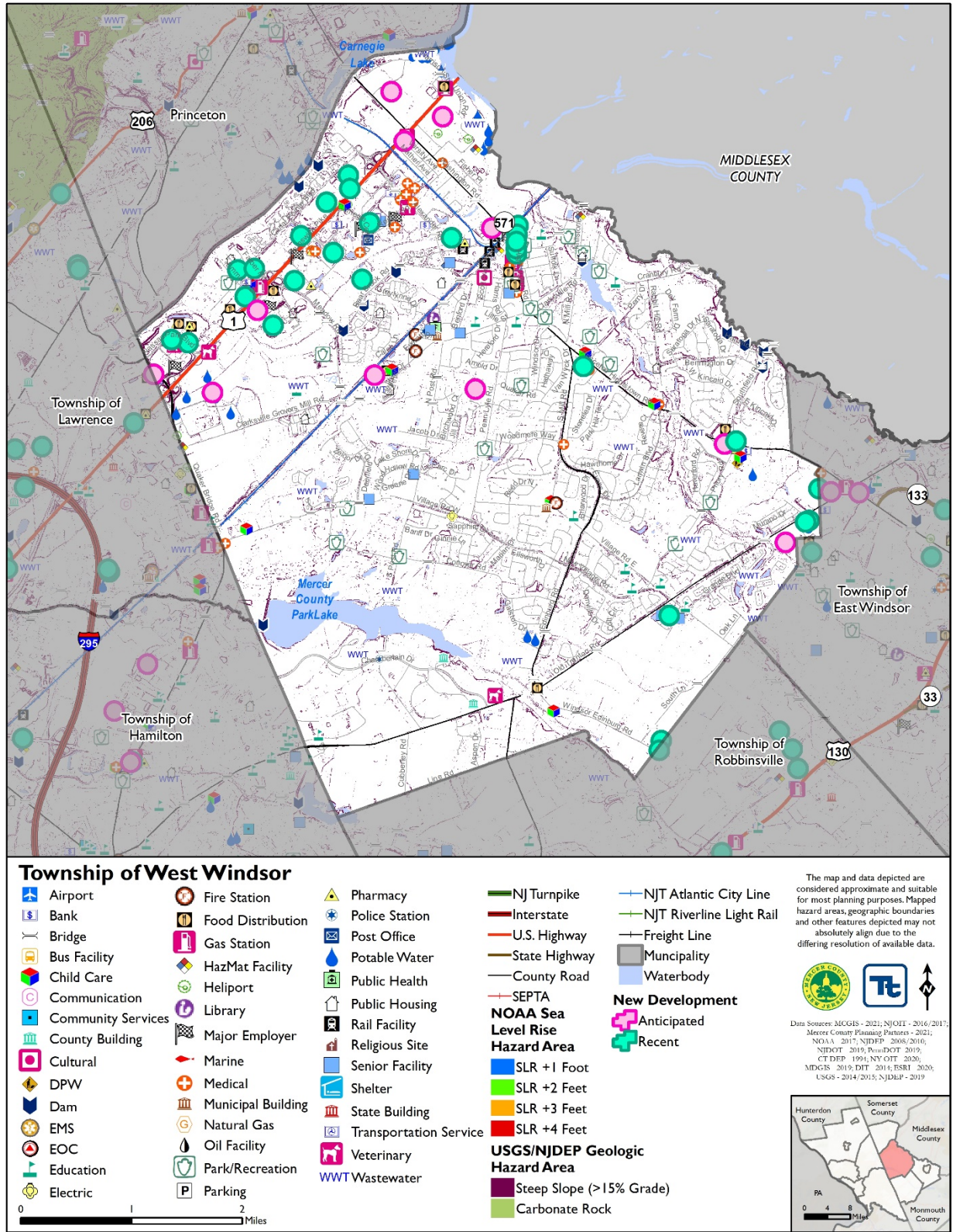
