



9.6 TOWNSHIP OF LOWER

This section presents the jurisdictional annex for the Township of Lower. The annex includes a general overview of the Township of Lower; an assessment of the Township of Lower’s risk, vulnerability, and mitigation capabilities; and a prioritized action plan to implement prior to a disaster to reduce future losses and achieve greater resilience to natural hazards.

9.6.1 Staff and Local Stakeholder Involvement in Annex Development

The Township of Lower followed the planning process described in Section 3 (Planning Process). This annex was developed over the course of several months with input from many jurisdiction representatives. 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 who participated and in what capacity. Additional documentation on the municipality’s planning process through Planning Partnership meetings is included in Section 3 (Planning Process) and Appendix C (Meeting Documentation).

Table 9.6-1. Hazard Mitigation Planning Team and Contributors

Primary Point of Contact	Alternate Point of Contact	Updated Alternate Point of Contact
Name / Title: Edward Donohue, OEM Director Address: 2600 Bayshore Road, Villas, NJ 08251 Phone Number: (609) 600-7899 Email: oem@townshipoflower.org	Name / Title: Gary Douglass, Deputy OEM Director Address: 2600 Bayshore Road, Villas, NJ 08251 Phone Number: (609) 780-6049 Email: gdouglass@townshipoflower.org	Name / Title: Eileen Kreis, Deputy OEM Director/Manager’s Office Address: 2600 Bayshore Road, Villas, NJ 08251 Email: ekreis@townshipoflower.org
NFIP Floodplain Administrator	CRS Coordinator	
Name / Title: Gary Playford, Construction Official Address: 2600 Bayshore Road, Villas, NJ 08251 Phone Number: (609) 886-2005x140 Email: gplayford@townshipoflower.org	Name / Title: Jennifer M. Dowe, CTA, CFM, CRS Coordinator Address: 2600 Bayshore Road, Villas, NJ 08251 Phone Number: (609) 886-2005 x142 Email: assessor@townshipoflower.org	
Name	Title	Method of Participation
Edward Donohue	OEM Coordinator	Primary point of contact, provided information and data, contributed to mitigation strategy, reviewed and signed off on annex
Jennifer M. Dowe, CTA, CFM	Assessor/CSR Coordinator	CRS Coordinator, provided information and data, contributed to mitigation strategy
Gary Douglass	DPW Supt./ Deputy OEM Coordinator	Alternate point of contact, provided information and data, contributed to mitigation strategy, reviewed and signed off on annex
Gary Playford	Construction Official/ Floodplain Manager	NFIP floodplain administrator, provided information and data,



		contributed to mitigation strategy, reviewed and signed off on annex
William Galestok	Planning/Zoning Director	Provided information and data, contributed to mitigation strategy
Frank Sippel	Mayor	Reviewed and signed off on annex
Lauren Read	Chief Finance Officer	Reviewed and signed off on annex
Kevin Lewis	Captain, Police Department	Reviewed and signed off on annex
Donna Blackley	Fire Department	Reviewed and signed off on annex
Rich Harron Jr	Chief, Villas Fire Company	Took stakeholder survey
David Lepor	Chief, Erma Volunteer Fire Company	Took stakeholder survey

9.6.2 Jurisdiction Profile

The Township of Lower is located within the southern section of Cape May County, New Jersey. It is bounded on the north by the Township of Middle and the Delaware Bay, on the east by the Wildwoods and the Atlantic Ocean, on the south by the City of Cape May, Boroughs of West Cape May and Cape May Point and the Atlantic Ocean, and on the west by the Delaware Bay. It is part of the Ocean City Metropolitan Statistical Area. Diamond Beach, Erma, North Cape May and Villas are census-designated places and unincorporated areas located within Lower Township. Other communities in Lower Township include Cold Spring, Fishing Creek, Schellenger's Landing and Town Bank.

According to the U.S. Census, the 2010 population for the Township of Lower was 22,866. The estimated 2018 population was 21,838, a 4.5 percent increase from the 2010 Census. Data from the 2018 U.S. Census American Community Survey indicate that 4.4 percent of the population is 5 years of age or younger and 23 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.

9.6.3 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. Table 9.6-2 summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development. Figure 9.6-1 at the end of this annex illustrates the geographically-delineated hazard areas and the location of potential new development.

Table 9.6-2. Recent and Expected Future Development

Type of Development	2015	2016	2017	2018	2019
Number of Building Permits for New Construction Issued Since the Previous HMP					
Single and Two-Family Units	32	41	52	46	69
Multi-Family	1	0	0	6	1
Other (commercial, mixed-use, etc.)	0	0	0	0	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					
Icona	Residential	62 units	699/3-14.01	AE-9	Not constructed
Macum Corp	Commercial	1	749/6+1.07	None	Not constructed
Platzer	Residential	6	820/2.05	None	Not constructed
Fiskeldan LLC	Commercial	1	452/14	None	Not constructed





Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years					
Cape Real Estate	Residential	6 lots	765/10,12,14-25	None	Not constructed
South Cape Grove	Residential	9 lots	792/6.01	None	Not constructed
Shawmount	Residential	24 lots	494.01/28	None	Not constructed

* Only location-specific hazard zones or vulnerabilities identified.

9.6.4 Capability Assessment

The Township of Lower performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Section 6 (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.
- Information on National Flood Insurance Program (NFIP) compliance.

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, planning/policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress in plan integration. Areas with current mitigation integration are summarized in Capability Assessment (Section 9.6.4). The Township of Lower identified specific integration activities that will be incorporated into municipal procedures are included in the updated mitigation strategy.

PLANNING, LEGAL AND REGULATORY CAPABILITY

The table below summarizes the legal and regulatory tools that are available to the Township of Lower and where hazard mitigation has been integrated.

Table 9.6-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	If yes- how? Describe in comments	Have aspects of this been integrated into your mitigation plan? If no - can it be a mitigation action? If yes, add Mitigation Action #.
Codes, Ordinances, & Requirements					
Building Code	Yes	State & Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> • State mandated on local level under NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2018, NJAC 5:24-3.14 Adopted 9/3/2019 (with NJ edits dated March 14, 2020 coming soon) • Construction Codes, Uniform, Chapter 235, adopted by Township Council in 1975 and amended through 2017. There is hereby established in the Township a State Uniform Construction Code Enforcing Agency to be known as the "Department of 					





