



## 9.23 CITY OF WOODBURY

This section presents the jurisdictional annex for the City of Woodbury 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 City participated in the planning process, an assessment of the City of Woodbury’s risk and vulnerability, the different capabilities used in the City, and an action plan that will be implemented to achieve a more resilient community.

### 9.23.1 Hazard Mitigation Planning Team

The City of Woodbury 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 City 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 coronavirus pandemic resulted in a strain on local resources that limited some participation, but every effort was made to connect with staff and stakeholders and gain diverse input. Due to safety precautions, all meetings were held virtually.

The following table summarizes municipal officials that participated in the development of the annex and in what capacity, including the City of Woodbury’s 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 9.23-1. Hazard Mitigation Planning Team*

Primary Point of Contact		Alternate Point of Contact
Name/Title: John Leech, Emergency Manager Address: 33 Delaware Street Woodbury, NJ 08096 Phone Number: 856-845-0066 Email: <a href="mailto:jleech@woodbury.nj.us">jleech@woodbury.nj.us</a>		Name/Title: Joseph Buono, Deputy OEM Address: 33 Delaware Street Woodbury, NJ 08096 Phone Number: 856-845-0066 Email: <a href="mailto:jbuono@woodbury.nj.us">jbuono@woodbury.nj.us</a>
NFIP Floodplain Administrator		
Name/Title: William Rebel, Construction Official Address: 400 Crown Point Road West Deptford, NJ Phone Number: 856-345-7772 Email: <a href="mailto:brebel@westdeptford.com">brebel@westdeptford.com</a>		
Name	Title	Method of Participation



John Leech, Emergency Manager	John Leech, Emergency Manager	Provided information on past events, capabilities, NFIP administration, and building permits. Reviewed hazard rankings, provided update on previous actions, and contributed to mitigation strategy.
Joseph Buono, Deputy OEM	Joseph Buono, Deputy OEM	Provided information on past events, capabilities, NFIP administration, and building permits. Reviewed hazard rankings, provided update on previous actions, and contributed to mitigation strategy.

## 9.23.2 Municipal Profile

The City of Woodbury, one of the oldest “small cities” in the United States, had its beginning in 1683 when Henry Wood, a Quaker from Bury, England, settled in the region. By 1715 Woodbury had become a Quaker religious center and was a thriving hamlet at the onset of the American Revolution. The famous British General Lord Cornwallis, who would later surrender to George Washington at Yorktown, had his headquarters in Woodbury during his advance to capture the City of Philadelphia in 1777. By the mid-nineteenth century Woodbury had grown considerably and was incorporated as a City in 1854. Woodbury has been the County Seat of Gloucester County for over two centuries. Recently, Woodbury has also begun to experience a commercial rebirth owing greatly to the efforts of Woodbury Main Street Inc.

According to the United States Census Bureau, the city had a total area of 2.10 square miles, including 2.02 square miles of land and 0.08 square miles of water. The city borders Deptford Township, West Deptford Township and Woodbury Heights. North Broad Street is the main arterial that passes through the municipality.

Woodbury is governed under the City form of New Jersey municipal government. The governing body is comprised of the Mayor and the City Council. A Mayor is elected at-large directly by the voters for a four-year term of office. The City Council is comprised of nine members, three from each of three wards, elected to serve three-year terms on a staggered basis.

According to the U.S. Census, the 2010 population for the City of Woodbury was 10,174. The estimated 2019 population was 9,861, a 3.2 percent decrease from the 2010 Census. Data from the 2019 U.S. Census American Community Survey indicate that 6.5 percent of the population is 5 years of age or younger and 16.3 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.



## 9.23.3 Jurisdictional Capability Assessment and Integration

The City of Woodbury 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 9.23.3). The updated mitigation strategy includes opportunities the City of Woodbury identified for integration of mitigation concepts to be incorporated into municipal procedures.

### 9.23.3.1 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 City of Woodbury, what is present in the jurisdiction, and code citation and date.