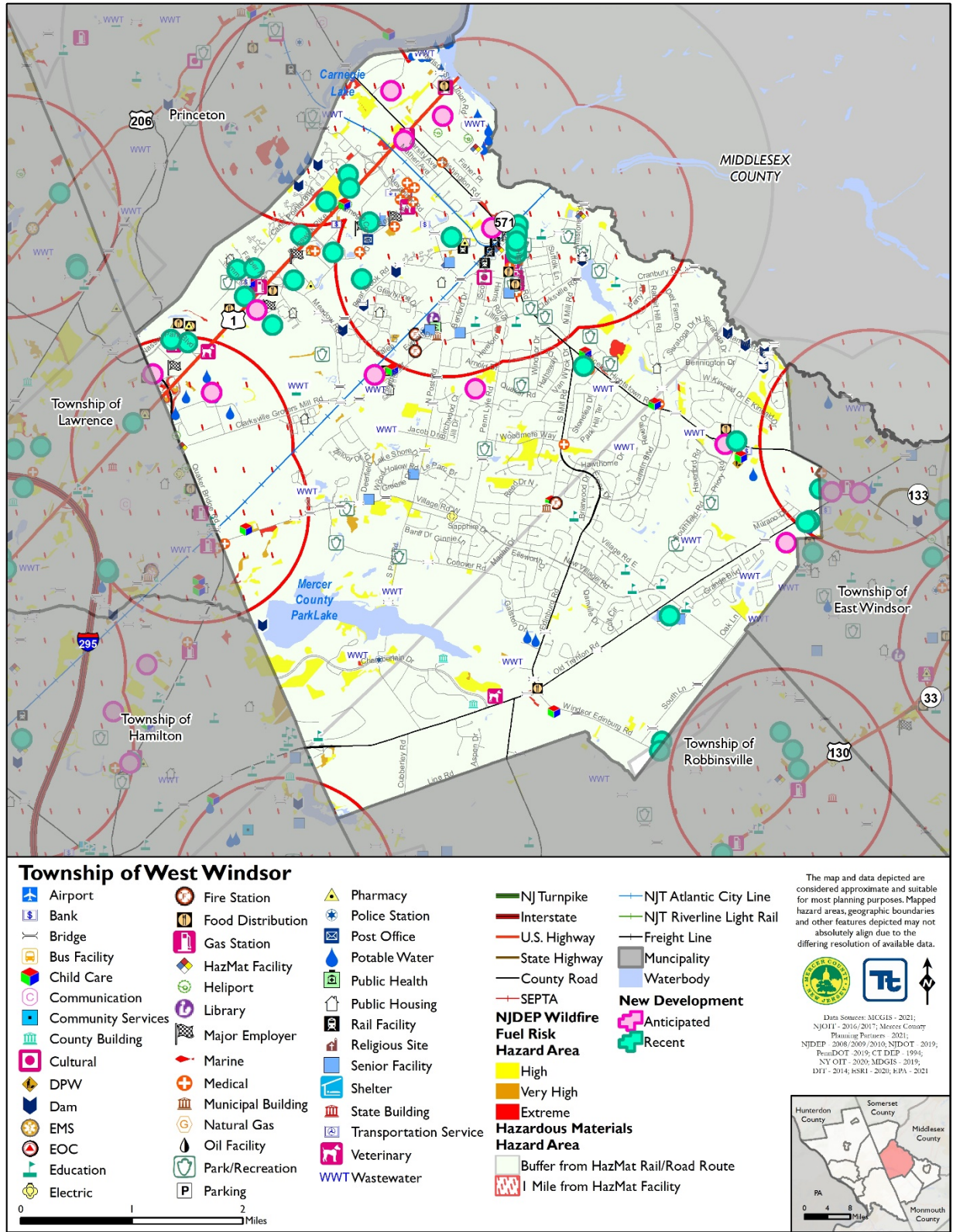




