30 – MANASQUAN BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Chris Tucker	**Hazard Mitigation Program Coordinator**	**Point of Contact, Workshop #1, Workshop #2, Steering Committee Meeting #1 and #2**
Michael Mangan	Mayor	Guidance and review of municipal appendix
Thomas Flarity	Administrator	Guidance and review of municipal appendix
Joseph Raftery	Engineer	Guidance and review of municipal appendix
Frank DiRoma	Construction Official	Review / revise municipal appendix
Carmen Triggiano	Public Works Superintendent	Review / revise municipal appendix

COMMUNITY PROFILE

Overview

The Borough of Manasquan is an oceanfront community, the southernmost town on Monmouth County's Atlantic coastline. A beach town popular with surfers along Manasquan Inlet, the Borough sees a dramatic increase in population from tourists during the summer months. The Borough describes itself as a classic small town, with a thriving Main Street corridor and rivers, lakes, and streams which make Manasquan a unique beachfront community. Manasquan is largely built out with residential and commercial development and has a large conservation area south of Brielle Road (Fisherman's Cove) which borders the Manasquan Inlet. The demolition of traditional beach bungalows and replacement with larger single-family dwellings has helped to turn the Borough into a year-round community. With these physical changes, Manasquan has also seen a decline in once-popular tourist destinations.

Within Manasquan's 2.5 square miles of land area is a commercial corridor along Main Street, which runs east to west through the Borough. Manasquan's downtown has many small businesses, and includes the Algonquin Arts Theater, a historic 540-seat theater built in 1938 and converted to a professional live performance space in 1994. The Atlantic Ocean makes up Manasquan's eastern border, and the National Guard Training center borders Manasquan's north in Sea Girt.

The Borough of Manasquan is bisected by the waterways of Stockton Lake (fed by Judas Creek), Watson Creek, Crabtown Creek, and the eastern terminus of the Manasquan River. These waterways provide recreation and conservation areas throughout the Borough. Manasquan's largest undeveloped area is the Fisherman's Cove Conservation Area, a 55-acre conservation site which is the least developed tract on the Manasquan Inlet. The Park System is currently working to restore wildlife habitat and combat invasive species in this conservation area. With a location southeast of the dam at Manasquan Reservoir, the Borough is potentially impacted by the Manasquan River flow at the Manasquan Reservoir, upstream in Howell Township.

Land Use, Development, & Growth

Manasquan is a predominantly residential community and home to substantial publicly owned land. From 2015 to 2020, the community underwent minimal change in its land use composition; urban or developed land accounted for nearly 75 percent of its total area during this period. Water and wetlands made up nearly 20 percent of the Borough's area, while barren land accounted for 4 percent.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	-	-	-
Barren Land	38.3	40.5	6%
Forest	18.6	18.6	>0%
Urban	754.5	754.7	>0%
Water	115.7	112.6	-3%
Wetlands	75.8	76.3	1%

Source: NJDEP Land Use/Land Cover data, 2015-2020

Recent Major Development and Infrastructure from 2020 to Present

Manasquan reports no major development in the past five years, describing the mostly built-out nature of the Borough. Two smaller developments have begun: *Broad Street Commons*, at 34 Broad Street, which will develop 22 residential units. The site currently falls within NJ Inland Design Flood Elevation which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper). Another site- *33 Union Avenue* which develops 23 elevated residential units, falls under the FEMA 1% and 0.2% annual chance floodplain.

Manasquan's Main Street Repaving Project, which included road resurfacing, drainage improvements, and flood mitigation, was completed in 2020. The Borough's Main Street Business District Streetscape Project extends along Highway 71 and Main Street east to the NJ Transit rail line. This project includes upgrades to traffic signals, signage, pedestrian crosswalks, sidewalks, street lighting, benches, bicycle racks, trash cans, and landscaping. Sections of this site fall within NJ Inland Design Flood Elevation.