*Table 9.23-2. Planning, Legal, and Regulatory Capability*

	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Codes, Ordinances, &amp; Regulations</b>					
<b>Building Code</b>	Yes	Yes	Chapter 73, Construction Codes, Uniform, 1976	State and Local	Building and Construction Department
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>• <i>Adopts the Uniform Construction Code as the construction code.</i></li> </ul>					
<b>Zoning/Land Use Code</b>	Yes	Yes, if the jurisdiction has a planning board	Chapter 35, Land Use Procedures, 1976; Chapter 202, Zoning, 1976	Local	Planning Board, Zoning Board of Adjustment
<i>How does this reduce risk?</i>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<ul style="list-style-type: none"> <li>Chapter 35 establishes the procedures of the Planning Board and Zoning Board of Adjustment.</li> <li>Chapter 202 is enacted for the following purposes:               <ul style="list-style-type: none"> <li>A. To promote the health, safety, morals and general welfare of the inhabitants of the City of Woodbury.</li> <li>B. To secure safety from fire, flood, panic and other natural and man-made disasters.</li> <li>C. To provide adequate light, air and open space.</li> <li>D. To promote the establishment of appropriate population densities and concentrations that will contribute to the well-being of persons, neighborhoods, communities and regions and preservation of the environment.</li> <li>E. To provide sufficient space in appropriate locations for a variety of residential, recreational, commercial and industrial uses and open space, both public and private.</li> <li>F. To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of such facilities and routes which result in congestion or blight.</li> <li>G. To promote a desirable visual environment through creative development techniques and good civic design and arrangements.</li> <li>H. To promote the conservation of open space and valuable natural resources and to prevent urban sprawl and degradation of the environment through improper use of land.</li> </ul> </li> </ul>					
<b>Subdivision Ordinance</b>	Yes	Yes, if the jurisdiction has a planning board	Chapter 170, Subdivision and Land Development, 1981	Local	Planning Board
<i>How does this reduce risk?</i> <ul style="list-style-type: none"> <li>The purposes of this chapter are as follows:               <ul style="list-style-type: none"> <li>A. To provide rules, regulations and standards to guide the subdivision and development of lands in this City in a manner which will promote the public health, safety, morals and general welfare.</li> <li>B. To ensure the orderly development, conservation, protection and proper use of land and adequate provision for circulation, utilities and services.</li> <li>C. To provide adequate light, air and open space.</li> <li>D. To ensure the coordination of development within the City with the development and general welfare of neighboring municipalities, the county and the State of New Jersey as a whole.</li> <li>E. To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of such facilities and routes which result in congestion or blight.</li> <li>F. To promote a desirable visual environment through creative development techniques and good civic design and arrangement.</li> <li>G. To promote the conservation of open space and valuable natural resources, and to prevent urban sprawl and degradation of the environment through improper use of land.</li> <li>H. To encourage development which incorporates the best features of design, and to relate the type, design and layout of residential, commercial, industrial and recreational development to the particular site.</li> <li>I. To encourage coordination of the various public and private procedures and activities shaping land development with a view to lessening the cost of such development, to ensuring the most efficient use of land and to protecting the City from undue obligations from land subdivision and development.</li> <li>J. To promote the conservation of energy through the use of planning practices designed to reduce energy consumption and to provide for maximum utilization of renewable energy sources.</li> <li>K. To promote the maximum practical recovery and recycling of recyclable materials from municipal solid waste through the use of planning practices designed to incorporate the goals of the recycling element of the adopted City Master Plan and the municipality's recycling program.</li> </ul> </li> </ul>					
<b>Stormwater Management Ordinance</b>	Yes	Yes	Chapter 165, Stormwater Control, 2006	Local	Engineer
<i>How does this reduce risk?</i>					
<b>Post-Disaster Recovery/ Reconstruction Ordinance</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Real Estate Disclosure</b>	Yes	Yes	N.J.A.C. 13:45A-29.1	State	State, Division of Consumer Affairs
<i>How does this reduce risk?</i> <ul style="list-style-type: none"> <li>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</li> </ul>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
services and amenities, the type of title and ownership interest being offered, its proximity to hospitals, schools, fire and police, as well as any hazards, risks or nuisances in or around the subdivision.					
<b>Growth Management</b>		Yes, if the jurisdiction has a planning board		Local	
<i>How does this reduce risk?</i>					
<b>Site Plan Ordinance</b>	Yes	Yes, if the jurisdiction has a planning board	Chapter 170, Article 6 Site Plan Review, 1982	Local and County	Planning Board
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>Establishes site plan and approval requirements.</li> </ul>					
<b>Environmental Protection Ordinance</b>	Yes	Yes, depends on type of environmental areas	Chapter 103, Hazardous Substances, 1988	Local	Mayor and Council
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>Establishes liability for cleanup and removal costs of hazardous substances.</li> </ul>					
<b>Flood Damage Prevention Ordinance</b>	Yes	Yes	Chapter 92, Flood Damage Prevention, 2009	Federal, State, County and Local	Floodplain Administrator
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:               <ul style="list-style-type: none"> <li>A. Protect human life and health;</li> <li>B. Minimize expenditure of public money for costly flood control projects;</li> <li>C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;</li> <li>D. Minimize prolonged business interruptions;</li> <li>E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;</li> <li>F. 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;</li> <li>G. Ensure that potential buyers are notified that property is in an area of special flood hazard; and</li> <li>H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.</li> </ul> </li> <li>In order to accomplish its purposes, this chapter includes methods and provisions for:               <ul style="list-style-type: none"> <li>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;</li> <li>B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;</li> <li>C. Controlling the alteration of natural floodplains, stream channels and natural protective barriers which help accommodate or channel floodwaters;</li> <li>D. Controlling filling, grading, dredging and other development which may increase flood damage; and</li> <li>E. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.</li> </ul> </li> </ul>					
<b>Wellhead Protection</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Emergency Management Ordinance</b>	Yes	No	Chapter 82, Emergency Management, 1976	Local	Emergency Management
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>Appoints the Director of Emergency Management and their powers during an emergency.</li> </ul>					
<b>Climate Change Ordinance</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Disaster Recovery Ordinance</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Disaster Reconstruction Ordinance</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Other</b>	No	-	-	-	-
<b>Codes, Ordinances, &amp; Regulations Connection to Mitigation and Safe Growth</b>					
<ul style="list-style-type: none"> <li>• Prior to, zoning changes, or development permitting, does the jurisdiction review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use?</li> <li>• Does the zoning ordinance discourage development or redevelopment within natural areas including wetlands, floodways, and floodplains?</li> <li>• Does it contain natural overlay zones that set conditions?</li> <li>• Does the ordinance require developers to take additional actions to mitigate natural hazard risk?</li> <li>• Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?</li> <li>• Do the ordinances prohibit development within, or filling of, wetlands, floodways, and floodplains?</li> <li>• Do the subdivision regulations restrict the subdivision of land within or adjacent to natural hazard areas?</li> <li>• Do the regulations provide for conservation subdivisions or cluster subdivisions in order to conserve environmental resources?</li> <li>• Do the regulations allow density transfers where hazard areas exist?</li> <li>• When updating ordinances, is hazard mitigation considered?</li> </ul>					
<b>Planning Documents</b>					
<b>Master Plan</b>	Yes	Yes – County Yes - municipality	Comprehensive Master Plan, 2019 (updated)	Local	Planning
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>• The Plan identifies the following goals related to hazards and hazard mitigation: <ul style="list-style-type: none"> <li>○ Preserve and protect the natural heritage, both environmental and cultural.</li> <li>○ Balance new development and ratables with the needs of the community.</li> <li>○ Preserve and improve open space systems.</li> <li>○ Revise the land use ordinances to ensure compatibility with new growth demands for housing, commercial and industrial uses within the community</li> </ul> </li> </ul>					
<b>Capital Improvement Plan</b>	Yes	Allowed	Capital Improvement Budget, 2021	Local	Administration
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>• Allocates potential funding for mitigation projects.</li> </ul>					
<b>Disaster Debris Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Floodplain Management or Watershed Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Stormwater Management Plan</b>	No	Yes	-	-	-
<i>How does this reduce risk?</i>					
<b>Stormwater Pollution Prevention Plan</b>	No	Yes	-	-	-
<i>How does this reduce risk?</i>					
<b>Urban Water Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Habitat Conservation Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Economic Development Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Shoreline Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Community Wildfire Protection Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Community Forest Management Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Transportation Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Agriculture Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Climate Action/ Resiliency Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Tourism Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Business/ Downtown Development Plan</b>	Yes	No	Broad Street Business District Redevelopment Plan, 2010	Local	Administration
<i>How does this reduce risk?</i>					
<ul style="list-style-type: none"> <li>Identifies redevelopment goals.</li> </ul>					
<b>Other</b>	No	No	-	-	-
<b>Planning Connection to Mitigation and Safe Growth</b>					
<ul style="list-style-type: none"> <li>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.</li> <li>Annually, the jurisdiction will review mitigation actions when allocating funding.</li> <li>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards?</li> <li>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards?</li> <li>Do budgets provide funding for hazard mitigation projects identified in the County HMP?</li> <li>Does the future land use map clearly identify natural hazard areas? Plan</li> <li>Do the land use policies discourage development or redevelopment with natural hazard areas?</li> <li>Does the plan provide adequate space for expected future growth in areas located outside natural hazard areas?</li> <li>Does the transportation plan limit access to hazard areas?</li> <li>Is transportation policy used to guide growth to safe locations?</li> <li>Are transportation systems designed to function under disaster conditions (e.g., evacuation)?</li> <li>Are environmental systems that protect development from hazards identified and mapped?</li> <li>Do environmental policies maintain and restore protective ecosystems?</li> <li>Do environmental policies provide incentives to development that is located outside protective ecosystems?</li> </ul>					
<b>Response/Recovery Planning</b>					
<b>Emergency Operations Plan</b>	Yes	Yes	Emergency Operations Plan – Base Plan, 2014	Local	
<i>How does this reduce risk?</i>					



	Jurisdiction has this? (Yes/No)	Required by State? (Yes/No)	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<b>Strategic Recovery Planning Report</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Post-Disaster Recovery Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Continuity of Operations Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Public Health Plan</b>	No	No	-	-	-
<i>How does this reduce risk?</i>					
<b>Other</b>	No	-	-	-	-
<b>Response/Recovery Planning Connection to Mitigation and Safe Growth</b>					
<ul style="list-style-type: none"> <li>Does your EOP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards?</li> </ul>					

### 9.23.3.2 Development and Permitting Capability

The table below summarizes the capabilities of the City of Woodbury to oversee and track development.

Table 9.23-3. Development and Permitting Capability

Indicate if your jurisdiction implements the following	Yes/No	Comment
Do you issue development permits? <ul style="list-style-type: none"> <li>If yes, what department is responsible?</li> <li>If no, what is your process for development?</li> </ul>	Yes	All construction permits for the City of Woodbury are processed at the West Deptford Construction Office
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	SFHA
Do you have a buildable land inventory? <ul style="list-style-type: none"> <li>If yes, describe.</li> <li>If no, quantitatively describe the level of buildout in the jurisdiction.</li> </ul>		

### 9.23.3.3 Administrative and Technical Capability

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

Table 9.23-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
<b>Administrative Capability</b>		



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Planning Board	Yes	Planning Board
Zoning Board of Adjustments	Yes	Zoning Board
Planning Department	Yes	???
Mitigation Planning Committee	Yes	???
Environmental Board/Commission	Yes	???
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Woodbury Economic Development
Public Works/Highway Department	Yes	The Public Works Department is responsible for providing the following City services: trash and recycling collection, leaf collection, yard debris (grass, weeds, brush and tree parts) and removal of snow from City streets.
Construction/Building/Code Enforcement Department	Yes	<p>The Woodbury Code Enforcement Office consists of the following departments:</p> <ul style="list-style-type: none"> <li>• Construction Office</li> <li>• Planning/Zoning Board</li> <li>• Zoning Officer</li> <li>• Housing Office</li> <li>• Landlord Licensing Office</li> </ul> <p>The Construction Department is responsible to enforce the Building Codes adopted by the Department of Community Affairs of the State of New Jersey.</p>
Emergency Management/Public Safety Department	Yes	<p>The Office of Emergency Management is responsible for coordinating the necessary actions to protect lives and property during times of disaster and emergency.</p> <p>During periods where no emergency conditions exist, the Office is responsible for disaster planning, preparation, rehearsal and review of the "all hazard" emergency operations plan for the City of Woodbury. This involves the coordination with and cooperation of federal, state, county and municipal agencies that would respond or be affected in cases of disaster.</p>
Warning Systems / Services (mass notification system, outdoor warning signals)	Yes	???
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	???
Mutual aid agreements	Yes	The Office enters into mutual aid agreements and conducts training exercises within the community.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	???
Other	No	-
<b>Technical/Staffing Capability</b>		
Planners or engineers with knowledge of land development and land management practices	Yes	???