Figure 9.13-4. Township of West Windsor Hazard Area Extent and Location Map 4





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 West Windsor’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 9.13-11. 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. Roads were unsafe for travel, power outages occurred, and a State of Emergency was declared.
October 3, 2016	Storms	No	Severe storms resulted in high winds.	Power outages, traffic lights knocked offline.
February 9, 2017	Winter Storm	No	A winter storm led to a wintery mix.	6” of snow and ice.
March 13, 2017	Winter Storm	No	Heavy snow fell in Mercer County.	Schools closed, roads closed.
June 24, 2017	Severe Storms	No	A band of gusty convective showers moved through during the morning hours in association with the remnants of tropical storm Cindy. Several reports of damage were reported from the winds. Thousands lost power.	A possible tornado occurred in the Township leading to power outages.
August 18, 2017	Severe Storm	No	Thunderstorms led to lightning and high winds.	Lightning strike damage led to 1,000 customers without power and traffic lights being knocked offline. Many trees and poles were down.
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. Wires & trees down almost every road, trees into homes. Declared State of Emergency.



Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
March 21, 2018	Snowstorm	No	A winter storm led to 6-10" of snow.	Trees down, roads closed, power lines down, schools closed.
May 27, 2018	Storm	No	Thunderstorms led to high winds.	Flooding, D7R Canal Overflow, roads closed.
July 3, 2018	Storm	No	Thunderstorms led to high winds.	Trees, poles, and lines down, homes damaged.
July 14, 2018	Storm	No	Thunderstorms led to high winds.	Poles down, power outages.
November 15, 2018	Ice Storm	No	An ice storm impacted Mercer County.	School buses delayed, bridges impassable.
January 19, 2019	Winter Storm	No	A winter storm impacted Mercer County.	Roads flooded, ice conditions.
February 12, 2019	Ice Storm	No	An ice storm impacted Mercer County.	Roads covered with ice and dangerous.
March 3, 2019	Snow Storm	No	8" of heavy snow fell on Mercer County.	Roads impassable and numerous accidents.
April 15-17, 2019	Severe Storm	No	A severe weather outbreak impacted much of the East Coast, causing widespread straight line wind damage and a few tornadoes. This line moved through the mid-Atlantic during the predawn hours of April 15.	Roads closed, lines down with power outages.
June 17, 2019	Severe Storm	No	Thunderstorms led to high winds.	Trees down, power loss, and traffic signals out.
July 22, 2019	Severe Storm	No	A frontal boundary stalled over the mid-Atlantic on July 22. The result was a day of widespread severe weather. Discrete storms early in the afternoon gave way to a powerful mesoscale convective system in the evening which produced widespread damaging winds with considerable damage over a large area.	Trees & Wires down on a majority of roads with scattered power outages to include traffic lights. Shelter in place as driving is hazardous and some wires are still live. 80,000 customers out of power. Tree damage, pole damage.
October 4, 2019	Windstorm	No	A windstorm impacted Mercer County	Widespread power outages.
November 1, 2019	Windstorm	No	A windstorm impacted Mercer County	Many roads closed, power lines down.
December 1, 2019	Snowstorm	No	A snowstorm impacted Mercer County.	Roads closed, power lines down.
December 18, 2019	Ice Storm	No	An ice storm impacted Mercer County.	Roads closed, power lines down.
April 13, 2020	Severe Storm	No	High winds impacted Mercer County.	Power outages.
June 27, 2020	Severe Storms	No	Wind squalls and hail impacted Mercer County	Hail and wind in excess of 60 mph.
August 4, 2020	Tropical Storm	No	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.	Although the County was impacted, the Township did not report damages.
October 2, 2020	Sinkhole	No	A sink hole occurred at Washington Road.	Emergency road closure.



Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
December 16, 2020	Winter Storm	No	A winter storm impacted Mercer County.	Road conditions were dangerous. The Township offices closed.
December 25, 2020	Winter Storm	No	Heavy rain and flooding.	Many trees and power lines were downed.
February 5, 2021	Snowstorm	No	Over 6" of snow fell in Mercer County.	Roads were closed.
February 11, 2021	Ice Storm	No	An ice storm impacted Mercer County.	Most roads closed due to excessive snow
February 13, 2021	Ice Storm	No	An ice storm impacted Mercer County.	Roads closed, power loss
February 19, 2021	Winter Storm	No	A winter storm impacted Mercer County.	Roads closed, power loss
March 28, 2021	Winter Storm	No	A winter storm impacted Mercer County.	Trees and wires down.
January 20, 2020 – Present	Covid-19 Pandemic (EM-3451-NJ) (DR-4488-NJ)	No	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 West Windsor’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 West Windsor. The Township of West Windsor 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 West Windsor indicated the following:

- The Township agreed with the calculated hazard rankings.

Table 9.13-12. Hazard Ranking Input

Dam Failure	Disease Outbreak	Drought	Earthquake	Flood	Geological Hazards	Hazardous Materials
High	High	Medium	Low	Medium	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 9.13-13. Potential Flood Losses to Critical Facilities

Name	Type	Exposure	
		1% Event	0.2% Event
COLLEGE SAVINGS BANK	Bank	X	X
ASSUNPINK #20 DAM	Dam	X	X
VAN NEST PARK WEST WINDSOR	Park/Recreation	-	X
GROVERS MILL	Park/Recreation	-	X
SARNOFF CORPORATION	Potable Water Well	-	X
SARNOFF CORPORATION	Potable Water Well	-	X
SARNOFF CORPORATION	Potable Water Well	-	X
HARRISON ST WELL 6	Potable Water Well	X	X
HARRISON ST WELL 3	Potable Water Well	-	X
JEFFERSON PARK WELL 1	Potable Water Well	X	X
JEFFERSON PARK WELL 2	Potable Water Well	X	X
HARRISON ST WELL 1	Potable Water Well	X	X
HARRISON ST WELL 4	Potable Water Well	X	X
HARRISON ST WELL 5	Potable Water Well	X	X
PRINCETON VIEW BASIN C DAM	Dam	X	X
GROVER'S MILL DAM	Dam	-	X
762.8 - SOUTHFIELD RD OVER BEAR BRK	Bridge	X	X
721.2 - MEADOW RD OVER DUCK POND RUN	Bridge	X	X
762.2 - CLARKSVILLE RD CR 638 OVER BEAR BRK	Bridge	X	X
721.3 - CLARKSVILLE RD CR 638 OVER DUCK POND RUN	Bridge	X	X
740.2 - OLD TRENTON RD RT 535 OVER ASSUNPINK CRK	Bridge	X	X
762.7 - PRINCETON-HIGHTSTOWN RD RT 571 OVER BEAR BRK	Bridge	X	X