Table 9.6-3. Planning, Legal and Regulatory Capability

	Do you have this? (Yes/No)	Authority that enforces (Federal, State, Regional, County, Local)	Is this State Mandated?	If yes- how? Describe in comments	Have aspects of this been integrated into your mitigation plan? If no - can it be a mitigation action? If yes, add Mitigation Action #.
<p>Construction Inspection," consisting of a Construction Official, Building Subcode Official, Plumbing Subcode Official, Electrical Subcode Official, Fire Protection Subcode Official. The Construction Official shall be the chief administrator of the enforcing agency.</p> <ul style="list-style-type: none"> The Ordinance contains no specific mitigation actions other than those required in the Uniform Construction Code. 					
Zoning Code	Yes	State & Local	Yes – if municipality has a Planning Board	Yes	-
<p>Comment:</p> <ul style="list-style-type: none"> State permissive on local level. Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976, 40-55D-62: 49. Power to zone, requires all jurisdictions to have current zoning and other land development ordinances after the planning board has adopted the land use element and master plan. Land Development, Chapter 400, Adopted by Township Council in 1975 and amended through 2018. This is a comprehensive ordinance regulating and limiting the uses of land, the uses and locations of buildings and structures; regulating and restricting the height and bulk of buildings and structures determining the area of yards and other open spaces; regulating and restricting the density of population; dividing the Township of Lower into districts for such purposes; adopting a map of said Township showing boundaries and the classification of such districts; establishing rules, regulations and standards governing the subdivision of land within the Township; establishing a Planning Board and a Board of Adjustment; and prescribing penalties for the violation of its provisions. The purposes of this Chapter closely follow the those of the Municipal Land Use Law. Section 400-24. FP Floodplains. The purpose and intent of this section is to adopt minimum land use control measures for flood-prone areas in order to comply with the National Flood Insurance Program and qualify the Township and its property owners for the benefits of the program. Such measurements are intended to meet the requirements and criteria of 24 C.F.R. 1910.3(d) in particular, and all other applicable federal laws and regulations. This Chapter contains significant controls on development in the floodplains and wetlands areas of the Township that are mitigation actions. 					
Subdivisions	Yes	State & Local	Yes – if municipality has a Planning Board	Yes	-
<p>Comment:</p> <ul style="list-style-type: none"> P.L.1975, c.291 (C.40:55D-47); 40:55D-37. Grant of power; referral of proposed ordinance; county planning board approval a. The governing body may by ordinance require approval of subdivision plats by resolution of the planning board as a condition for the filing of such plats with the county recording officer and approval of site plans by resolution of the planning board as a condition for the issuance of a permit for any development, except that subdivision or individual lot applications for detached one or two dwelling-unit buildings shall be exempt from such site plan review and approval; provided that the resolution of the board of adjustment shall substitute for that of the planning board whenever the board of adjustment has jurisdiction over a subdivision or site plan pursuant to subsection 63b. of this act . Dictated by the Municipal Land Use Law. NJ Statute 40:27-6.2 - the board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section. Land Development, Chapter 400, Adopted by Township Council in 1975 and amended through 2018. As stated under the Zoning Code section above, this is a comprehensive Ordinance and include provisions for Subdivision approval. Section 400-75 addresses Minor Subdivision approval and Section 400-76 address Major Subdivision approval and the design requirements. 					
Stormwater Management	Yes	State, County & Local	Yes	Yes	-
<p>Comment:</p> <ul style="list-style-type: none"> See Title 7 of the NJ Administrative Code, N.J.A.C. 7:8 Stormwater Management, Chapter 575, adopted by Township Council 03-20-2006. Flood control, groundwater recharge, and pollutant reduction through nonstructural or low-impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management strategies and proper maintenance plans. Nonstructural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. 					
Post-Disaster Recovery	No	-	No	-	-



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Comment:					
Real Estate Disclosure	Yes	State, Division of Consumer Affairs	Yes	Yes	-
Comment:					
<ul style="list-style-type: none"> N.J.A.C. 13:45A-29.1 - 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. Section 351-3 of the Township's Flood Damage Prevention Ordinance 'Statement of Purpose' has a provision to ensure that potential buyers are notified that property is in an area of special flood hazard. 					
Growth Management	No	-	Yes – if municipality has a Planning Board	-	-
Comment:					
<ul style="list-style-type: none"> State Mandated on a municipal level. See Zoning Ordinance; Also - Plan Endorsement Process via the State Development & Redevelopment Plan provides for the delineation of Growth Areas and Environs; Use of the endorsed plans in the implementation of state environmental regulations makes the Plan Endorsement process a growth management strategy. 					
Site Plan Review	Yes	State & Local	Yes – if municipality has a Planning Board	Yes	-
Comment:					
<ul style="list-style-type: none"> Dictated by the Municipal Land Use Law which sets forth minimum requirements for plans, etc., timeframes for development review. NJ Statute 40:27-6.2: The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section. 40:27-6.10 In order that county planning boards shall have a complete file of the planning and zoning ordinances of all municipalities in the county, each municipal clerk shall file with the county planning board a copy of the planning and zoning ordinances of the municipality in effect on the effective date of this act and shall notify the county planning board of the introduction of any revision or amendment of such an ordinance which affects lands adjoining county roads or other county lands, or lands lying within 200 feet of a municipal boundary, or proposed facilities or public lands shown on the county master plan or official county map. Such notice shall be given to the county planning board at least 10 days prior to the public hearing thereon by personal delivery or by certified mail of a copy of the official notice of the public hearing together with a copy of the proposed ordinance. Land Development, Chapter 400, Adopted by Township Council in 1975 and amended through 2018. As stated under the Zoning Code section above, this is a comprehensive Ordinance and include provisions for Site Plan approval. Section 400-77 addresses Preliminary Site Plan review and the development design standards. 					
Environmental Protection	No	-	No	-	-
Comment:					
Flood Damage Prevention	Yes	State & Local	Yes	Yes	-
Comment:					
<ul style="list-style-type: none"> The NJ State Law Flood Area Control Act (N.J.S.A. 58:16A-52) and the National Flood Control Act of 1968 (NFIP) are state and federal acts to support minimization of flood losses. They do not require local adoption but as enforced by the NJDEP, the floodplain ordinances of each municipality must be reviewed for compliance with these regulations. In addition, participation in the NFIP requires a floodplain ordinance. Regulations for the Flood Control Hazards Act were adopted in 2007 and amended effective June 20, 2016. Flood Damage Prevention, Chapter 351, adopted by Township Council on March 17, 2014. The flood hazard areas of the Township of Lower are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protections and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazard which increase flood heights and velocities, and 					



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<p><i>when inadequately anchored, causes damage in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.</i></p> <ul style="list-style-type: none"> 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 mitigate future flooding. This Chapter requires new residential construction of improvements to provide 1 foot of freeboard above the Base Flood Elevation. 					
Wellhead Protection	No	-	No	-	-
<i>Comment:</i>					
Emergency Management	Yes	Local & State	No	Yes	-
<i>Comment:</i> <ul style="list-style-type: none"> Local Defense/Emergency management Council, Chapter 56, adopted by Township Council and last amended 03-18-2019. The Township of Lower does hereby create a Local Defense/Emergency Management Council which shall establish an adequate organization to assist in supervising and conducting the civil defense and disaster control activities of the Township. The Local Defense/Emergency Management Council shall assist the Township of Lower in establishing the various local volunteer agencies needed to meet the requirements of all local civilian defense and disaster control activities in accordance with the rules and regulations established by the Governor of the State of New Jersey. 					
Climate Change	No	-	No	-	-
<i>Comment:</i>					
Disaster Recovery Ordinance	No	-	No	-	-
<i>Comment:</i>					
Disaster Reconstruction Ordinance	No	-	No	-	-
<i>Comment:</i>					
Other	No	-	No	-	-
<i>Comment:</i>					
<ul style="list-style-type: none"> 					
Planning Documents					
Comprehensive / Master Plan	Yes	Local	Yes	-	-
<i>Comment:</i> <ul style="list-style-type: none"> 2018 Revised NJ Statute 40:27-2; the county planning board shall make and adopt a master plan for the physical development of the county. The master plan of a county, with the accompanying maps, plats, charts, and descriptive and explanatory matter, shall show the county planning board's recommendations for the development of the territory covered by the plan, and may include, among other things, the general location, character, and extent of streets or roads, viaducts, bridges, waterway and waterfront developments, parkways, playgrounds, forests, reservations, parks, airports, and other public ways, grounds, places and spaces; the general location and extent of forests, agricultural areas, and open-development areas for purposes of conservation, food and water supply, sanitary and drainage facilities, or the protection of urban development, and such other features as may be important to the development of the county. The county planning board shall encourage the co-operation of the local municipalities within the county in any matters whatsoever which may concern the integrity of the county master plan and to advise the board of chosen freeholders with respect to the formulation of development programs and budgets for capital expenditures. Per State of NJ Municipal Land Use Law (MLUL) L. 1975, s. 2, eff Aug 1, 1976 40:55D-28 provides the required components of a municipal Master Plan and requires that each municipality prepare a master plan and update it every 6 years. Further, all zoning ordinances must be consistent with the Master Plan or will not be benefitted from a presumption of validity. 					
Capital Improvement Plan	No	-	No	-	-
<i>Comment:</i>					
Disaster Debris Management Plan	No	-	No	-	2020-Lower Twp-007