Resources	Available? (Yes/No)	Comments (available staff, responsibilities, support of hazard mitigation)
Engineers or professionals trained in building or infrastructure construction practices	Yes	???
Planners or engineers with an understanding of natural hazards	Yes	???
Staff with expertise or training in benefit/cost analysis	Yes	???
Professionals trained in conducting damage assessments	Yes	???
Personnel skilled or trained in GIS and/or Hazards United States (HAZUS) – Multi-Hazards (MH) applications	No	-
Scientist familiar with natural hazards	No	-
Surveyor(s)	Yes	???
Emergency Manager	Yes	John Leech, Emergency Manager
Grant writer(s)	Yes	Are data and maps from the HMP used to support documentation in grant applications?
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-
<b>How do your administrative/technical capabilities contribute to risk reduction in your community?</b>		
<ul style="list-style-type: none"> <li>???</li> </ul>		

### 9.23.3.4 Fiscal Capability

The table below summarizes financial resources available to the City of Woodbury.

Table 9.23-5. 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
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	TBD
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	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes
<b>Fiscal Connection to Mitigation and Safe Growth</b>	



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?
<ul style="list-style-type: none"> <li>How do your fiscal capabilities contribute to risk reduction in your community? <b>PLACEHOLDER</b></li> <li>When constructing upcoming budgets, hazard mitigation actions will be funded as budget allows. Construction projects will be evaluated to see if they meet the hazard mitigation goals. <b>PLACEHOLDER</b></li> <li>Annually, the jurisdiction will review mitigation actions when allocating funding. <b>PLACEHOLDER</b></li> <li>Do budgets limit expenditures on projects that would encourage development in areas vulnerable to natural hazards? <b>PLACEHOLDER</b></li> <li>Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? <b>PLACEHOLDER</b></li> <li>Do budgets provide funding for hazard mitigation projects identified in the County HMP? <b>PLACEHOLDER</b></li> </ul>	

### 9.23.3.5 Education and Outreach Capability

The table below summarizes the education and outreach resources available to the **City of Woodbury**.

*Table 9.23-6. Education and Outreach Capabilities*

Outreach Resources	Available? (Yes/No)	Comments (available staff, responsibilities, etc.)
Public information officer or communications office	Yes	???
Personnel skilled or trained in website development	Yes	???
Hazard mitigation information available on your website	Yes	???
Social media for hazard mitigation education and outreach	No	-
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	???
Natural disaster/safety programs in place for schools	Yes	???
Other	No	-
<b>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.</b> <ul style="list-style-type: none"> <li><b>PLACEHOLDER</b></li> </ul>		

### 9.23.3.6 Community Classifications

The table below summarizes classifications for community programs available to the City of Woodbury.

*Table 9.23-7. Community Classifications*

Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	-	-



Program	Participating? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Building Code Effectiveness Grading Schedule (BCEGS)	???	???	???
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	???	???
Sustainable Jersey	No	-	-
StormReady Certification	No	-	-
Firewise Communities classification	Yes	???	???

Note:

N/A Not applicable

NP Not participating

- Unavailable

### 9.23.3.7 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 9.23-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak*
Coastal Erosion	Weak
Dam/ Levee	Moderate
Disease Outbreak	Strong
Drought	Moderate
Earthquake	Weak
Ext Temp	Moderate
Flood	Strong
Geologic	Weak
Hazmat	Moderate
Hurricane	Moderate
Invasive	Weak
Nor'Easter	Moderate
Severe Storm	Moderate
Severe Winter Storm	Moderate
Wildfire	Weak
Utility Failure	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.



## 9.23.4 National Flood Insurance Program (NFIP) Compliance

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

Table 9.23-9. NFIP Summary

NFIP Topic	Comments
<b>Flood Vulnerability Summary</b>	
<ul style="list-style-type: none"> <li># NFIP Policies: 21</li> <li># RL properties: 1</li> <li># SRL properties: 0</li> <li>#RL/SRL mitigated: 0</li> </ul>	<ul style="list-style-type: none"> <li>Total premium in force: \$28,869.00</li> <li># claims filed: 9</li> <li>Total loss payments: \$61,269.03</li> </ul>
Describe areas prone to flooding in your jurisdiction.	South Evergreen Ave under the Railroad Bridge.
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
<ul style="list-style-type: none"> <li>How do you make Substantial Damage determinations?</li> <li>How many were declared for recent flood events in your jurisdiction?</li> </ul>	Onsite inspections
Detail any RiskMAP projects currently underway in your jurisdiction.	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
<b>NFIP Administration</b>	
What local department is responsible for floodplain management?	Construction
Are any staff certified floodplain managers (CFMs) or is a consultant retained?	???
Provide an explanation of who in your municipality provides NFIP administration services (permit review, GIS, education/outreach, inspections, engineering capability).	???
What specific training or support does your floodplain management staff need to support its floodplain management program?	Course through NJ Office of Emergency Management.



NFIP Topic	Comments
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Construction Department is responsible for determinations.
Do you have access to resources to determine possible future flooding conditions from climate change?	No
<b>NFIP Compliance</b>	
List any outstanding NFIP compliance violations.	N/A
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	12/2/2002
<ul style="list-style-type: none"> <li>What is the local law number or municipal code of your flood damage prevention ordinance?</li> <li>What is the date that your flood damage prevention ordinance was last amended?</li> </ul>	<ul style="list-style-type: none"> <li>Chapter 92</li> <li>2009</li> </ul>
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets but update to the Flood Damage Prevention Ordinance is required.
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?	Site Plan Review by combined planning/ zoning board.
<ul style="list-style-type: none"> <li>Does your jurisdiction participate in CRS?</li> <li>If yes, is your jurisdiction interested in improving its CRS Classification?</li> <li>If no, is your jurisdiction interested in joining the CRS program?</li> </ul>	<ul style="list-style-type: none"> <li>No</li> <li>-</li> <li>No</li> </ul>

Notes: FEMA September 16, 2019; NJDEP - 2021  
 RL—Repetitive Loss; SRL—Severe Repetitive Loss; NA—Not applicable  
 CRS – Community Rating System

## 9.23.5 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 9.23-10. 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
<b>Single Family</b>	1	0	2	0	3	0	0	0	1	0	2	0
<b>Multi-Family</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>Other (commercial, mixed-use, etc.)</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Permits Issued</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>
Property or Development Name	Type of Development	# of Units / Structures		Location (address and/or block and lot)		Known Hazard Zone(s)*		Description / Status of Development				
<b>Recent Major Development and Infrastructure from 2015 to Present</b>												
None Identified												
<b>Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years</b>												
Inspira Hospital Site	Mixed Use	TBD		509 N Broad Street		Storm Surge, Earthquake, Hazardous Materials		Anticipated complete within next 5 years				

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

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

## 9.23.6 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 4.1 (Identification of Hazards of Concern), Section 4.2 (Methodology and Tools), and Section 4.4 (Hazard Ranking) provide a detailed summary for the City of Woodbury’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 City of Woodbury has significant exposure. The maps also show the location of potential new development, where available.