In 2022, the Borough celebrated the opening of the Curtis Park playground after undertaking an improvement project funded by the Monmouth County Municipal Open Space Grant Program. Park improvements include ADA-compliant and barrier-free equipment, as well as additional landscaping, seating, walkways, and fencing. The park is within FEMA's 0.2% annual chance floodplain.

Known or Anticipated Major Development and Infrastructure in the Next Five (5) Years

Manasquan is currently in the process of updating its Storm Water Management Plan to meet recent New Jersey DEP regulations. Improvements to existing facilities will follow to achieve compliance as well.

Efforts have been made to develop a new NJ Transit train station in Manasquan, with the Borough receiving $400,000 in NJ Transit funds for the project. A bid specification has been developed that would allow a private company to build and own the station while leasing the land to NJ Transit for 30 years. There is currently no schedule for construction.

Demographics & Vulnerable Populations

This plan analyzed census-derived data on population trends and population age distributions to help illustrate potential vulnerability within the Borough. A population increase or decrease can illustrate potential hazard vulnerability through development pressures on the built environment, or through physical and social impacts of marked population loss. A community with a large share of population under age five may indicate vulnerabilities in hazard response, resource allocation, and evacuation – FEMA identifies that the pediatric population is disproportionately affected during disasters, and requires special consideration in categories of anatomy and physiology, psychological, and education vulnerabilities (FEMA, 2022, NLM, 2022). Individuals over age 65 are a growing share of the country's population and often represent the greatest share of deaths from extreme weather events and other natural disasters. A larger share of population over 65 may indicate local vulnerabilities to hazard events both before and after a disaster occurs – these populations may have mobility needs, uneven access to resources, and limited social networks that makes pre-disaster engagement challenging (FEMA, 2023).

The Borough of Manasquan has a total estimated population of 5,921, of which an estimated 3.8% is under age 5, and 19% is over age 65. The Borough experienced a moderate 1.7% population growth estimated in the period between ACS surveys in 2013-2017 and 2018-2022. With an aging population making up close to twenty percent of their total community, Manasquan may focus hazard mitigation efforts on those with robust messaging and engagement for older residents, evacuation plans inclusive of populations with mobility issues, and resilient networks for resource accessibility post-disaster.

There are no areas of Manasquan which have been identified by CDRZ, CEJST, or OBC designation criteria.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	5,921
Population Change since 2017	1.7%
Percent of Population Age < 5	3.8%
Percent of Population > 65	19.0%

Source: 2018-2022 ACS 5-Year Estimates, 2013-2017 ACS 5-Year Estimates

HAZARD IDENTIFICATION

One of the first steps in developing a risk assessment is for participating municipalities to review and prioritize the hazards that can affect them. This was done based on how often a hazard has occurred, how significant effects have been in the past, the difficulty and cost of recovering from such events. Jurisdictions ranked the list of hazards as either high, medium, low, or no concern. The following include the Borough's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

High	Medium	Low
	Natural Hazards	
Flood	Tornado	Drought
Storm Surge	Extreme Temperatures	Earthquake
Hurricane/Tropical Storm/Nor'easter	Extreme Wind	Wildfire
	Winter Storm	
	Coastal Erosion	
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Economic Disruption	Power Failure
	Terrorism	
	Pandemic	

The Borough ranked Landslide and Dam Failure as N/A.

Hazard Ranking Explanation

As a coastal community with numerous waterways, a primary concern for Manasquan Borough is flooding, both coastal and riverine. This flooding regularly impacts residents, businesses, and travel throughout Manasquan. Flood hazards originate from consistent heavy rain events, which cause water overflow and strain the drainage capacity. Nor'easters and tropical storms have affected the Borough, though recent years have seen no significant property damage. To prepare for future occurrences, Manasquan still considers flooding a high concern with a high potential for damage.