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<i>Comment:</i>					
Floodplain or Watershed Plan	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Administered by the Construction Department. 					
Stormwater Management Plan	Yes	State/Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> The Stormwater Management rules (N.J.A.C. 7:8) rules were published in the February 2, 2004 NJ Register. These rules set forth the required components of regional and municipal stormwater management plans and establish the stormwater management design and performance standards for new (proposed) development. The design and performance standards for new development include groundwater recharge, runoff quantity controls, and runoff quality controls. The rules emphasize, as a primary consideration, the use of nonstructural stormwater management techniques including minimizing disturbance, minimizing impervious surfaces, minimizing the use of stormwater pipes, preserving natural drainage features, etc. The rules also set forth requirements for groundwater recharge, stormwater runoff quantity control, stormwater runoff quality control, and the prohibition of major development to be located within or to discharge runoff from the major development into a 300-foot riparian zone without prior authorization from the Department under the Flood Hazard Area Control Act Rules, N.J.A.C. 7:13. 					
Stormwater Pollution Prevention Plan	Yes	Local	Yes	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> The Phase II New Jersey Pollutant Discharge Elimination System Stormwater Regulation Program (NJPDES) rules (N.J.A.C. 7:14A) were published in the February 2, 2004, NJ Register. These NJPDES rules are intended to address and reduce pollutants associated with existing stormwater runoff. The NJPDES rules establish a regulatory program for existing stormwater discharges as required under the Federal Clean Water Act. These NJPDES rules govern the issuance of permits to entities that own or operate small municipal separate storm sewer systems, known as MS4s. Under this program, permits must be secured by municipalities, certain public complexes such as universities and hospitals, and State, interstate and federal agencies that operate or maintain highways. The permit program establishes the Statewide Basic Requirements that must be implemented to reduce nonpoint source pollutant loads from these sources. The Statewide Basic Requirements include measures such as: the adoption of ordinances (litter control, pet waste, wildlife feeding, proper waste disposal, etc.); the development of a municipal stormwater management plan and implementing ordinance(s); requiring certain maintenance activities (such as street sweeping and catch basin cleaning); implementing solids and floatables control; locating discharge points and stenciling catch basins; and a public education component. 					
Urban Water Management Plan	No	-	No	-	-
<i>Comment:</i>					
Habitat Conservation Plan	Yes	Local	No	Yes	-
<i>Comment:</i>					
<ul style="list-style-type: none"> Natural Resource Inventory, Prepared by the Environmental Commission, revised in 2000. Storms which pass over the Jersey Cape characteristically are accompanied by extremely high tides, strong winds and high waves and breakers. The huge waves and breakers quickly erode the barrier beaches, dunes and roads; damage boardwalks, seawalls, jetties and other protective barriers; undermine buildings; flood streets; contaminate water and food; and disrupt power and communications systems. Short circuits caused by high water often result in fires that also destroy property. In addition, to monetary losses associated with the destruction of property, floods and storms take a toll in human lives. Essentially; there are two ways. to reduce the damage from such storms: <ul style="list-style-type: none"> construct protective works such as bulkheads and sea walls regulate development in areas subject to flooding. Generally, a combination of both approaches is necessary, particularly when development has already occurred. In areas which are not yet developed ordinance controls can and should be used to regulate future development in flood prone areas to, minimize potential damage to life and property 					
Economic Development Plan	No	-	No	-	-
<i>Comment:</i>					
Shoreline Management Plan	No	-	Yes – if located in a coastal zone	-	-



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Comment:					
<ul style="list-style-type: none"> NJ Coastal Area Facility Review Act (N.J.S.A. 13:19) or CAFRA regulates almost all development along the coast for activities including construction, relocation, and enlargement of buildings or structures, and excavation, grading, shore protection structures, and site preparation. This law is implemented through NJ's Coastal Zone management Rules N.J.A.C. 7:7E-1 et seq. 					
Community Wildfire Protection Plan	No	-	No	-	-
Comment:					
Community Forest Management Plan	No	-	No	-	-
Comment:					
Transportation Plan	No	-	No	-	-
Comment:					
Agriculture Plan	No	-	No	-	-
Comment:					
Climate Action Plan	No	-	No	-	-
Comment:					
Tourism Plan	No	-	No	-	-
Comment:					
Business Development Plan	No	-	No	-	-
Comment:					
Other	Yes	Local	No	Yes	-
Comment:					
<ul style="list-style-type: none"> Open Space Recreation Plan, Five Year Master Plan Update, prepared by the Recreation Advisory Board, August 2014. According to the NRPA, natural resource areas are defined as "lands set aside for preservation of significant natural resources, open space, and visual aesthetics." Acquisition of natural resource areas and preserves serves to enhance the quality of the community by maintaining a portion of its natural amenities. Based on these standards, additional unstructured open space should be planned into any new or expanded park. 					
Response/Recovery Planning					
Comprehensive Emergency Management Plan (CEMP) / Emergency Operations Plan (EOP)	Yes	State/Local	Yes	Yes	-
Comment:					
<ul style="list-style-type: none"> Each county and municipality in the State shall prepare a written Emergency Operations Plan with all appropriate annexes necessary to implement the plan. Each Emergency Operations Plan shall be adopted no later than one year after the State Emergency Planning Guidelines have been adopted by the State Office of Emergency Management and shall be evaluated at such subsequent scheduled review of the State Emergency Operations Plan. L.1989, c.222, s.19. 					
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	No	-	-
Comment:					
Post-Disaster Recovery Plan	No	-	No	-	-
Comment:					
Continuity of Operations Plan	No	-	No	-	-
Comment:					
Public Health Plan	No	-	No	-	-
Comment:					



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Other	No	-	No	-	-
<i>Comment:</i>					

Table 9.6-4. Development and Permitting Capability

Criterion	Response
Does your jurisdiction issue development permits? - If no, who does? If yes, which department?	Yes, Construction Department
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory? -If yes, please describe briefly. -If no, please quantitatively describe the level of buildout in the jurisdiction.	No TBD—Under Review

ADMINISTRATIVE AND TECHNICAL CAPABILITY

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

Table 9.6-5. Administrative and Technical Capabilities

Staff/Personnel Resource	Available?	Department/Agency/Position
Administrative Capability		
Planning Board	Yes	Planning Board; Zoning Board
Mitigation Planning Committee	Yes	OEM
Environmental Board / Commission	Yes	Environmental Commission; Council
Open Space Board / Committee	Yes	Open Space Review Board; County
Economic Development Commission / Committee	No	-
Warning Systems / Services (reverse 911, outdoor warning signals)	Yes	Dept of Public Safety through text, email alerts
Maintenance program to reduce risk	No	-
Mutual aid agreements	Yes	Fire Districts, Fire Vol. Companies, Police
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning, Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineer
Planners or engineers with an understanding of natural hazards	Yes	Planning, Engineer
Staff with training in benefit/cost analysis	Yes	Finance/ CFO
Staff with training in green infrastructure	Yes	Assessor’s office/staff
Staff with education/knowledge/training in low impact development	Yes	Planning/Zoning Office
Surveyor	Yes	Jim Walz—Mott McDonald Engineering



Stormwater engineer	Yes	Mott MacDonald Engineering
Personnel skilled or trained in GIS applications	Yes	Assessor’s Office/Staff
Local or state water quality professional	Yes	Lower Township MUA/County Health Dept
Scientist familiar with natural hazards in local area	yes	Dr. Stewart Farrell
Emergency manager	Yes	OEM
Watershed planner	No	-
Environmental specialist	Yes	Steven Morey—Mott MacDonald Engineering
Grant writers	Yes	Finance/ Grants
Resilience Officer	No	-
Other	No	-

FISCAL CAPABILITY

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

Table 9.6-6. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
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	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No
Clean Water Act 319 Grants (Nonpoint Source Pollution)	No
Other	No

EDUCATION AND OUTREACH CAPABILITY

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

Table 9.6-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	Yes—Lauren Suit
Do you have personnel skilled or trained in website development?	Yes—Eileen Kreis/Brett Matthews
Do you have hazard mitigation information available on your website? -If yes, briefly describe.	Yes
Do you use social media for hazard mitigation education and outreach? -If yes, briefly describe.	Yes
Do you have any citizen boards or commissions that address issues related to hazard mitigation? -If yes, briefly describe.	Yes-Hazard Mitigation Planning Team
Do you have any other programs already in place that could be used to communicate hazard-related information? If yes, briefly describe.	No

COMMUNITY CLASSIFICATIONS





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

Table 9.6-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System	Yes	7	10/1/2018
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4-3	2019
Public Protection (Fire ISO Protection Class)	Yes	4-10	2015
Storm Ready Certification	No	-	-
Firewise Community Classification	No	-	-
Sustainable Jersey	Not currently	155 points at last certification	Last Certification November 1, 2013

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 ability to adjust to, protect from, or withstand a hazard event. This term is often discussed in reference to climate change; however, adaptive capacity also includes an understanding of local capacity for adapting to current and future risks and changing conditions. The table below summarizes the adaptive capacity for each hazard and the jurisdiction’s rating.