Figure 9.23-1. City of Woodbury Hazard Area Extent and Location Map 1

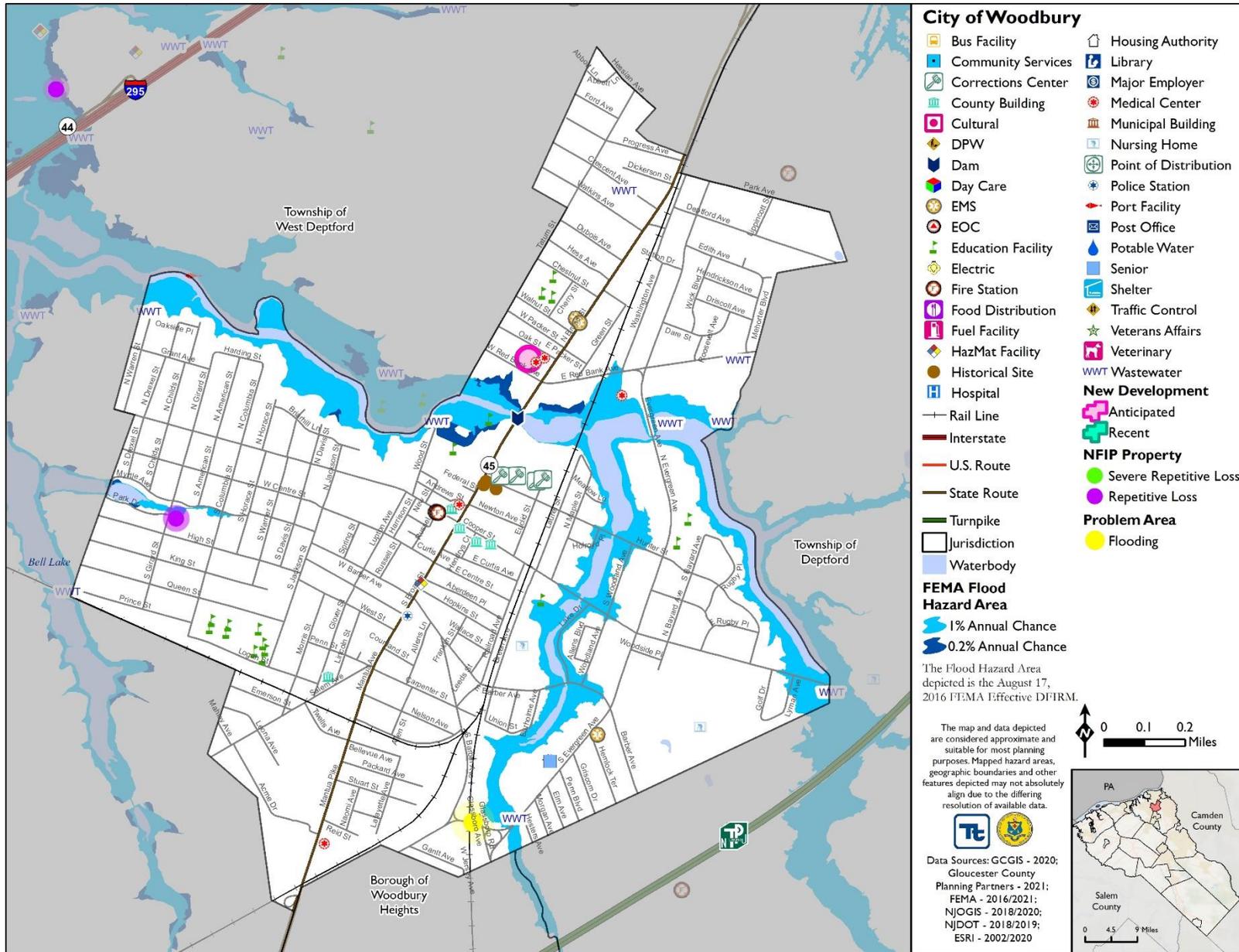




Figure 9.23-2. City of Woodbury Hazard Area Extent and Location Map 2

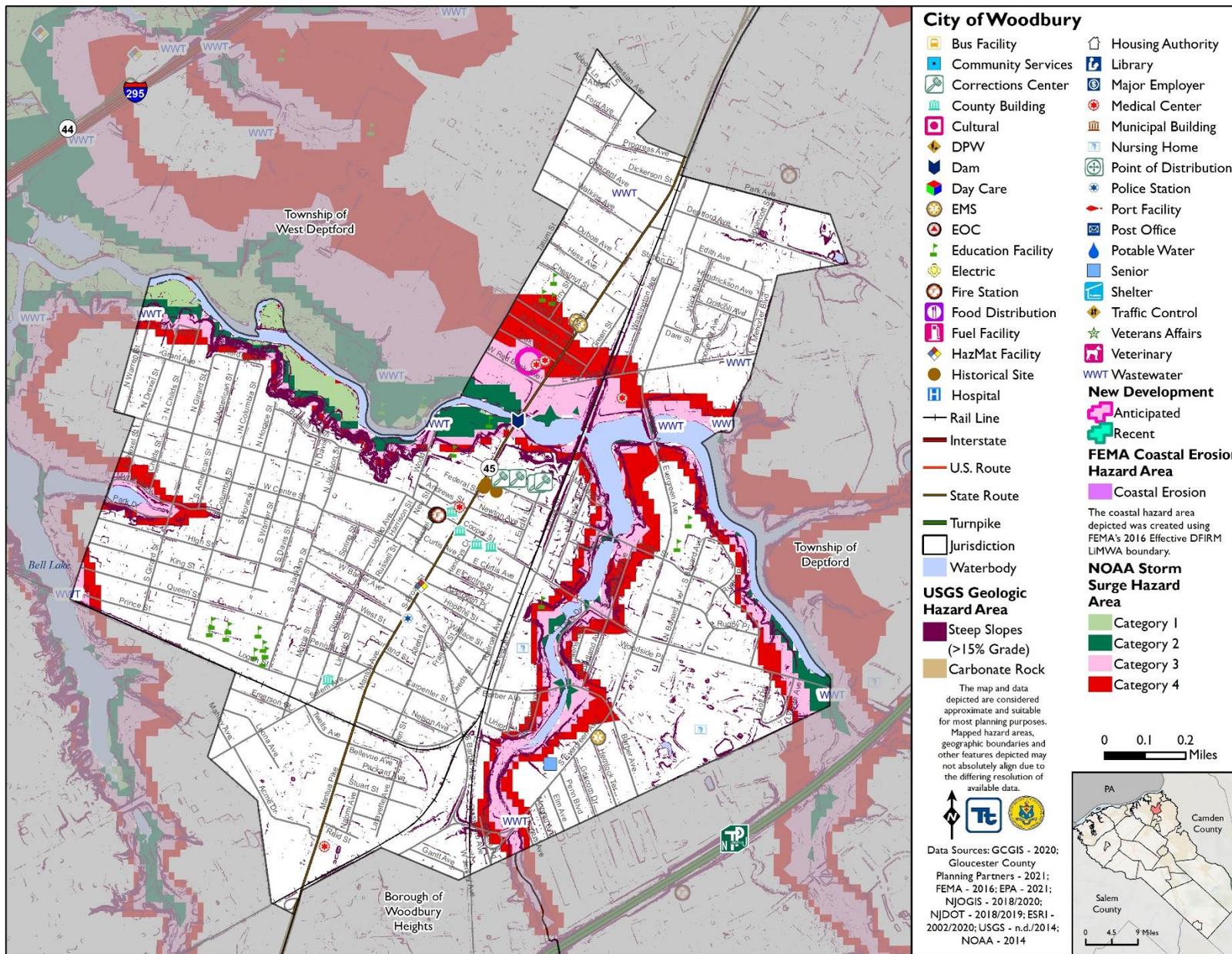




Figure 9.23-3. City of Woodbury Hazard Area Extent and Location Map 3

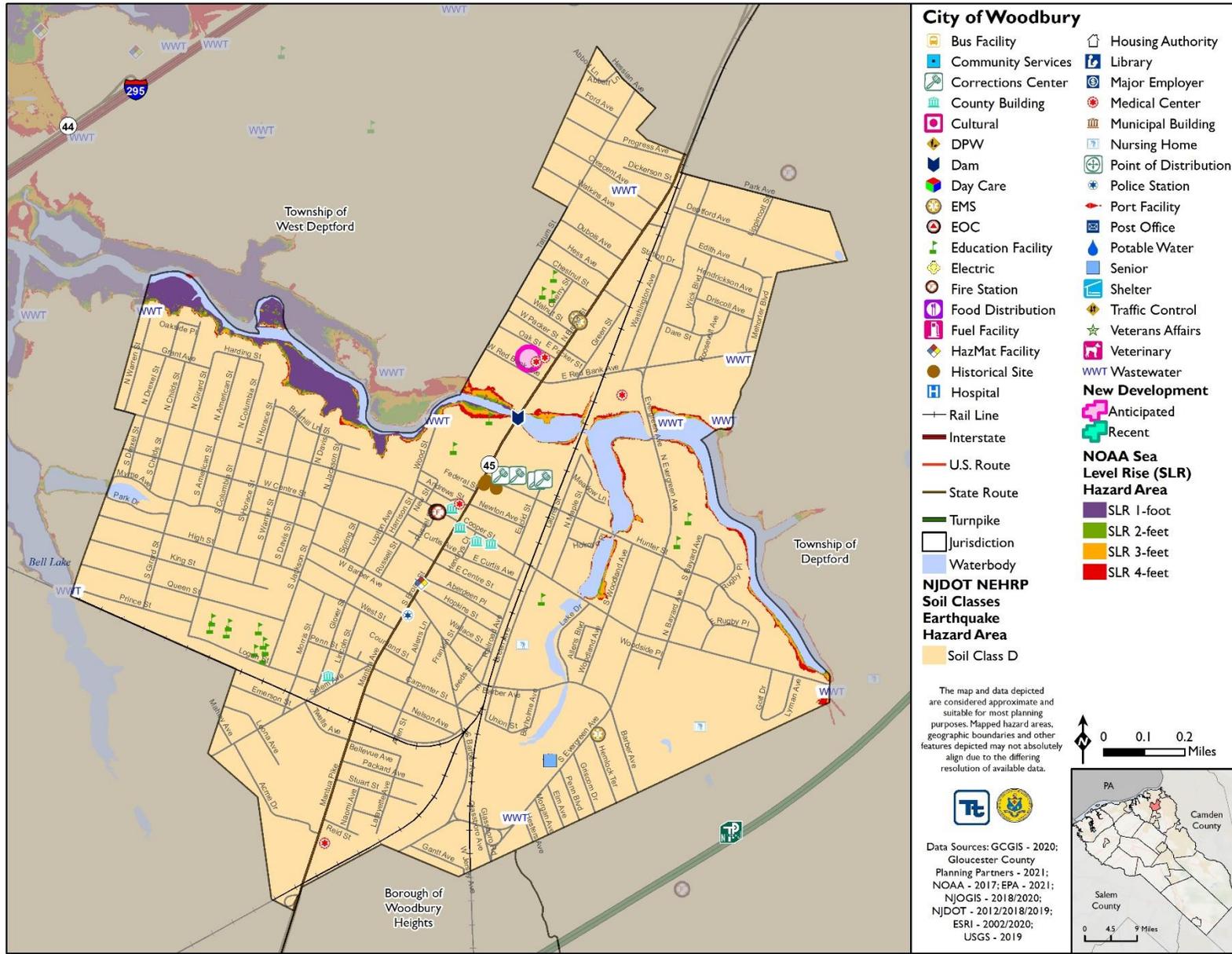
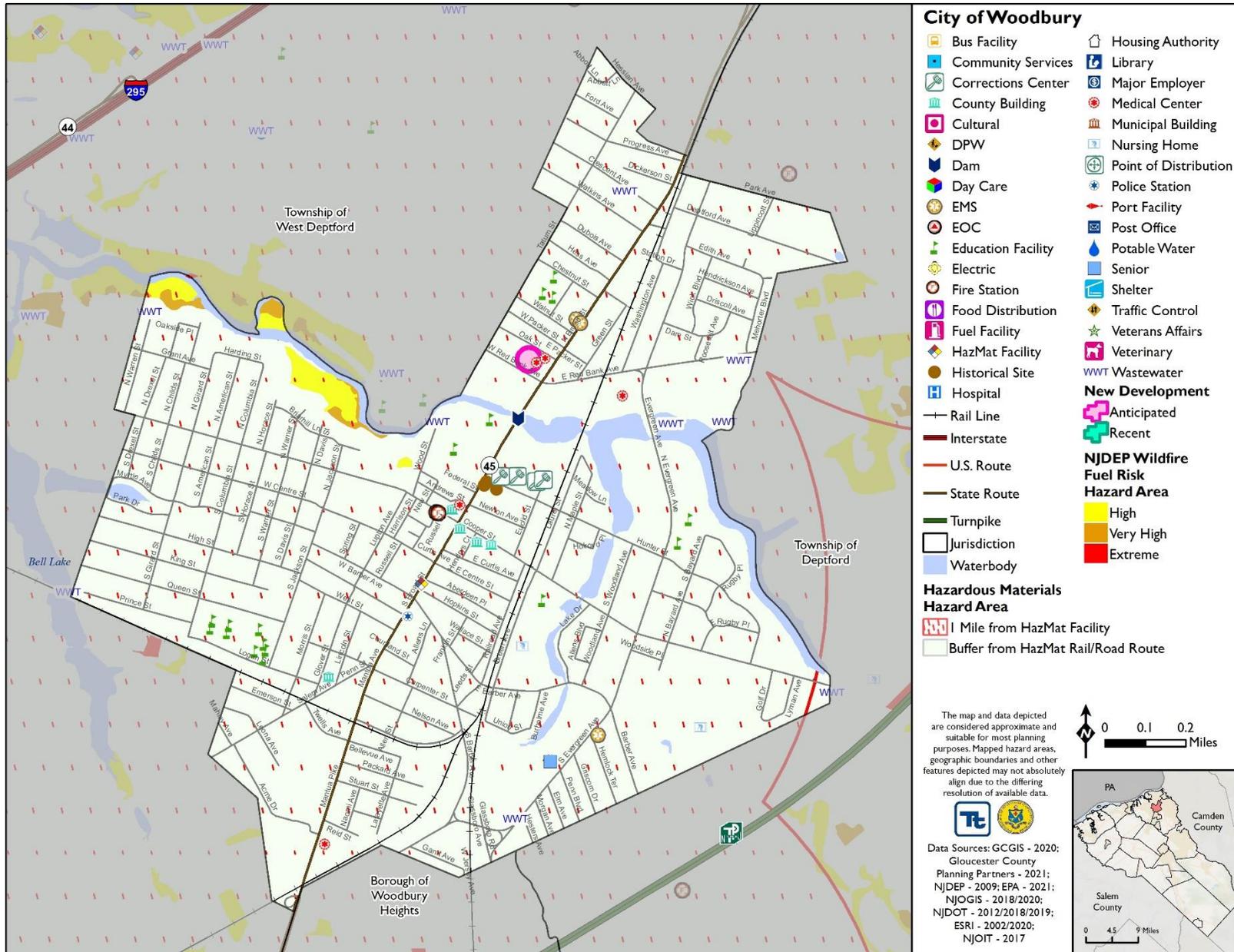




Figure 9.23-4. City of Woodbury Hazard Area Extent and Location Map 4





### 9.23.6.1 Hazard Event History

Gloucester 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 City of Woodbury’s history of federal declarations (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Gloucester County. The table below provides details regarding municipal-specific loss and damages the City 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 9.23-11. Hazard Event History