Storm surge and its related impacts are also a high concern for Manasquan Borough, given its location along the Atlantic coastline and bordered by the Manasquan River, Inlet, and Stockton Lake. These low-lying, water-bordered locations present a risk for significant damage from storm surge events. The Borough also notes concerns about sea level rise, which can increase the frequency and severity of nuisance flooding on roadways throughout Manasquan.

Significant Hazard Events Since Last Plan Update

Manasquan experienced tornado impact in April 2020, with some building damage reported to the Army Camp area north of town. This tornado brought high winds and heavy storm activity, resulting in flooding, power failure, and building damage from tornado wind shear.

In February 2024, a coastal flood event impacted wildlife in the area, with local news reporting schools of fish swimming down flooded roadways in the Borough. The reports also linked this event with potential cascading impacts of climate change in the region. Hurricane Ernesto impacted Manasquan communities in August 2024, causing flooded roads and injuries to at least one resident who was washed off a jetty while fishing in Manasquan.

A drought in fall 2024 created dire impacts for Manasquan and the southern New Jersey region as a whole. Experiencing no rainfall between August and November 2024, the Manasquan Reservoir fell to 50% capacity for the first time in 30 years.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Manasquan Borough, particularly in terms of flooding, storm surge, and sea level rise. As a coastal community with numerous waterways, Manasquan is already highly vulnerable to flooding from heavy rain events, nor'easters, and tropical storms. Climate change is likely to exacerbate these hazards by increasing the frequency and intensity of extreme weather events, leading to more severe and frequent flooding. The Borough's location along the Atlantic coastline and the presence of low-lying areas such as the Manasquan River, Inlet, and Stockton Lake further heighten the risk of storm surge and coastal flooding. Additionally, rising sea levels will contribute to more frequent and severe nuisance flooding on roadways and other critical infrastructure, posing a significant threat to public safety and property.

The impacts of climate change are not limited to flooding and storm surge. Increased temperatures and prolonged droughts are also anticipated, which could strain water resources and exacerbate the effects of droughts, as seen in the fall of 2024 when the Manasquan Reservoir fell to 50% capacity. These changes in climate patterns will likely lead to cascading impacts on the local ecosystem, including the loss of wildlife habitat and increased vulnerability of the built environment.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Manasquan Borough	
Initial FIRM	5/13/1972
Effective FIRM	5/12/1972
Number of Policies In-Force:	1,132
Total Losses:	2,224
Total Payments:	$107,241,313.84
Number of RL Properties:	120
Number of Mitigated RL Properties:	0
RL – Total Losses:	335
RL – Total Paid:	$10,361,599.78
Number of SRL Properties:	13
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	67
SRL – Total Paid:	$1,544,087.80