Name	Type	Exposure	
		1% Event	0.2% Event
762.6 - RABBIT HILL RD OVER BEAR BRK	Bridge	X	X
762.1 - CRANBURY RD CR 615 OVER BEAR BRK	Bridge	X	X
721.6 - N POST RD OVER DUCK POND RUN	Bridge	X	X
721.8 - MEADOW RD OVER DUCK POND RUN TRIB	Bridge	X	X
742.1 - S POST RD OVER ASSUNPINK CRK TRIB (MERCER LK TRIB)	Bridge	X	X
745.3 - OLD TRENTON RD RT 535 OVER BRIDEGROOM RUN	Bridge	X	X
761.1 - WASHINGTON RD RT 571 OVER LITTLE BEAR BRK	Bridge	X	X
762.3 - N MILL RD OVER CANOE BRK (GROVERS MILL POND TRIB)	Bridge	X	X
762.5 - PRINCETON-HIGHTSTOWN RD RT 571 OVER BEAR BRK TRIB	Bridge	X	X
762.10 - PRINCETON-HIGHTSTOWN RD RT 571 OVER CANOE BRK (GROVERS MILL POND TRIB)	Bridge	X	X
763.1 - SOUTHFIELD RD OVER MILLSTONE RIV TRIB	Bridge	X	X
762.11 - OLD TRENTON RD RT 535 OVER BEAR BRK	Bridge	X	X
760.4 - MILLSTONE RD OVER MILLSTONE RIV	Bridge	X	X
745.4 - EDINBURG-DUTCH NECK RD RT 526 OVER BRIDEGROOM RUN	Bridge	X	X
760.5 - CRANBURY RD CR 615 OVER MILLSTONE RIV	Bridge	X	X
721.11 - BEAR BROOK RD (FORMER ALIGNMENT) OVER LITTLE BEAR BRK TRIB	Bridge	-	X
760.6 - SOUTHFIELD RD OVER MILLSTONE RIV	Bridge	X	X
761.2 - ALEXANDER RD OVER LITTLE BEAR BRK	Bridge	X	X
762.4 - HENDRICKSON DR CR 607 OVER CANOE BRK (GROVERS MILL POND TRIB)	Bridge	X	X
763.2 - SOUTHFIELD RD OVER MILLSTONE RIV TRIB	Bridge	X	X
761.4 - MEADOW RD OVER LITTLE BEAR BRK	Bridge	X	X
760.3 - LOWER HARRISON ST CR 629 OVER MILLSTONE RIV TRIB	Bridge	X	X
721.7 - PENN LYLE RD OVER DUCK POND RUN TRIB	Bridge	X	X
BETA PHARMACY	Pharmacy	X	X
HISUN PHARMACEUTICAL	Medical Corp Office	-	X
MILLSTONE RIVER PUMP STATION	Wastewater Lift Station	X	X
S.B.R.S.A. METER STATION No. 7	Wastewater Lift Station	X	X



Name	Type	Exposure	
		1% Event	0.2% Event
DUCK POND RUN PUMP STATION	Wastewater Lift Station	X	X
BRAEMER DRIVE PUMP STATION	Wastewater Lift Station	X	X
Whole Foods	Food Distribution	X	X
VAN NEST PARK WEST WINDSOR	Park/Recreation	X	X
PRINCETON FEDERAL UNION	Bank	X	X
PRINCETON KOREAN COMMUNITY CHURCH	Religious	X	X
HARRISON ST BRIDGE OVER D&R CANAL	Bridge	X	X
GROVERS MILL APTS	Public Housing	X	X
COLLEGE SAVINGS BANK	Bank	X	X
ASSUNPINK #20 DAM	Dam	X	X
VAN NEST PARK WEST WINDSOR	Park/Recreation	-	X
GROVERS MILL	Park/Recreation	-	X
SARNOFF CORPORATION	Potable Water Well	-	X
SARNOFF CORPORATION	Potable Water Well	-	X
SARNOFF CORPORATION	Potable Water Well	-	X
HARRISON ST WELL 6	Potable Water Well	X	X
HARRISON ST WELL 3	Potable Water Well	-	X
JEFFERSON PARK WELL 1	Potable Water Well	X	X
JEFFERSON PARK WELL 2	Potable Water Well	X	X
HARRISON ST WELL 1	Potable Water Well	X	X
HARRISON ST WELL 4	Potable Water Well	X	X
HARRISON ST WELL 5	Potable Water Well	X	X
PRINCETON VIEW BASIN C DAM	Dam	X	X
GROVER'S MILL DAM	Dam	-	X
762.8 - SOUTHFIELD RD OVER BEAR BRK	Bridge	X	X
721.2 - MEADOW RD OVER DUCK POND RUN	Bridge	X	X
762.2 - CLARKSVILLE RD CR 638 OVER BEAR BRK	Bridge	X	X
721.3 - CLARKSVILLE RD CR 638 OVER DUCK POND RUN	Bridge	X	X
740.2 - OLD TRENTON RD RT 535 OVER ASSUNPINK CRK	Bridge	X	X
762.7 - PRINCETON-HIGHTSTOWN RD RT 571 OVER BEAR BRK	Bridge	X	X
762.6 - RABBIT HILL RD OVER BEAR BRK	Bridge	X	X