Table 9.6-9. Adaptive Capacity

Hazard	Adaptive Capacity (Capabilities) – Strong/Moderate/Weak
Climate Change and SLR	Moderate
Coastal Erosion	Moderate
Disease Outbreak	Moderate
Drought	Moderate
Flood	Moderate
Hurricane	Moderate
Nor'Easter	Moderate
Severe Weather	Moderate
Severe Winter Weather	Strong
Tsunami	Moderate
Wildfire	Moderate

Notes:

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; Unsure = Not enough information is known to assign a rating.

NATIONAL FLOOD INSURANCE PROGRAM

This section provides specific information on the management and regulation of the regulatory floodplain.

Table 9.6-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Construction Department
Who is your floodplain administrator? (name, department/position)	Gary Playford, Construction Department/Construction Official
Are any certified floodplain managers on staff in your jurisdiction?	Yes/Jennifer M. Dowe, CFM





Criterion	Response
What is the date that your flood damage prevention ordinance was last amended?	April 1, 2014
Does your floodplain management program meet or exceed minimum requirements? -If exceeds, in what ways?	FDP Ordinance exceeds minimum requirements/BFE plus 1 foot freeboard, no fill in floodways
When was the most recent Community Assistance Visit or Community Assistance Contact?	Remote Community Visit – February 22, 2018
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? -If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what they are.	Cape May County Flood Risk Map
Do your flood hazard maps adequately address the flood risk within your jurisdiction? -If no, state why.	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? - If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? -If yes, is your jurisdiction interested in improving its CRS Classification? -If no, is your jurisdiction interested in joining the CRS program?	Yes
How many flood insurance policies are in force in your jurisdiction?*	Policies – 1,454
-What is the insurance in force?	Insurance in force - 653,931,300
-What is the premium in force?	Premium in force - 1,443,459
How many total loss claims have been filed in your jurisdiction?*	207 claims
-How many claims are still open or were closed without payment?	\$3,942,373 in payments
-What were the total payments for losses?	
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	Yes

*According to FEMA statistics as of October 2020

ADDITIONAL AREAS OF EXISTING INTEGRATION

- The Township Office of Emergency Management works to create, enhance, and maintain mutual aid agreements with neighboring communities. Local departments support County-wide initiatives identified in Section 9.1 of the County Annex and support county-wide initiatives identified in the Cape May County Hazard Mitigation Plan.
- County Engineering, with municipal support, continues to support County-led efforts to conduct an engineering study to understand flooding issues and evaluate possible solutions (multiple locations).

9.6.5 Hazard Event History Specific to the Jurisdiction

Cape May County has a history of hazard events, as detailed in Section 5 (Risk Assessment) of this plan. A summary of historical events is provided in each of the hazard profiles in Section 5.4 (Hazard Profiles) and includes a chronology of events that affected Cape May County and its jurisdictions. The Township of Lower’s history of federally-declared (as presented by FEMA) and significant hazard events (as presented in NOAA-NCEI) is consistent with that of Cape May County. Table 9.6-11 provides details regarding municipal-specific loss and damages the Township experienced during hazard events. Information provided in the table below is based on reference material or local sources.





Table 9.6-11. Hazard Event History

Date(s) of Event	Event Type (disaster declaration if applicable)	Cape May County Designated?	Summary of Event	Summary of Local Damages and Losses
January 22, 2016 - January 24, 2016	DR-4264: Severe Winter Weather and Snowstorm	Yes	A major nor'easter, produced record snowfall and blizzard conditions in parts of New Jersey on January 23 rd and 24 th .	Although the county was impacted, the Township did not received damages.
June 22, 2016	Severe Wind Storm	No	A severe windstorm/microburst caused severe damage to vegetation throughout the Township.	The Township was tasked with weeks of cleanup incurring substantial overtime cost.
January 17-18 2017	Winter Weather	No	Winter snowfall event Helena caused road closures with several inches of snow.	The Township was tasked with clearing of roadways covered with snow and ice incurring overtime cost.
August 2020	DR-4574 Wind Storm	Yes	Tropical Storm Isaias caused wind damage to several homes and vegetation damage to properties.	The Township was tasked with cleanup of vegetation and debris throughout the township incurring overtime cost.
January 20, 2020 and continuing	EM-3451, DR-4488: COVID-19 Pandemic	Yes	The coronavirus pandemic resulted in the need for shutdowns and social distancing and mask requirements.	The Township was subject to masking and social distancing restrictions and business /school closures due to coronavirus.

Source: NOAA NCEI 2020, FEMA 2020

9.6.6 Jurisdiction-Specific Vulnerabilities and Hazard Ranking

The hazard profiles in Section 5 (Risk Assessment) provide detailed information regarding each plan participant’s vulnerability to the identified hazards. A gradient of certainty was developed to summarize the confidence level regarding the input used to populate the hazard ranking. Refer to Section 5.1 (Methodology) and Section 5.3 (Hazard Ranking) for a detailed summary for the Township of Lower risk assessment results and data used to determine the hazard ranking.

REPETITIVE FLOOD LOSSES

The table below summarizes the repetitive and severe repetitive flood losses in the Township of Lower.

- Number of repetitive loss (RL) properties: 6
- Number of severe repetitive loss (SRL) properties: 2
- Number of RL/SRL properties that have been mitigated: 4

Source: NFIP FEMA Region 2, 2020

Note: The number of SRL properties excludes RL properties.

CRITICAL FACILITIES

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



Table 9.6-12. Potential Flood Losses to Critical Facilities and Lifelines

Name	Type	Exposure	
		1% Event	0.2% Event
HISTORIC COLD SPG VLG HAND PUM	Potable Water Facilities		X
ST RAYMONDS CHURCH AUD	Polling Places		X
CMCMUA	MUA		X
LTMUA	MUA		X
LTMUA	MUA		X
LTMUA	MUA		X
Middle Thorofare Bridge (CMCBC)	Bridge	X	X
Upper Thorofare Bridge	Bridge	X	X
Mill Creek Bridge	Bridge	X	X
Lafayette Street Bridge	Bridge	X	X
Millman Senior and Nutrition Center	Health Services	X	X
Sterling Harbor Marina	Marinas	X	X
Shawcrest Marina	Marinas	X	X
Light House Point Marina	Marinas	X	X
Utsch's Marina	Marinas	X	X
Canyon Club Resort Marina	Marinas	X	X
Harbor View Marina	Marinas	X	X
BreeZee Lee Yacht Basin	Marinas	X	X
Hinch Marina	Marinas	X	X
Two Mile Landing	Marinas	X	X
Snug Harbor Marina	Marinas	X	X
Miss Chris Marina	Marinas	X	X
Windmill Marina	Marinas	X	X
South Jersey Marina	Marinas	X	X
Schooner Island Marina	Marinas	X	X
Wilson Rd Pump Station	Wastewater Treatment Facilities	X	X
SNOWS DOXSEE INC(BUMBLE BEE FOODS)	Superfund Sites	X	X
LTMUA	MUA	X	X
COXHALL CREEK FLOOD	County Facilities	X	X
CMCMUA	MUA	X	X
HARBORVIEW MARINA	Potable Water Facilities	X	X
ATLANTIC CAPE FISHERIES	Potable Water Facilities	X	X
TWO MILE	Potable Water Facilities	X	X
BUMBLE BEE	Grocery/Food Processing	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
LTMUA	MUA	X	X
Lund's Fisheries	Grocery/Food Processing	X	X
Well 5	Potable Water Facilities	X	X
Well 7	Potable Water Facilities	X	X

Source: FEMA DFIRM 2014/2017; Cape May County 2020





Note:
*Identified lifeline

IDENTIFIED ISSUES

The jurisdiction has identified the following vulnerabilities within their community:

- High tidal flow from the Atlantic Ocean and Delaware Bay raises the water level in the harbor, causing flooding over the bulkheads in the area.
- Continued erosion has reduced the volume on beaches and resulted in increased risk from wave damage. The latest FEMA maps resulted in a V zone designation due to lack of protective dune height and volume.
- The Township has repetitive loss properties.
- Several county infrastructure upgrades are needed within the Township.
- The Township lacks a Disaster Debris Management Plan.