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

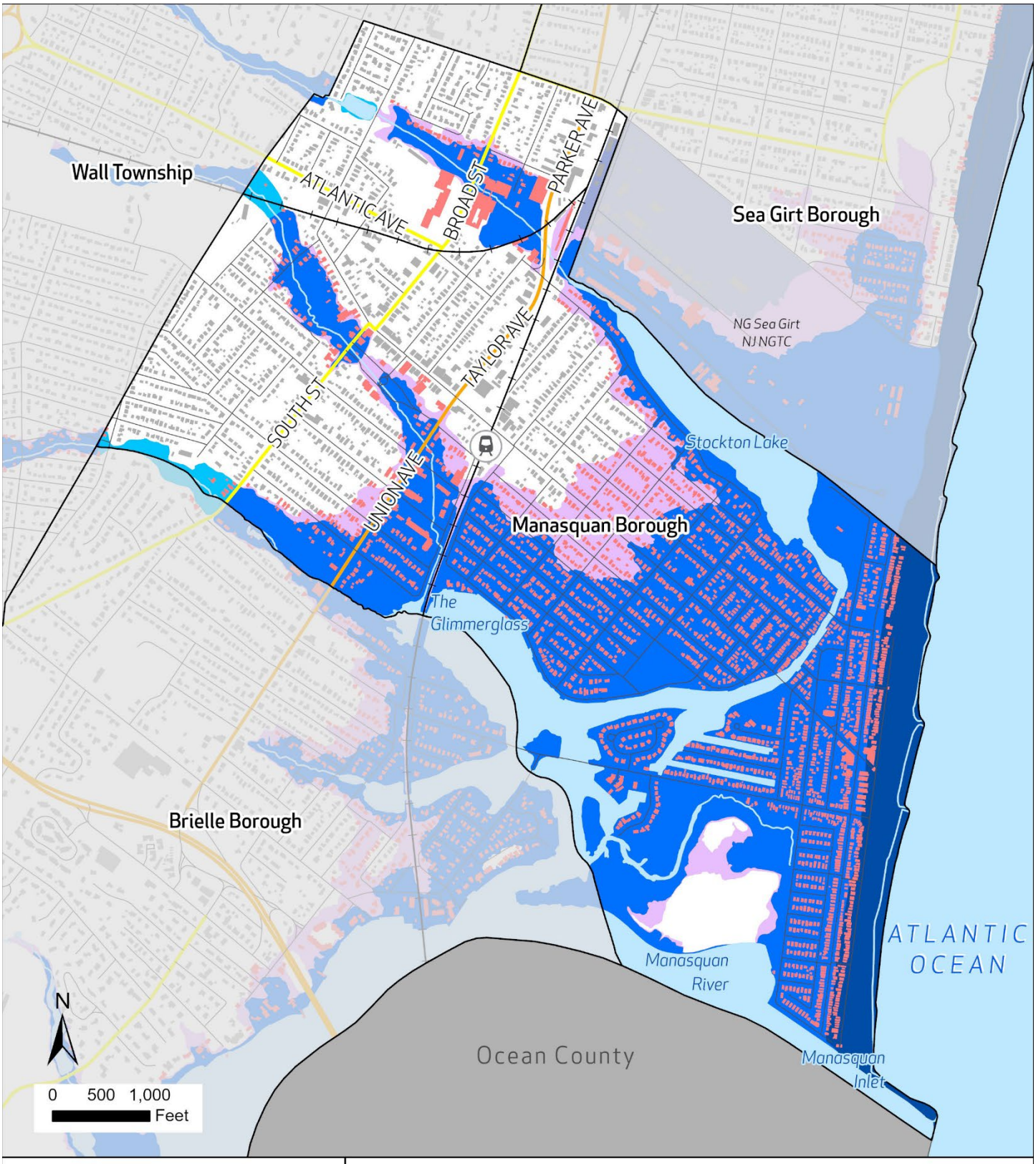
The Special Hazard Flood Area (SFHA) in the Borough of Manasquan covers the majority of town. The areas near the Manasquan River, the Atlantic Ocean, Stockton Lake, and the three streams which cross the town are all contained within the SFHA. Approximately 55.9 percent of the total area of Manasquan lies within the 1% annual chance flood zone as defined by FEMA. An additional 7.4 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 63.0 percent of Manasquan is considered developed. Of the developed parcels of the town, 55.9 percent fall within the 1% annual chance flood zone and 7.4 percent are within the 0.2% annual chance flood zone. This illustrates that the developed area of the municipality is generally in line with overall flood risk.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain	5 feet of Sea Level Rise
Developed Parcels	55.9%	7.4%	58.3%
Exposed Land Area	55.9%	7.4%	40.2%

During the planning process, Manasquan identified critical facilities which function as community lifelines. These facilities provide the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. The municipality identified 11 total facilities. Of these facilities, one, within the Safety and Security lifeline category, is located within the floodplain.