Name	Type	Exposure	
		1% Event	0.2% Event
762.1 - CRANBURY RD CR 615 OVER BEAR BRK	Bridge	X	X
721.6 - N POST RD OVER DUCK POND RUN	Bridge	X	X
721.8 - MEADOW RD OVER DUCK POND RUN TRIB	Bridge	X	X
742.1 - S POST RD OVER ASSUNPINK CRK TRIB (MERCER LK TRIB)	Bridge	X	X
745.3 - OLD TRENTON RD RT 535 OVER BRIDEGROOM RUN	Bridge	X	X
761.1 - WASHINGTON RD RT 571 OVER LITTLE BEAR BRK	Bridge	X	X
762.3 - N MILL RD OVER CANOE BRK (GROVERS MILL POND TRIB)	Bridge	X	X
762.5 - PRINCETON-HIGHTSTOWN RD RT 571 OVER BEAR BRK TRIB	Bridge	X	X
762.10 - PRINCETON-HIGHTSTOWN RD RT 571 OVER CANOE BRK (GROVERS MILL POND TRIB)	Bridge	X	X
763.1 - SOUTHFIELD RD OVER MILLSTONE RIV TRIB	Bridge	X	X
762.11 - OLD TRENTON RD RT 535 OVER BEAR BRK	Bridge	X	X
760.4 - MILLSTONE RD OVER MILLSTONE RIV	Bridge	X	X
745.4 - EDINBURG-DUTCH NECK RD RT 526 OVER BRIDEGROOM RUN	Bridge	X	X
760.5 - CRANBURY RD CR 615 OVER MILLSTONE RIV	Bridge	X	X
721.11 - BEAR BROOK RD (FORMER ALIGNMENT) OVER LITTLE BEAR BRK TRIB	Bridge	-	X
760.6 - SOUTHFIELD RD OVER MILLSTONE RIV	Bridge	X	X
761.2 - ALEXANDER RD OVER LITTLE BEAR BRK	Bridge	X	X
762.4 - HENDRICKSON DR CR 607 OVER CANOE BRK (GROVERS MILL POND TRIB)	Bridge	X	X
763.2 - SOUTHFIELD RD OVER MILLSTONE RIV TRIB	Bridge	X	X
761.4 - MEADOW RD OVER LITTLE BEAR BRK	Bridge	X	X
760.3 - LOWER HARRISON ST CR 629 OVER MILLSTONE RIV TRIB	Bridge	X	X
721.7 - PENN LYLE RD OVER DUCK POND RUN TRIB	Bridge	X	X
BETA PHARMACY	Pharmacy	X	X
HISUN PHARMACEUTICAL	Medical Corp Office	-	X
MILLSTONE RIVER PUMP STATION	Wastewater Lift Station	X	X
S.B.R.S.A. METER STATION No. 7	Wastewater Lift Station	X	X
DUCK POND RUN PUMP STATION	Wastewater Lift Station	X	X



Name	Type	Exposure	
		1% Event	0.2% Event
BRAEMER DRIVE PUMP STATION	Wastewater Lift Station	X	X
Whole Foods	Food Distribution	X	X
VAN NEST PARK WEST WINDSOR	Park/Recreation	X	X
PRINCETON FEDERAL UNION	Bank	X	X
PRINCETON KOREAN COMMUNITY CHURCH	Religious	X	X
HARRISON ST BRIDGE OVER D&R CANAL	Bridge	X	X
GROVERS MILL APTS	Public Housing	X	X