HAZARD AREA EXTENT AND LOCATION

Hazard area extent and location maps were generated for the Township of Lower that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps have been generated only for those hazards that can be clearly identified using mapping techniques and technologies and for which the Township of Lower has significant exposure. A map of the Township of Lower hazard area extent and location is provided on the following page. This map indicates the location of the regulatory floodplain, as well as identified critical facilities within the municipality.

HAZARD RANKING

This section includes 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 5 (Risk Assessment). The ranking process involves an assessment of the likelihood of occurrence for each hazard; its potential impacts on people, property, and the economy; 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 5.3 (Hazard Ranking), each plan participant may have differing degrees of risk exposure and vulnerability compared to Cape May County as a whole. Therefore, each jurisdiction ranked the degree of risk to each hazard as it pertains to their community factoring in their capabilities to withstand impacts and rebound after the event. The table below summarizes the hazard rankings of potential natural hazards for the Township of Lower. The Township of Lower has reviewed the Cape May County hazard ranking table and has provided input to its individual results to reflect the relative risk of the hazards of concern to the community.

During the review of the hazard ranking, the Township assented to the proposed hazard ranking.

Table 9.6-13. Township of Lower Hazard Ranking Input

Climate Change and Sea Level Rise	Coastal Erosion	Disease Outbreak	Drought	Flood	Hurricane
Medium	Medium	Medium	Medium	High	High





Nor'easter	Severe Weather	Severe Winter Weather	Tsunami	Wildfire
High	High	High	Medium	High

9.6.7 Mitigation Strategy and Prioritization

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

PAST MITIGATION INITIATIVE STATUS

The following table summarizes the jurisdiction’s progress on their mitigation strategy identified in the 2015 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 can also be found under ‘Capability Assessment’ presented previously in this annex.

Table 9.6-14. Status of Previous HMP Mitigation Actions

2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2021 HMP Update? Check if Yes	Enter 2021 HMP Action #
TL-1a (former TL-1a)	Property Mitigation Support – Retrofit	Township (likely through NFIP Floodplain Administrator); State OEM, County OEM	No Progress	X	2021-LowerTwp-003
TL- 1b (former TL-1b)	Property Mitigation Support – Acquisition/Relocation	Township (likely through NFIP Floodplain Administrator); State OEM, County OEM	In Progress; acquired and demolished a property in repetitive loss area using community funds.	X	2021-LowerTwp-003
TL- 2 (former TL-2 (CMC-2)	Continue to evaluate the community benefits vs. costs of participation in the incentive-based program CRS.	Township	Ongoing Capability		
TL- 3 (former TL-5)	Complete updates to emergency management plans in 2016.	Municipal Emergency Manager with support from County OEM and NJOEM	Complete		
TL- 4 (former TL-6)	Create/enhance/ maintain mutual aid agreements with neighboring communities.	Township OEM	Ongoing Capability		
TL- 5 (former TL-7)	Support County-wide initiatives identified in Section 9.1 of the County Annex. Support county-wide initiatives identified in the Cape May County Hazard Mitigation Plan	Local departments (as applicable for specific initiative)	Ongoing Capability		
TL- 6 (former TL-8)	Fire Station – Diamond Beach Section (new) sub-station	Fire Dist. # 3 Lower Twp.	No Progress		





Table 9.6-14. Status of Previous HMP Mitigation Actions

2015 Action Number	Action Description	Responsible Party	Status (In Progress, No Progress, Ongoing Capability, or Completed)	Include in the 2021 HMP Update? Check if Yes	Enter 2021 HMP Action #
TL- 7 (former TL-11)	Bayshore Estates (drainage system, pump station) to mitigate flooding in this area. Approved funding through township funds	Lower Township	Complete		
TL- 8 (former TL-13)	Dune beach replenishment	Lower Township	In Progress	X	2021-LowerTwp-002
TL-9 (former TL-14 (CMC-7)	Support the replacement of three bridges and elevate 2.7 miles of County Route 621 in Lower Township. This project is currently in the scoping phase.	County Engineering	In Progress	X	2021-LowerTwp-004
TL- 10 (former TL-15 (CMC-8 and WCM-12)	Elevate ~1.5 miles of CR-606 (Sunset Boulevard) through the South Cape May Meadows (Lower and WCM).	County Engineering	In Progress	X	2021-LowerTwp-005
TL- 11 (former TL-16 (CMC-17 and TM-22)	Elevate CR-603 through Lower and Middle Township through Fishing Creek Swamp.	County Engineering	No Progress		
TL- 12 (former TL-17 through 20; (CMC-44, 46, 49, 52)	Continue to support County-led efforts to conduct an engineering study to understand flooding issues and evaluate possible solutions (multiple locations).	County Engineering with municipal support	Ongoing Capability		
TL- 13 (former TL-21 (CMC-69)	Become a National Fire Protection Association (NFPA) “Firewise” community.	Local Fire Chiefs working with County Fire Coordinator	In Progress	X	2021-LowerTwp-006
TL- 14 (former TL-22)	Expand wildfire public awareness, and local preparedness and response capabilities	Local Fire Chiefs	In Progress	X	2021-LowerTwp-006
TL-15	Include natural hazard risk reduction strategies in the Township open space acquisition strategy.	Planning and Zoning Department, Planning Board, Environmental Commission	No Progress		

In addition to the above progress, the Township of Lower identified the following mitigation projects/activities that were completed but not identified in the 2015 HMP mitigation strategy:



- Conducted Community Outreach seminar for all residents. Sent community outreach flood protection newsletter to residents in SFHA as well as insurance agencies, realtors and chamber of commerce. Included flood awareness bulletin in tax bills. Sent mailer to residents located within repetitive loss areas.

PROPOSED HAZARD MITIGATION INITIATIVES FOR THE PLAN UPDATE

The Township of Lower participated in a risk assessment workshop in September 2020 in which detailed information was provided about assets exposed and vulnerable to the identified hazards of concern. The Township of Lower participated in a mitigation action workshop in October 2020 and was provided a Mitigation Toolbox that included a mitigation catalog developed specifically for Cape May County and its hazards of concerns; challenges and opportunities identified during the capability and risk assessments; and 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). Section 6 (Mitigation Strategy) and Appendix F (Mitigation Strategy Supplement) provide a more complete description of the Mitigation Toolbox and its resources.

Table 9.6-15 summarizes the comprehensive-range of specific mitigation initiatives the Township of Lower would like to pursue in the future to reduce the effects of hazards. Some of these initiatives might be previous actions carried forward for this HMP update. Initiatives are dependent upon available funding (grants and local match availability) and can be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the 4 FEMA mitigation action categories and the 6 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 actions as *High*, *Medium*, or *Low*. The table below summarizes the evaluation of each mitigation initiative, listed by action number.

Table 9.6-16 provides a summary of the prioritization of all proposed mitigation initiatives for this HMP update.