Community Lifeline Type	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number within 5 feet of Sea Level Rise
Safety and Security	-	1	-



Flood Risk

Manasquan Borough

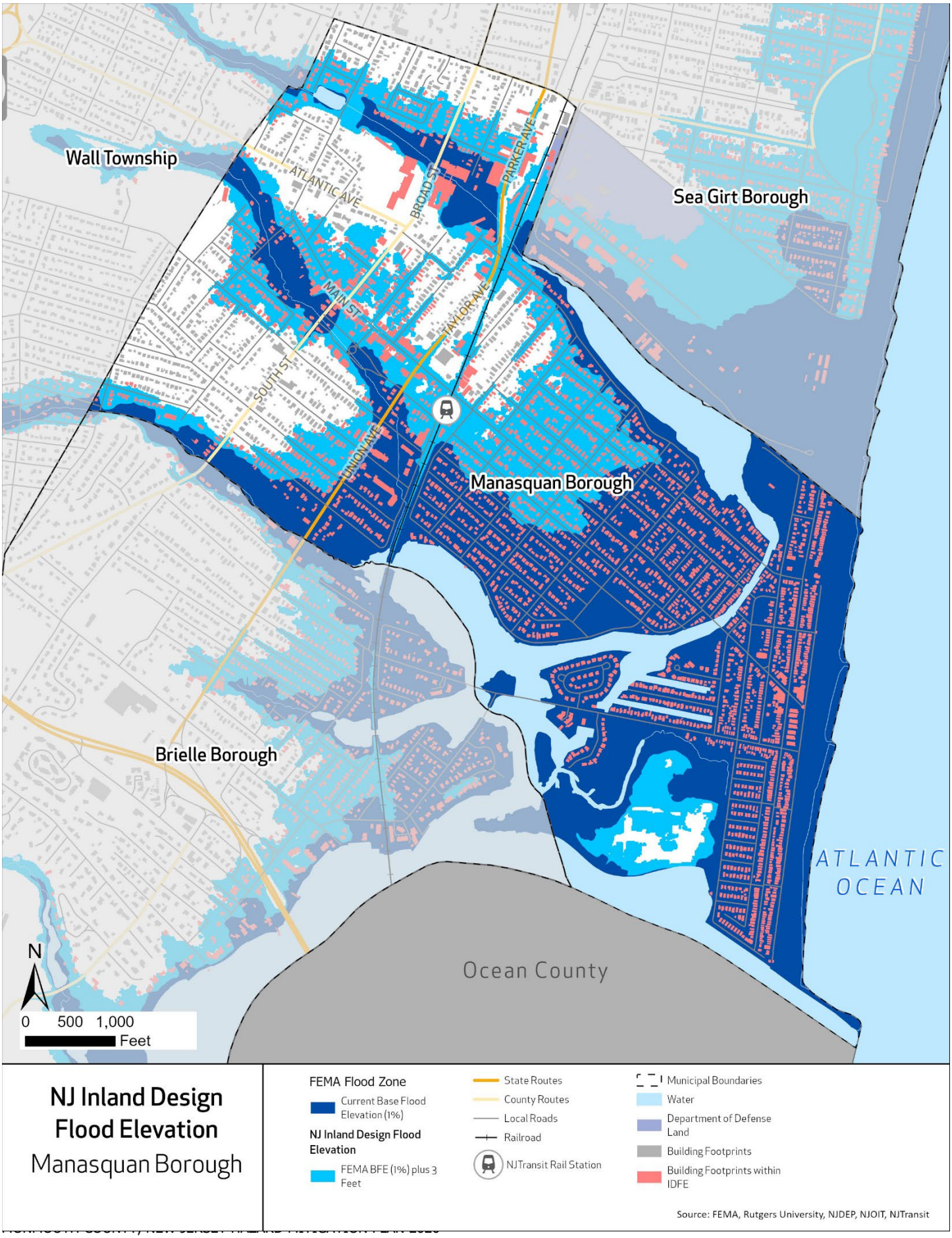
FEMA Flood Zone

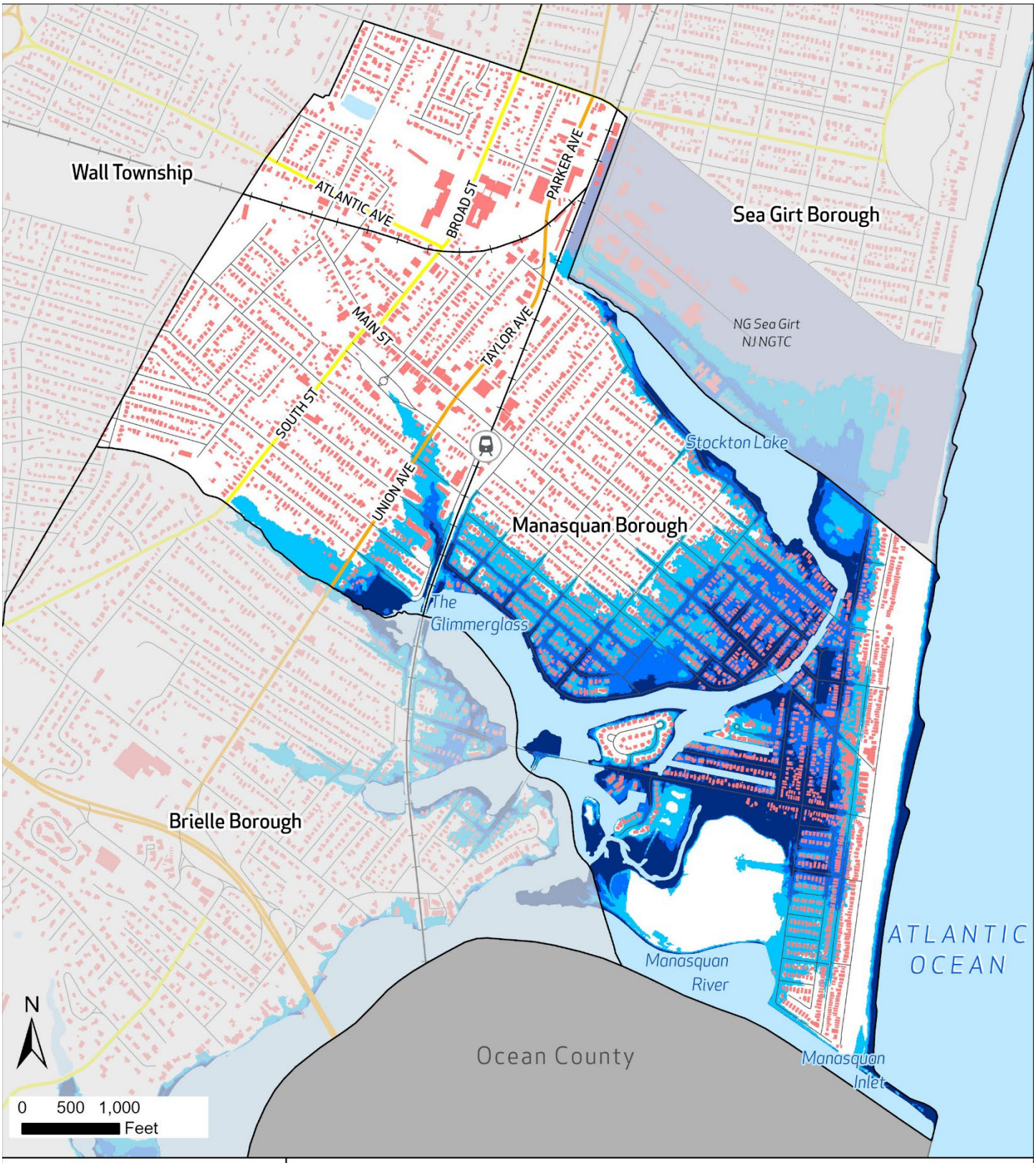
- 0.2% Annual Chance
- A (1%)
- AE (1%)
- VE (1%)