Source: Mercer County 2021, FEMA 2016

Identified Issues

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

- Wallace Road in front of the Princeton Junction Train Station experiences regular stormwater flooding. During severe flooding events, the tunnels under the train station fill with water, preventing train passengers from entering and existing the station.
- The Bear Creek Assisted Living Facility at 291 Village Road East lacks backup power. Power failure results in Township emergency staff responding to assist with the evacuation of residents. Recent power failure events such as Tropical Storm Isaias have resulted in the facility being without power for days.
- The Project Freedom Village located at 700 Freedom Boulevard is a 72 unit, 2 story apartment building designed for families with individuals with special needs and supports low incoming housing. The building lacks backup power. Power failure results in residents on the second story being unable to use elevators.
- The Township of West Windsor has 11 repetitive loss property and 1 severe repetitive loss property. Many of these structures were built without flood design standards. These properties require mitigation to prevent future losses and prevent loss of life and property damage. Repetitive loss structures along the Millstone/Little Bear Brook were impacted during Hurricane Irene in 2011 and Superstorm Sandy in 2012 and remain potential losses.
- 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 a Disaster Debris Management Plan to respond to post-disaster debris.

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

- Flood near the brooks, basement flooding due to higher water table.
- There appears to be an increase in severe wind events. Princeton Junction area has seen multiple incidents of downed wires and loss of electricity.

9.13.7 Mitigation Strategy and Prioritization

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





Past Mitigation Initiative Status

The following table indicates progress on the Township of West Windsor’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.

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Table 9.13-14. Status of Previous Mitigation Actions

#	2016 Action Description	Responsible Party	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed) If in progress or completed, please describe the funding source, cost and who is implementing.	If you did not complete the action, should the action be included in the 2021 HMP (i.e., there is still a need, this is still a priority)?		
				Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
West Windsor-1 (new)	The Township will encourage consideration of low occupancy, low-density zoning in hazard areas where practical.	Township	No Progress	No – Land Use regulations provides other means of limiting or restricting development of sites with environmental constraints which create potential hazards	-	-
West Windsor-2 (new)	Incorporate hazard resistant construction standards into the design and location of projects.	Township	Ongoing capability	No – insuring capital projects meet latest applicable NJ building codes insures they are hazard resistant. For private projects involving gas stations or residential club house, the Township has requirements to incorporate back-up generators to insure these facilities remain operational and open during emergencies, if possible.	-	-
West Windsor-3 (old West Windsor Township 2 and 3)	Purchase and install a generator at the Township critical facilities: <ul style="list-style-type: none"> • Municipal building • Fire and Emergency Services building 	Township	Complete: 1. WW Muni Bldg - \$149,000 w/ NJOEM HMGP Grant \$75,000 2. WWFES Bldg - \$76,041.94 using WWT Capital Funds	No	-	-
West Windsor-4 (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.	Engineering via NFIP FPA with NJOEM, FEMA support	No Progress – insufficient staffing to pursue since 2016	Yes	Repetitive loss structures along Millstone/Little Bear Brook did not fair well under Irene in 2011 and Sandy 2012 and remain potential losses.	Engineering via NFIP FPA with NJOEM, FEMA support





#	2016 Action Description	Responsible Party	What is the status? (e.g., In Progress, No Progress, Ongoing Capability, or Completed) If in progress or completed, please describe the funding source, cost and who is implementing.	If you did not complete the action, should the action be included in the 2021 HMP (i.e., there is still a need, this is still a priority)?		
				Yes/No	If Yes, please describe the original problem (i.e., hazard, location, historic losses)	If Yes, identify the responsible department/person to implement the project.
	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.					

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Completed Mitigation Initiatives Not Identified in the Previous Mitigation Strategy

The Township of West Windsor 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 West Windsor 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 9.13-15. 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
Disease Outbreak	X									X
Drought	X									X
Earthquake	X									X
Flood	X	X			X				X	X
Geological Hazards	X									X
Hazmat	X									X
Hurricane	X	X								X
Infestation and Invasive Species	X									X
Nor’Easter	X	X								X
Severe Weather	X	X							X	X
Severe Winter Weather	X	X								X
Wildfire	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 West Windsor 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 9.13-17 provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.