Dates of Event	Event Type (Disaster Declaration if applicable)	County Designated?	Summary of Event	Municipal Summary of Damages and Losses
February 15, 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.	Although the County was impacted, the City did not report damages.
June 23, 2015	Severe Storm (DR-4231-NJ)	Yes	In Gloucester County, the Red Cross opened two comfort stations. Wind damage was most severe between Greenwich Township and Mantua Township. Lightning struck a refinery in Paulsboro, causing a loss of power and off-gas. In Wenonah, wind damage knocked down several massive oak trees. In Mantua, the microburst knocked down an estimated 2,800 trees and 100 poles. The Township’s Fire Department building was severely damaged. Wind also knocked down power poles in East Greenwich along Kings Highway. Roads throughout East Greenwich were impassable. Damage was estimated at \$10 million.	Although the County was impacted, the City did not report damages.
January 22 – 24, 2016	Severe Winter Storm and Snowstorm (DR-4264-NJ)	Yes	Snow totals in Gloucester County included 21 inches in Deptford, 20.9 inches in Pitman, 17.5 inches in Turnersville, 14.5 inches in Williamstown, and one foot in Mullica Hill.	Although the County was impacted, the City did not report damages.
March 6, 2018	Winter Storm	No	Gloucester County was hit with isolated heavy snow, with totals ranging from five inches in Pitman to 6.5 inches in West Deptford.	Although the County was impacted, the City did not report damages.
January 20, 2020 – Present	Covid-19 Pandemic (EM-3451-NJ) (DR-4488-NJ)	Yes	Between March 1, 2020 and March 15, 2021, Gloucester County reported 21,065 confirmed cases of COVID-19, and 530 total fatalities.	The City was subject to closures and masking/social distancing requirements.



### 9.23.6.2 Hazard Ranking and Vulnerabilities

The hazard profiles in Section 4.1 (Identification of Hazards of Concern) of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the City of Woodbury’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 Gloucester County as a whole. The table below summarizes the hazard risk/vulnerability rankings of potential natural hazards for the City of Woodbury. The City of Woodbury reviewed the county 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 City indicated the following:

- The City agreed with the calculated hazard rankings.

*Table 9.23-12. Hazard Ranking Input*

Coastal Erosion	Dam/ Levee	Disease Outbreak	Drought	Earthquake	Extreme Temperature	Flood
Low	Low	Low	Medium	Low	Medium	Low
Geologic	Hazardous Materials	Hurricane	Invasive Species	Nor’Easter	Severe Weather	
Low	High	Low	Low	Medium	High	
	Severe Winter Weather	Wildfire	Utility Failure			
	Medium	Low	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 and presents Hazus estimates of the damage and loss of use to critical facilities as a result of a 1-percent annual chance flood event.

*Table 9.23-13. Potential Flood Losses to Critical Facilities*

Name	Type	Lifeline?	Exposure		Comment
			1% Event	0.2% Event	
Evergreen Court Adult Day Services	Medical Center	X	X	X	-
WOODBURY JUNIOR & SENIOR HIGH	Secondary Education	X	X	X	-
Paulsboro, NJ	Port Facility	X	X	X	-
Broad Street Lake Dam	Dam	X	X	X	-
CPI	Wastewater Metering Station	X	X	X	-
Wood Street	Wastewater Metering Station	X	X	X	-

Source: Gloucester County Planning Partners - 2021; HIFLD - 2020; EPA - 2021; FEMA 2016

### 9.23.6.3 Identified Issues

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

- 555 S Evergreen Ave. Woodbury NJ Storm Drains in area. Heavy Rain creates 6-7 feet of flood waters. Swift water rescue, cars and trucks. The City needs to perform swift water rescue of cars and trucks. This impacts access to Inspira emergency room, EMS, Fire, Police response to an incident.
- Improvement of the stormwater management system is needed at Conrail railroad and S. Evergreen Avenue.
- Multiple areas of flooding impact critical facilities. A complete site and facility survey is needed to determine flood impacts and potential mitigation measures.
- A system is needed to track recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.
- Regular municipal working group meetings are needed to discuss emergency management and hazard mitigation issues.
- The City has one repetitive loss property.
- Critical facilities not under the City's jurisdiction may not have sufficient backup power to maintain critical services.
- The flood damage prevention ordinance requires update to meet new recommended language from NJ DEP.
- The City lacks a disaster debris management plan.



## 9.23.7 Mitigation Strategy and Prioritization

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

### 9.23.7.1 Past Mitigation Initiative Status

The following table indicates progress on the community'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 9.23-14. Status of Previous Mitigation Actions

2016 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2022 HMP? Check if Yes	Enter 2022 HMP Action #
MJ-1	Storm sewer system at Evergreen Avenue and County Road 650.	Municipal OEM, Gloucester County DPW, Conrail	No Progress. Responsibility of County Highway/Conrail.	X,	2022- Woodbury-001
MJ-2	Improve storm water management system at Conrail railroad and S. Evergreen Ave.	Municipal OEM, Gloucester County DPW, Conrail	No Progress. Responsibility of County Highway/Conrail.	X	2022- Woodbury-002
MJ-3	Alleviate flooding and hardening of Colonial Park Senior Citizen Center.	Municipal OEM, Gloucester County DPW			
M-01	Identify and pursue outreach and education opportunities	Municipal OEM	No Progress	-	-
M-02	Prioritize critical facilities and complete site and facility surveys to identify vulnerabilities and potential mitigation measures.	Municipal OEM and Facility Managers	No Progress. Multiple areas of flooding. Responsibility of local OEM/Public Works	X	2022- Woodbury-003
M-03	Prioritize recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.	Municipal OEM and Municipal Working Group	No Progress. Multiple areas of flooding. Responsibility of local OEM/Public Works	X	2022- Woodbury-004
M-04	Conduct Regular Municipal Working Group Meetings	Municipal OEM and Municipal Working Group	No Progress	X	2022- Woodbury-005
M-05	Upgrade permanent back-up emergency power generator at City Hall (CF-1).	Municipal OEM and Public Works Department	Completed	-	-
M-06	Upgrade permanent back-up emergency power generator at Woodbury Fire Department (CF-6).	Municipal OEM, Public Works Department, and Fire Department	Completed	-	-
M-07	Install permanent back-up emergency power generator at Public Works Fleet Maintenance (CF-9).	Municipal OEM and Public Works Department	No Progress, no longer a priority	-	-
M-08	Install permanent back-up emergency power generator at Well #1A (CF-12).	Municipal OEM and Public Works Department	Completed	-	-
M-09	Install permanent back-up emergency power generator at Well #2A (CF-13).	Municipal OEM and Public Works Department			
M-10	Install permanent back-up emergency power generator at Pump Station (CF-14).	Municipal OEM and Public Works Department			
M-11	Install permanent back-up emergency power generator at Evergreen Avenue Elementary School (CF-24).	Municipal OEM Public Works Department, and School Board	No Progress	X	2022- Woodbury-007



2016 Action Number and Action Description		Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2022 HMP? Check if Yes	Enter 2022 HMP Action #
M-12	Install permanent back-up emergency power generator at Walnut Street Elementary School (CF-25).	Municipal OEM Public Works Department, and School Board	No Progress	X	2022- Woodbury-007
M-13	Install permanent back-up emergency power generator at West End Memorial Elementary School (CF-26).	Municipal OEM Public Works Department, and School Board	No Progress	X	2022- Woodbury-007
M-14	Install permanent back-up emergency power generator at Holy Angels Parish (shelter) (CF-31).	Municipal OEM Public Works Department, and Holy Angels Parish	No Progress	X	2022- Woodbury-007
M-15	Upgrade dam flood gates for Woodbury Creek Park Dam.	Municipal OEM and Public Works Department	Completed	-	-
M-16	Upgrade dam flood gates for Bell Lake Dam.	Municipal OEM and Public Works Department			
M-17	Engineering study to determine appropriate flood mitigation action for EOC / data storage at City Hall facility located at 33 Delaware Street (CF-1).	Municipal OEM and Public Works Department			
M-18	Upgrade storm management system at Packard Avenue.	Municipal OEM and Public Works Department			
M-19	Upgrade storm management system at Stewart Avenue.	Municipal OEM and Public Works Department	Completed	-	-
M-20	Engineering study to determine appropriate flood mitigation action on the following streets: East Red Bank Avenue, S. Evergreen Avenue, S. Barber Avenue, Packard Avenue between Logan and S. Columbia Street, Delaware Street, Drexel Street, Child Street, Gerard Street between Salem Avenue and Glover Street, Cooper Street at Almonesson Lake.	Municipal OEM and Public Works Department			



### 9.23.7.2 Additional Mitigation Efforts

Other than routine maintenance activities and progress noted in 9.23-14, the City did not undertake any additional mitigation efforts in the last five years.