Table 9.6-15. Proposed Hazard Mitigation Initiatives

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
2021-Lower Twp-001	Wilson Drive Drainage and Roadway Elevation	<p>Problem: High tidal flow from the Atlantic Ocean and Delaware Bay raises the water level in the harbor, causing flooding over the bulkheads in the area.</p> <p>Solution: The Township will elevate bulkheads to reduce the rate that floodwater spreads across the area. The Township will also raise the elevation of Wilson Drive and revise drainage accordingly.</p>	Existing	Flood, Severe Weather, Hurricane, Nor'Easter, Climate Change/Sea Level Rise	1	Public Works, Engineer	HMGP, BRIC, State Aid, Municipal budget	Reduction in flood risk and flood damages, access maintained	\$2M	6-9 months	High	SIP	SP
2021-Lower Twp-002	Dune and Beach Replenishment	<p>Problem: Continued erosion has reduced the volume on beaches and resulted in increased risk from wave damage. The latest FEMA maps resulted in a V zone designation due to lack of protective dune height and volume.</p> <p>Solution: The Township will work with NJ DEP, FEMA, and the US Army Corps on mitigation to build secondary dunes to alleviate the V zone designation.</p>	N/A	Coastal Erosion, Flood	5, 6	Engineer, USACE, FEMA	HMGP, BRIC, USACE, NJ DEP	Prevent and reduce wave and erosion damage	High	Within 5 years	High	NSP	NR
2021-Lower Twp-003	Repetitive Loss Mitigation	<p>Problem: Lower Township has six repetitive loss and two severe repetitive loss properties. 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. Progress has been made on elevating buildings and reconstructing new buildings that are more resistant to flooding.</p> <p>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</p>	Existing	Flood, Severe Weather, Hurricane, Nor'easter, Climate Change and Sea Level Rise	1	NFIP Floodplain Administrator, supported by homeowners	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





Table 9.6-15. Proposed Hazard Mitigation Initiatives

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).											
2021-Lower Twp-004	CR-621 Pacific Ave/Ocean Drive	<p>Problem: CR-621 is a designated County evacuation route for the Wildwoods, including Diamond Beach in Lower Township. The Route traverses a low-lying stretch of marsh that is vulnerable to tidal and nuisance flooding. Additionally, the Route is served by several bridges that are beyond their useful lives.</p> <p>Solution: The Township will support the County in the replacement of three (3) bridges and elevation of 2.7 miles of County Route 621 in Lower Township. The projects are currently in the concept development stage and have been submitted to NJDOT for preliminary engineering.</p>	Existing	Flood, Hurricane, Nor'easter, Climate Change and Sea Level Rise	1, 6	County Engineering, Lower Township Administration	County Funds; NJDOT; BRIC	High	Medium-High	Within 5 years	Medium	SIP	PP
2021-Lower Twp-005	CR-606/Sunset Boulevard	<p>Problem: Sunset Boulevard (CR-606) is a county road connecting Cape May Point and Cape May Point State Park to West Cape May, Cape May, and evacuation routes to the north. The road is low-lying and has portions that can flood with water levels as little as one foot above high tide.</p> <p>Solution: The Township will support the County in the elevation of ~1.5 miles of CR-606 (Sunset Boulevard) through the South Cape May Meadows (Lower and WCM). Preliminary work has been completed for drainage and the project is in concept design.</p>	Existing	Flood, Hurricane, Nor'easter, Climate Change and Sea Level Rise	1, 6	County Engineering, Lower Township Administration	County Funds, NJDOT, BRIC	Medium	High	Within 5 years	Low	SIP	PP
2020-Lower Twp-006	Firewise Program Participation	<p>Problem: Lower Township features a dense forest cover that covers a significant portion of the Township. Approximately 56% of the Township resides in the wildland-urban interface</p>	Existing	Wildfire	1, 2, 3, 4, 5, 6	NJ State Forest Fire Service; Cape May County Fire Chiefs	Existing Township funds	Improved wildfire capabilities	Low	Within 1 year	Low	EAP	PI





Table 9.6-15. Proposed Hazard Mitigation Initiatives

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met	Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
		(WUI), and approximately 125 residents (or 0.5% of the population) reside in an area with high to extreme wildfire fuel hazard. Approximately 56% of the Township's buildings are in the WUI, representing \$4.7 billion in RCV. The Township has identified a need to enhance public outreach relating to wildfire risk in the Township. Solution: The Township seeks a status as a Firewise community through the facilitation of public outreach/awareness projects and fire risk reduction activities. The Township will also participate in State/County actions and trainings to enhance public outreach and knowledge of wildfire and potential mitigation measures. This will entail the participation of Township officials in trainings and seminars and the enhancement of wildfire prevention and response capabilities.				Association; Lower Twp fire districts; Township of Lower							
2020-Lower Twp-007	Disaster Debris Management Plan	Problem: The Township lacks a Disaster Debris Management Plan. Solution: The Township will develop and adopt a Disaster Debris Management Plan.	Both	All Hazards	3, 4	Public Works, OEM	Township budget	Increased disaster capabilities	Staff time	Within 1 year	High	LPR	ES

Notes:

Acronyms and Abbreviations:

- CAV Community Assistance Visit
- CRS Community Rating System
- DPW Department of Public Works
- FEMA Federal Emergency Management Agency
- FPA Floodplain Administrator
- HMA Hazard Mitigation Assistance
- N/A Not applicable
- NFIP National Flood Insurance Program
- OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

- FMA Flood Mitigation Assistance Grant Program
- HMGP Hazard Mitigation Grant Program
- 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 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. 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 preserve or restore the functions of natural systems. 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. 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 9.6-16. Summary of Prioritization of Actions

Initiative Number	Mitigation Initiative 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-Lower Twp-001	Wilson Drive Drainage and Roadway Elevation	0	1	1	1	1	1	0	1	1	1	1	1	1	1
2021-Lower Twp-002	Dune and Beach Replenishment	0	1	1	1	1	0	0	1	1	1	1	0	1	1	10	High
2021-Lower Twp-003	Repetitive Loss Mitigation	1	1	1	1	1	1	0	1	0	0	1	0	1	1	10	High
2021-Lower Twp-004	CR-621 Pacific Ave/Ocean Drive	1	1	1	1	1	0	0	1	1	1	1	0	1	1	11	High
2021-Lower Twp-005	CR-606/Sunset Boulevard	1	1	1	1	1	0	0	1	1	1	1	0	1	1	11	High
2020-Lower Twp-006	Firewise Program Participation	1	1	1	1	1	1	1	1	1	1	0	1	1	1	13	High
2020-Lower Twp-007	Disaster Debris Management Plan	0	1	1	1	1	1	1	1	1	1	1	1	1	1	13	High

Notes: Section 6 (Mitigation Strategy) 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.