Table 9.13-16. 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 West Windsor-001	Wallace Road Stormwater Upgrades	<p>Problem: Wallace Road in front of the Princeton Junction Train Station experiences regular stormwater flooding. During severe flooding events, the tunnels under the train station fill with water, preventing train passengers from entering and existing the station.</p> <p>Solution: The Engineer will complete an engineering study to determine the cause and potential solutions for stormwater flooding at Wallace Road such as upsizing and increasing the number of stormwater components. Cost-effective actions will be implemented and maintained by DPW.</p>	Existing	Flood Severe Weather	1, 2	Engineering, DPW	HMGP, BRIC, municipal budget	Reduction in flood risk, stormwater flood damage, maintains emergency access, protects access to train station	TBD by engineering study. Anticipated High.	Within 5 years	High	SIP	SP
2021-Township of West Windsor-002	Bear Creek Assisted Living Backup Power	<p>Problem: The Bear Creek Assisted Living Facility at 291 Village Road East lacks backup power. Power failure results in Township emergency staff responding to assist with the evacuation of residents. Recent power failure events such as Tropical Storm Isaias have resulted in the facility being without power for days.</p> <p>Solution: The Township will support Bear Creek in an application for funding to support the purchase and installation of a fixed site backup generator and necessary electrical components.</p>	Existing	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter	1, 6	Bear Creek, OEM	FEMA HMGP and BRIC	Protects facility from power loss, maintains elevators for emergency exits	\$80,000	Within 5 years	High	SIP	ES
2021-Township of West	Project Freedom Village	<p>Problem: The Project Freedom Village located at 700 Freedom Boulevard is a 72 unit, 2 story apartment building designed for</p>	Existing	Severe Storm, Severe Winter	1, 6	Project Freedom, OEM	FEMA HMGP and BRIC	Protects facility from power loss, maintains	\$80,000	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
Windsor-003	Backup Power	families with individuals with special needs and supports low incoming housing. The building lacks backup power. Power failure results in residents on the second story being unable to use elevators. Solution: The Township will support the Freedom Village in an application for funding to support the purchase and installation of a fixed site backup generator and necessary electrical components.		Storm, Hurricane, Nor'Easter				elevators for emergency exits					
2021-Township of West Windsor-004	Repetitive Loss Mitigation	Problem: The Township of West Windsor has 11 repetitive loss property and 1 severe repetitive loss property. Many of these structures were built without flood design standards. These properties require mitigation to prevent future losses and prevent loss of life and property damage. Repetitive loss structures along the Millstone/Little Bear Brook were impacted during Hurricane Irene in 2011 and Superstorm Sandy in 2012 and remain potential losses. Solution: The Township will conduct outreach to the 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).	Existing	Flood, Severe Weather	1, 2	Engineering via NFIP FPA with NJOEM, FEMA support	FEMA HMGP and FMA, BRIC, local cost share by residents	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	\$1M	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
2021-Township of West Windsor-005	Update Flood Damage Prevention Ordinance	<p>Problem: 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>Solution: 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	Floodplain Administrator, Administration	Township budget	Meet state and FEMA standards for flood damage prevention, reduce flood risk on new development	Staff time	6 months	High	LPR	PR
2021-Township of West Windsor-006	Disaster Debris Management Plan	<p>Problem: The Township lacks a Disaster Debris Management Plan to respond to post-disaster debris.</p> <p>Solution: The Township will develop and adopt a Disaster Debris Management Plan.</p>	Existing	All Hazards	6	OEM, Public Works	Township budget	Increased post disaster planning and capabilities	Staff time	1 year	High	LPR	ES

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

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.





FPA Floodplain Administrator
 HMA Hazard Mitigation Assistance
 N/A Not applicable
 NFIP National Flood Insurance Program
 OEM Office of Emergency Management

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 9.13-17. 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 West Windsor-001	Wallace Road	1	1	0	1	1	1	0	1	1	0	1	0	1	1	10	High ▲
2021-Township of West Windsor-002	Bear Creek Assisted Living Backup Power	1	1	1	1	1	0	0	1	1	1	1	0	1	1	11	High
2021-Township of West Windsor-003	Project Freedom Village Backup Power	1	1	1	1	1	0	0	1	1	1	1	0	1	1	11	High
2021-Township of West Windsor-004	Repetitive Loss Mitigation	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2021-Township of West Windsor-005	Update Flood Damage Prevention Ordinance	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2021-Township of West Windsor-006	Disaster Debris Management Plan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High

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.





9.13.8 Action Worksheets

The following action worksheets have been developed by the Township of West Windsor 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.