### 9.23.7.3 Proposed Hazard Mitigation Initiatives for the HMP Update

The City of Woodbury participated in a mitigation action workshop in August 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 9.23-15. Analysis of Mitigation Actions by Hazard and Category*

Hazard	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Coastal Erosion	X									X
Dam/ Levee	X									X
Disease Outbreak	X									X
Drought	X									X
Earthquake	X									X
Ext Temp	X									X
Flood	X	X		X	X		X		X	X
Geologic	X									X
Hazmat	X									X
Hurricane	X									X
Invasive	X									X
Nor'Easter	X					X				X
Severe Storm	X	X							X	X
Severe Winter Storm	X									X
Wildfire	X									X
Utility Failure	X			X			X			X

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

The table below (Table 9.23-16) summarizes the comprehensive range of specific mitigation initiatives the City of Woodbury 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 (Mitigation Strategy), 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 9.23-17 provides a summary of the prioritization of all proposed mitigation initiatives for the HMP update.

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Table 9.23-16. 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
2022-Woodbury-001	South Evergreen Avenue Flooding	<p><b>Problem:</b> Heavy Rain creates 6-7 feet of flood waters on South Evergreen Avenue. Swift water rescue, cars and trucks. The City needs to perform swift water rescue of cars and trucks. This impacts access to Inspira emergency room, EMS, Fire, Police response to an incident.</p> <p><b>Solution:</b> The Engineer and Public Works will evaluate stormwater components to determine if improvements are necessary. Once evaluated, mitigation measures will be made as necessary such as upsizing of stormwater features, increased drainage, etc. As improvements are made, Public Works and OEM will monitor the areas to determine performance of the improvements and if additional measures are necessary.</p>	Existing	Flood, Severe Storm	1, 2	Engineer, Public Works, OEM	HMGP, BRIC, City budget	Reduction in flood risk, reduction in need for emergency response	TBD by developed actions. Anticipated High.	Within 5 years	High	SIP	SP
2022-Woodbury-002	Conrail Railroad Stormwater Protections	<p><b>Problem:</b> Improvement of the stormwater management system is needed at Conrail railroad and S. Evergreen Avenue to prevent flooding.</p> <p><b>Solution:</b> The City will encourage the County Highway Department and Conrail to address the flooding concerns at the Conrail Railroad.</p>	Existing	Flood, Severe Storm	1, 2	OEM, Administration	City budget	Reduction in flooding of critical infrastructure	Staff time	Within 6 months	High	EAP	PI



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
2022-Woodbury-003	Critical Facility Flood Survey	<p><b>Problem:</b> Multiple areas of flooding impact critical facilities. A complete site and facility survey is needed to determine flood impacts and potential mitigation measures.</p> <p><b>Solution:</b> The City engineer will complete flood studies for critical facilities in the City. Facilities with identified flood exposure will have feasibility assessments completed to determine cost effective mitigation measures. Identified cost effective measures will be implemented.</p>	Existing	Flood, Severe Storm	1, 2	Engineer	HMGP, BRIC, FMA, USDA Community Facilities Grant Program, City budget	Protection of critical facilities and critical services from flood damages	High	Within 5 years	High	LPR, SIP	PP
2022-Woodbury-004	Flood and Hazard Data Collection	<p><b>Problem:</b> A system is needed to track recurrent drainage problem areas and initiate data collection to track unreimbursed damages and related response and recovery expenses.</p> <p><b>Solution:</b> The City will develop and implement a system to track recurrent drainage problem areas and damages/related response and recovery expenses.</p>	N/A	All Hazards	4	Administration, OEM	City budget	Data available for mitigation planning, reimbursement following disaster events	Low	1 year	High	LPR	ES
2022-Woodbury-005	Working Group Meetings	<p><b>Problem:</b> Regular municipal working group meetings are needed to discuss emergency management and hazard mitigation issues.</p>	N/A	All Hazards	1, 4, 5	OEM, City Departments	City budget	Increased integration of hazard mitigation in City discussions and	Staff time	6 months	High	LPR	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
		<b>Solution:</b> The City will establish a working group, led by OEM, and meet regularly.						Department coordination					
2022-Woodbury-006	Repetitive Loss Mitigation	<p><b>Problem:</b> Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The City has one repetitive loss property. Other areas may be floodprone. Flooding is known to be an issue in the Evergreen Avenue area.</p> <p><b>Solution:</b> Conduct outreach to 10 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).</p>	Existing	Flood, Severe Weather	1, 2, 3	NFIP Floodplain Administrator, supported by homeowners	FEMA HMGP and FMA, local cost share by residents	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.	\$1 Million	3 years	High	SIP	PP
2022-Woodbury-007	Critical Facility Backup Power Support	<b>Problem:</b> Critical facilities not under the City's jurisdiction may not have sufficient backup power to maintain critical services.	Existing	Utility Failure	1, 3, 6	OEM, Engineer, facility managers	City budget	Facility managers aware of potential funding for	Staff time	1 year	High	EAP	PI



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
		<b>Solution:</b> OEM and the City Engineer will meet with facility managers to explain potential funding opportunities to provide for backup power installation.						backup power					
2022-Woodbury-008	Update the Flood Damage Prevention Ordinance	<b>Problem:</b> The current flood damage prevention ordinance does not meet the state's recommendation for a code-coordinated flood damage prevention ordinance.  <b>Solution:</b> The City will update the flood damage prevention ordinance 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.	New	Flood	1, 2	Floodplain Administrator, Administration	City budget	Meet state and FEMA standards for flood damage prevention, reduce flood risk on new development	Staff time	6 months	Medium	LPR	PR
2022-Woodbury-009	Disaster Debris Management Plan	<b>Problem:</b> The City lacks an adopted Disaster Debris Management Plan.  <b>Solution:</b> The City will complete and adopt the in-progress Disaster Debris Management Plan.	Existing	All Hazards	5	Public Works, OEM	City budget	Increased planning for post-disaster response and cleanup.	Staff time	6 months	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
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

**Potential FEMA HMA Funding Sources:**

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
BRIC	Building Resilient Infrastructure and Communities Program

**Timeline:**

The time required for completion of the project upon implementation

**Cost:**

The estimated cost for implementation.

**Benefits:**

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

**Mitigation Category:**

- *Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.*
- *Structure and Infrastructure Project (SIP) - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.*
- *Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.*
- *Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.*

**CRS Category:**

- *Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.*
- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.*



Table 9.23-17. 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
2022- Woodbury-001	South Evergreen Avenue Flooding	1	1	0	1	1	1	0	1	1	0	1	0	1	1	10	High
2022- Woodbury-002	Conrail Railroad Stormwater Protections	1	1	1	1	1	0	1	1	1	1	1	1	0	1	12	High
2022- Woodbury-003	Critical Facility Flood Survey	1	1	1	1	1	1	0	1	1	1	1	0	1	1	12	High
2022- Woodbury-004	Flood and Hazard Data Collection	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2022- Woodbury-005	Working Group Meetings	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2022- Woodbury-006	Repetitive Loss Mitigation	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2022- Woodbury-007	Critical Facility Backup Power Support	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2022- Woodbury-008	Update the Flood Damage Prevention Ordinance	0	1	1	1	1	1	1	1	1	1	0	1	1	1	12	High
2022- Woodbury-009	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.