Table 9.6-17. Analysis of Mitigation Actions by Hazard and Category

Hazard	Prevention	Property Protection	Public Education and Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
Climate Change and Sea Level Rise		X			X	X	X	X
Coastal Erosion				X	X			X
Disease Outbreak (new)					X			X
Drought (new)					X			X
Flood		X		X	X	X	X	X
Hurricane		X			X	X	X	X
Nor' Easter		X			X	X	X	X
Severe Weather		X			X	X	X	X
Severe Winter Weather					X			X
Tsunami					X			X
Wildfire			X		X			X

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

RED high ranked hazard

ORANGE medium ranked hazard

YELLOW low ranked hazard



Figure 9.6-1. Township of Lower Hazard Area Extent and Location Map 1

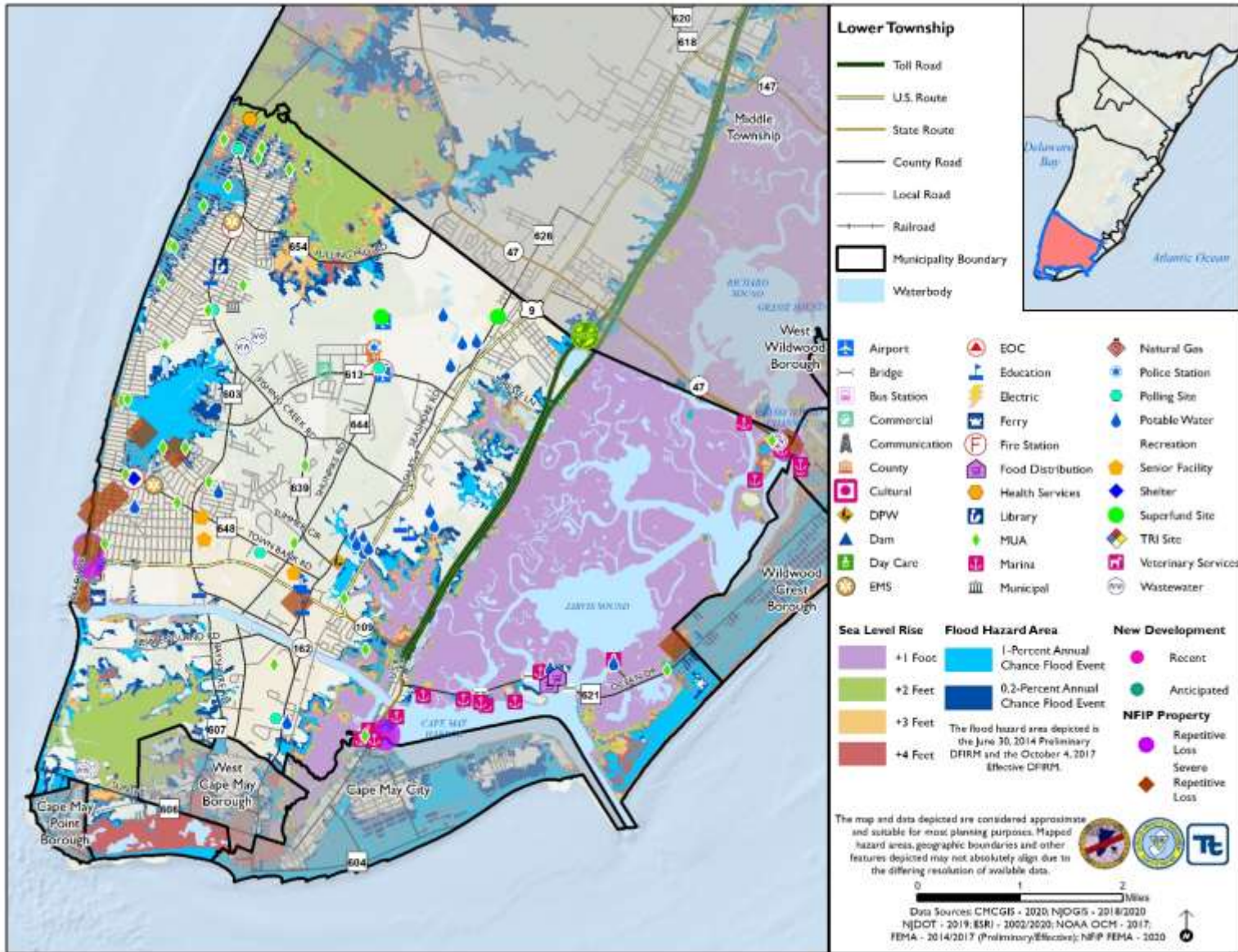




Figure 9.6-2. Township of Lower Hazard Area Extent and Location Map 2

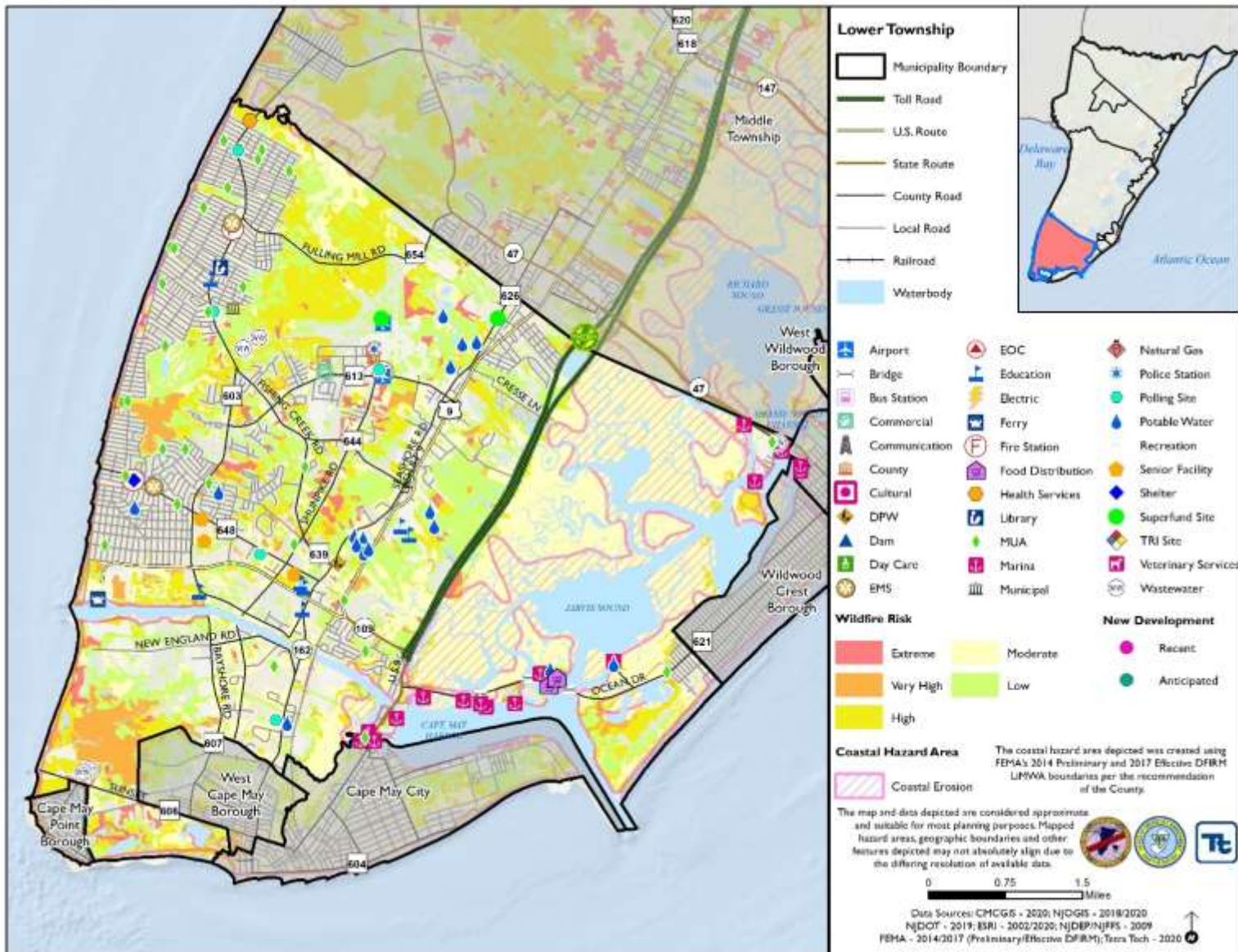
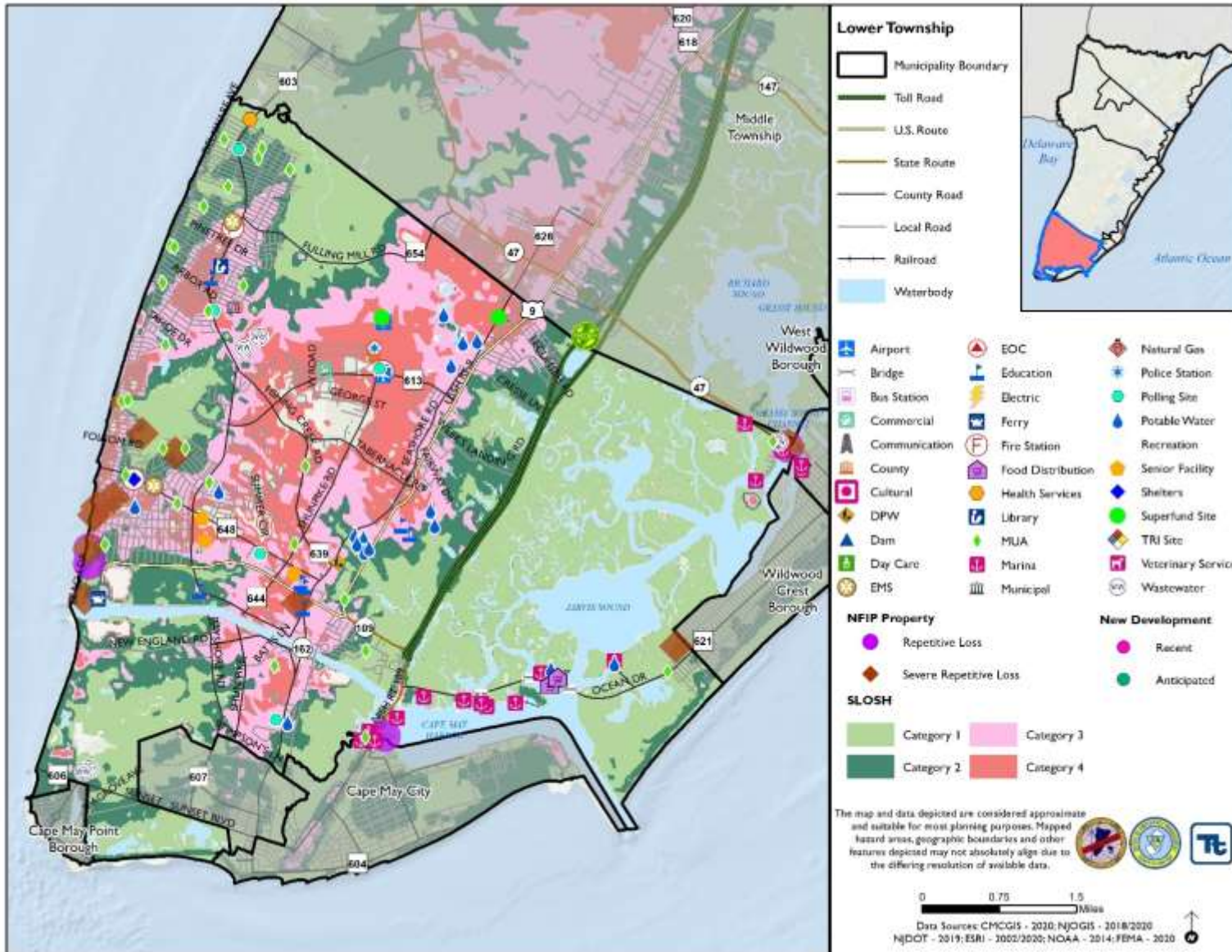