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Action Worksheet			
Project Name:	Wallace Road Stormwater Upgrades		
Project Number:	2021-Township of West Windsor-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather		
Description of the Problem:	Wallace Road in front of the Princeton Junction Train Station experiences regular stormwater flooding. During severe flooding events, the tunnels under the train station fill with water, preventing train passengers from entering and existing the station.		
Action or Project Intended for Implementation			
Description of the Solution:	The Engineer will complete an engineering study to determine the cause and potential solutions for stormwater flooding at Wallace Road such as upsizing and increasing the number of stormwater components. Cost-effective actions will be implemented and maintained by DPW.		
Is this project related to a Critical Facility or Lifeline?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	TBD by engineering study	Estimated Benefits (losses avoided):	Reduction in flood risk, stormwater flood damage, maintains emergency access, protects access to train station
Useful Life:	30 years	Goals Met:	1, 2
Estimated Cost:	TBD by engineering study. Anticipated High.	Mitigation Action Type:	Structure and Infrastructure Projects
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	6 months	Potential Funding Sources:	HMGP, BRIC, municipal budget
Responsible Organization:	Engineering, DPW	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate roadway	High	Would force water into other areas
	Close roadway and relocate train station	N/A	Not possible
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Wallace Road Stormwater Upgrades	
Project Number:	2021-Township of West Windsor-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Protects life from flooding and maintains emergency access.
Property Protection	1	Protects buildings and train station 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	Engineering, DPW
Other Community Objectives	1	Maintain train access
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Bear Creek Assisted Living Backup Power		
Project Number:	2021-Township of West Windsor-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter		
Description of the Problem:	The Bear Creek Assisted Living Facility at 291 Village Road East lacks backup power. Power failure results in Township emergency staff responding to assist with the evacuation of residents. Recent power failure events such as Tropical Storm Isaias have resulted in the facility being without power for days.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will support Bear Creek in an application for funding to support the purchase and installation of a fixed site backup generator and necessary electrical components.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Protects facility from power loss, maintains elevators for emergency exits
Useful Life:	20 years	Goals Met:	1, 6
Estimated Cost:	\$80,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and BRIC
Responsible Organization:	Bear Creek, OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	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
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Bear Creek Assisted Living Backup Power	
Project Number:	2021-Township of West Windsor-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect emergency exits for residents on second floor of facility
Property Protection	1	Project will protect building from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	The Township requires the cooperation of Bear Creek to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter
Timeline	0	Within 5 years
Agency Champion	1	Bear Creek, OEM
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Project Freedom Village Backup Power		
Project Number:	2021-Township of West Windsor-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Severe Storm, Severe Winter Storm, Hurricane, Nor'Easter		
Description of the Problem:	The Project Freedom Village located at 700 Freedom Boulevard is a 72 unit, 2 story apartment building designed for families with individuals with special needs and supports low incoming housing. The building lacks backup power. Power failure results in residents on the second story being unable to use elevators.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will support the Freedom Village in an application for funding to support the purchase and installation of a fixed site backup generator and necessary electrical components.		
Is this project related to a Critical Facility?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Level of Protection:	N/A	Estimated Benefits (losses avoided):	Protects facility from power loss, maintains elevators for emergency exits
Useful Life:	20 years	Goals Met:	1, 6
Estimated Cost:	\$80,000	Mitigation Action Type:	Structure and Infrastructure Projects (SIP)
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	FEMA HMGP and BRIC
Responsible Organization:	Project Freedom, OEM	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation, Emergency Management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	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
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Project Freedom Village Backup Power	
Project Number:	2021-Township of West Windsor-003	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Project will protect emergency exits for residents on second floor of facility
Property Protection	1	Project will protect building from power loss.
Cost-Effectiveness	1	
Technical	1	
Political	1	
Legal	0	The Township requires the cooperation of Project Freedom to complete the project.
Fiscal	0	Project requires funding support.
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	Severe Storm, Severe Winter Storm, Hurricane, Nor' Easter
Timeline	0	Within 5 years
Agency Champion	1	Project Freedom, OEM
Other Community Objectives	1	
Total	11	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Repetitive Loss Mitigation		
Project Number:	2021-Township of West Windsor-004		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather		
Description of the Problem:	The Township of West Windsor has 11 repetitive loss and 1 severe repetitive loss property. Many of these structures were built without flood design standards. These properties require mitigation to prevent future losses and prevent loss of life and property damage. Repetitive loss structures along the Millstone/Little Bear Brook were impacted during Hurricane Irene in 2011 and Superstorm Sandy in 2012 and remain potential losses.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will conduct outreach to the 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).		
Is this project related to a Critical Facility or Lifeline?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	1% annual chance flood event + freeboard <i>(in accordance with flood ordinance)</i>	Estimated Benefits (losses avoided):	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.
Useful Life:	Acquisition: Lifetime Elevation: 30 years (residential)	Goals Met:	1, 2
Estimated Cost:	\$1M	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	6-12 months
Estimated Time Required for Project Implementation:	Three years	Potential Funding Sources:	FEMA HMGP and FMA, BRIC, local cost share by residents
Responsible Organization:	Engineering via NFIP FPA with NJOEM, FEMA support	Local Planning Mechanisms to be Used in Implementation if any:	Hazard Mitigation
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	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)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Action Worksheet		
Project Name:	Repetitive Loss Mitigation	
Project Number:	2021-Township of West Windsor-004	
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	
Total	10	
Priority (High/Med/Low)	High	