## 9.23.8 Action Worksheets

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

DRAFT



Action Worksheet			
<b>Project Name:</b>	South Evergreen Avenue Flooding		
<b>Project Number:</b>	2022- Woodbury-001		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Flood, Severe Storm		
<b>Description of the Problem:</b>	Heavy Rain creates 6-7 feet of flood waters on South Evergreen Avenue. Swift water rescue, cars and trucks. The City needs to perform swift water rescue of cars and trucks. This impacts access to Inspira emergency room, EMS, Fire, Police response to an incident.		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	The Engineer and Public Works will evaluate stormwater components to determine if improvements are necessary. Once evaluated, mitigation measures will be made as necessary such as upsizing of stormwater features, increased drainage, etc. As improvements are made, Public Works and OEM will monitor the areas to determine performance of the improvements and if additional measures are necessary.		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<b>Level of Protection:</b>	TBD by developed actions	<b>Estimated Benefits (losses avoided):</b>	Reduction in flood risk, reduction in need for emergency response
<b>Useful Life:</b>	30 years	<b>Goals Met:</b>	1, 2
<b>Estimated Cost:</b>	TBD by developed actions. Anticipated High.	<b>Mitigation Action Type:</b>	Structure and Infrastructure Projects
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 5 years
<b>Estimated Time Required for Project Implementation:</b>	6 months	<b>Potential Funding Sources:</b>	HMGP, BRIC, City budget
<b>Responsible Organization:</b>	Engineer, DPW, OEM	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard mitigation planning, Stormwater management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Current problem continues
	Elevate homes	Very High	Costly and would not solve roadway flooding
	Buyout homes	Very High	Costly and would not solve roadway flooding
Progress Report (for plan maintenance)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	South Evergreen Avenue Flooding	
<b>Project Number:</b>	2022- Woodbury-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
<b>Life Safety</b>	1	Protects life from flooding and maintains emergency access.
<b>Property Protection</b>	1	Protects buildings from flood damage
<b>Cost-Effectiveness</b>	0	
<b>Technical</b>	1	Technically feasible project
<b>Political</b>	1	
<b>Legal</b>	1	The City has the legal authority to conduct the project.
<b>Fiscal</b>	0	Project will require grant funding.
<b>Environmental</b>	1	
<b>Social</b>	1	Project would reduce flooding impacts
<b>Administrative</b>	0	
<b>Multi-Hazard</b>	1	Flood, Severe Storm
<b>Timeline</b>	0	Within 5 years
<b>Agency Champion</b>	1	Engineer, DPW, OEM
<b>Other Community Objectives</b>	1	
<b>Total</b>	10	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	Critical Facility Flood Survey		
<b>Project Number:</b>	2022- Woodbury-003		
<b>Risk / Vulnerability</b>			
<b>Hazard(s) of Concern:</b>	Flood, Severe Storm		
<b>Description of the Problem:</b>	Multiple areas of flooding impact critical facilities. A complete site and facility survey is needed to determine flood impacts and potential mitigation measures.		
<b>Action or Project Intended for Implementation</b>			
<b>Description of the Solution:</b>	The City engineer will complete flood studies for critical facilities in the City. Facilities with identified flood exposure will have feasibility assessments completed to determine cost effective mitigation measures. Identified cost effective measures will be implemented.		
<b>Is this project related to a Critical Facility?</b>	Yes	<input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>Level of Protection:</b>	500-year flood level	<b>Estimated Benefits (losses avoided):</b>	Protection of critical facilities and critical services from flood damages
<b>Useful Life:</b>	TBD by feasibility assessment	<b>Goals Met:</b>	1, 2
<b>Estimated Cost:</b>	TBD by feasibility assessment	<b>Mitigation Action Type:</b>	Structure and Infrastructure Projects (SIP)
<b>Plan for Implementation</b>			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	Within 5 years
<b>Estimated Time Required for Project Implementation:</b>	1 year	<b>Potential Funding Sources:</b>	HMGP, BRIC, FMA, USDA Community Facilities Grant Program, City budget
<b>Responsible Organization:</b>	Engineer	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard Mitigation, Emergency Management
<b>Three Alternatives Considered (including No Action)</b>			
<b>Alternatives:</b>	<b>Action</b>	<b>Estimated Cost</b>	<b>Evaluation</b>
	No Action	\$0	Problem continues.
	Relocate facilities	N/A	Not possible
	Build levee around facilities	N/A	No space for full levee system
<b>Progress Report (for plan maintenance)</b>			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Critical Facility Flood Survey	
<b>Project Number:</b>	2022- Woodbury-003	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
<b>Life Safety</b>	1	Project will protect critical services of critical facilities
<b>Property Protection</b>	1	Project will protect critical facilities from flood damage.
<b>Cost-Effectiveness</b>	1	
<b>Technical</b>	1	
<b>Political</b>	1	
<b>Legal</b>	1	The City has the legal authority to complete the project.
<b>Fiscal</b>	0	Project requires funding support.
<b>Environmental</b>	1	
<b>Social</b>	1	
<b>Administrative</b>	1	
<b>Multi-Hazard</b>	0	Flood, Severe Storm
<b>Timeline</b>	0	Within 5 years
<b>Agency Champion</b>	1	Engineer
<b>Other Community Objectives</b>	1	Protection of critical services
<b>Total</b>	12	
<b>Priority (High/Med/Low)</b>	High	



Action Worksheet			
<b>Project Name:</b>	Repetitive Loss Mitigation		
<b>Project Number:</b>	2022- Woodbury-006		
Risk / Vulnerability			
<b>Hazard(s) of Concern:</b>	Severe Storm, Flood		
<b>Description of the Problem:</b>	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The City has 1 repetitive loss property, but other properties may be impacted by flooding as well. Flooding is known to be an issue in the Evergreen Avenue area.		
Action or Project Intended for Implementation			
<b>Description of the Solution:</b>	Conduct outreach to 10 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).		
<b>Is this project related to a Critical Facility or Lifeline?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<b>Level of Protection:</b>	1% annual chance flood event + freeboard ( <i>in accordance with flood ordinance</i> )	<b>Estimated Benefits (losses avoided):</b>	Eliminates flood damage to homes and residents, creates open space for the municipality increasing flood storage.
<b>Useful Life:</b>	Acquisition: Lifetime Elevation: 30 years (residential)	<b>Goals Met:</b>	1, 3
<b>Estimated Cost:</b>	\$1 Million	<b>Mitigation Action Type:</b>	Structure and Infrastructure Project
Plan for Implementation			
<b>Prioritization:</b>	High	<b>Desired Timeframe for Implementation:</b>	6-12 months
<b>Estimated Time Required for Project Implementation:</b>	Three years	<b>Potential Funding Sources:</b>	FEMA HMGP and FMA, local cost share by residents
<b>Responsible Organization:</b>	NFIP Floodplain Administrator, supported by homeowners	<b>Local Planning Mechanisms to be Used in Implementation if any:</b>	Hazard Mitigation
Three Alternatives Considered (including No Action)			
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)			
<b>Date of Status Report:</b>			
<b>Report of Progress:</b>			
<b>Update Evaluation of the Problem and/or Solution:</b>			



Action Worksheet		
<b>Project Name:</b>	Repetitive Loss Mitigation	
<b>Project Number:</b>	2022- Woodbury-006	
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 City 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 City.
Administrative	0	
Multi-Hazard	1	Severe Storm, Flood
Timeline	0	
Agency Champion	1	NFIP Floodplain Administrator, supported by homeowners
Other Community Objectives	1	
<b>Total</b>	10	
<b>Priority (High/Med/Low)</b>	High	