Figure 9.6-3. Township of Lower Hazard Area Extent and Location Map 3





Action Worksheet			
Project Name:	Wilson Drive Drainage and Roadway Elevation		
Project Number:	2021-Lower Twp-001		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather, Hurricane, Nor'Easter, Climate Change/Sea Level Rise		
Description of the Problem:	High tidal flow from the Atlantic Ocean and Delaware Bay raises the water level in the harbor, causing flooding over the bulkheads in the area.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will elevate bulkheads to reduce the rate that floodwater spreads across the area. The Township will also raise the elevation of Wilson Drive and revise drainage accordingly.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	Erosion of park and marina prevented. Damages to boat ramp mitigated.	Estimated Benefits (losses avoided):	Reduction in flood risk and flood damages, access maintained
Useful Life:	15 years	Goals Met:	1
Estimated Cost:	\$2M	Mitigation Action Type:	Structure and Infrastructure Project
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 6 months
Estimated Time Required for Project Implementation:	6-9 months	Potential Funding Sources:	FEMA HMP, BRIC, State Aid, Municipal budget
Responsible Organization:	Public Works, Engineer	Local Planning Mechanisms to be Used in Implementation if any:	Hazard mitigation planning, Stormwater management
Three Alternatives Considered (including No Action)			
Alternatives:	Action	Estimated Cost	Evaluation
	No Action	\$0	Problem continues.
	Retreat from areas that experience flooding	High	High cost and lack of access
	Remove Roadway	\$25,000	Loss of access
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Wilson Drive Drainage and Roadway Elevation	
Project Number:	2021-Lower Twp-001	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Project will protect Wilson Drive from flood damages
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	
Legal	1	The Township has the legal authority to complete the project
Fiscal	0	Project requires funding support
Environmental	1	
Social	1	Project protect social asset
Administrative	1	
Multi-Hazard	1	Flood, Severe Weather, Hurricane, Nor'Easter, Climate Change/Sea Level Rise
Timeline	1	6-9 months
Agency Champion	1	Public Works, Engineer
Other Community Objectives	1	
Total	12	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Dune and Beach Replenishment		
Project Number:	2021-Lower Twp-002		
Risk / Vulnerability			
Hazard(s) of Concern:	Coastal Erosion, Flood		
Description of the Problem:	Continued erosion has reduced the volume on beaches and resulted in increased risk from wave damage. The latest FEMA maps resulted in a spread of the VE zone designation due to lack of protective dune height and volume.		
Action or Project Intended for Implementation			
Description of the Solution:	The Township will work with NJ DEP, FEMA, and the US Army Corps on mitigation to build secondary dunes to alleviate the V zone designation.		
Is this project related to a Critical Facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Level of Protection:	Volume and height of dune cross section to remove V zone status	Estimated Benefits (losses avoided):	Prevent and reduce wave and erosion damage
Useful Life:	10 years	Goals Met:	5, 6
Estimated Cost:	High	Mitigation Action Type:	Natural Systems Protections
Plan for Implementation			
Prioritization:	High	Desired Timeframe for Implementation:	Within 5 years
Estimated Time Required for Project Implementation:	1 year	Potential Funding Sources:	HMGP, BRIC, USACE, NJ DEP
Responsible Organization:	Engineer, USACE, FEMA	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	Problem continues.
	Harden the shoreline	Very High	Costly, loss of ecosystem services
	Buyout all V zone properties	Very High	Costly, negative social impacts
Progress Report (for plan maintenance)			
Date of Status Report:			
Report of Progress:			
Update Evaluation of the Problem and/or Solution:			



Evaluation and Prioritization		
Project Name:	Dune and Beach Replenishment	
Project Number:	2021-Lower Twp-002	
Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	0	
Property Protection	1	Protects Township from flooding and erosion
Cost-Effectiveness	1	
Technical	1	The project is technically feasible
Political	1	There is public support for the project
Legal	0	Project will require permitting
Fiscal	0	Project requires funding support
Environmental	1	Beach and dune ecosystem restored
Social	1	
Administrative	1	
Multi-Hazard	1	Coastal Erosion, Flood
Timeline	0	Within 5 years
Agency Champion	1	Administration
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	



Action Worksheet			
Project Name:	Repetitive Loss Mitigation		
Project Number:	2021-Lower Twp-003		
Risk / Vulnerability			
Hazard(s) of Concern:	Flood, Severe Weather, Hurricane, Nor'easter, Climate Change and Sea Level Rise		
Description of the Problem:	Lower Township has six repetitive loss and two severe repetitive loss properties. 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. Progress has been made on elevating buildings and reconstructing new buildings that are more resistant to flooding.		
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:	3
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:	NFIP Floodplain Administrator, supported by homeowners	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-Lower Twp-003	
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, Hurricane, Nor'easter, Climate Change and Sea Level Rise, Severe Weather
Timeline	0	
Agency Champion	1	NFIP Floodplain Administrator, supported by homeowners
Other Community Objectives	1	
Total	10	
Priority (High/Med/Low)	High	