- State Routes
- County Routes
- Local Roads
- Rail Lines
- NJTransit Rail Station

- Municipal Boundaries
- Building Footprints
- Building Footprints within Floodplain
- Water

Source: FEMA NJDEP, NJOIT, NJTransit


Wall Township
Sea Girl Borough
Manasquan Borough
Brielle Borough
Ocean County
ATLANTIC OCEAN
ATLANTIC AVE
BROAD ST
PARKER AVE
MAIN ST
TAYLOR AVE
SOUTH ST
UNION AVE
N
0 500 1,000
Feet
NJ Inland Design Flood Elevation
Manasquan Borough
FEMA Flood Zone
Current Base Flood Elevation (1%)
NJ Inland Design Flood Elevation
FEMA BFE (1%) plus 3 Feet
State Routes
County Routes
Local Roads
Railroad
NJTransit Rail Station
Municipal Boundaries
Water
Department of Defense Land
Building Footprints
Building Footprints within IDFE
Source: FEMA, Rutgers University, NJDEP, NJOIT, NJTransit


Wall Township
Sea Girt Borough
Manasquan Borough
Brielle Borough
Ocean County
ATLANTIC AVE
BROAD ST
PARKER AVE
MAIN ST
TAYLOR AVE
SOUTH ST
UNION AVE
NG Sea Girt
NJ NGTC
Stockton Lake
The Glimmerglass
Manasquan River
Manasquan Inlet
ATLANTIC OCEAN
N
0 500 1,000
Feet
Permanent Inundation Under Sea Level Rise (SLR) Scenarios
Manasquan Borough
Area Inundated Under 2 Feet SLR
Area Inundated Under 3 Feet SLR
Area Inundated Under 5 Feet SLR
Interstate Highways
State Routes
County Routes
Local Roads
Rail Lines
NJTransit Rail Station
Municipal Boundaries
Building Footprint
Water
Department of Defense Land
Source: NOAA, NJDEP, NJOIT, NJTransit


Wall Township
Sea Girt Borough
Manasquan Borough
Brielle Borough
Ocean County
ATLANTIC AVE
BROAD ST
PARKER AVE
MAIN ST
TAYLOR AVE
SOUTH ST
UNION AVE
NG Sea Girt
NJ NGTC
Stockton Lake
The Glimmerglass
Manasquan River
ATLANTIC OCEAN
N
0 500 1,000
Feet
Wildland Urban Interface (WUI) Classification
Manasquan Borough
High or Medium Density Housing
Low or Very Low Density Housing
No Housing
State Routes
County Routes
Local Roads
Rail Lines
NJTransit Rail Station
Municipal Boundaries
Building Footprint
Water
Source: USFS, NJDEP, NJOIT, NJTransit

CAPABILITY ASSESSMENT

Planning & Regulatory Capabilities

Manasquan Borough has the following additional Planning & Regulatory capabilities:

Plan and Regulation	Yes	No	Date of last update	How does this capability support hazard mitigation?
Master Plan	X		2024	There are several goals, objectives, and recommendations related to flood hazard risk reduction, stormwater management, and mitigating the effects of climate change. The master plan also lists the Borough's 18 actions that were included in the last County HMP; all 18 are marked as either "completed" or "ongoing."
Capital Improvement Plan	X		2024	
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	
Floodplain Development Ordinance	X		5/16/2022	We enforce 1' freeboard above BFE
Floodplain Management Plan	X			
Stormwater Management Ordinance	X		2024	We did adopt higher standards than required
Stormwater Management Plan	X		2008	
Watershed Management Plan		X		
Sheltering Plan	X		2023	
Evacuation Plan	X		2023	
Substantial Damage/Improved Structures Response	X			We evaluate cost of construction. Once it hits 50% of improved value of property, it is SI/SD, and they must comply with floodplain regulations. We start with floodplain development permit, an analysis, violation and/or denial of work permit for SI, and inspections
Repetitive Loss Plan		X		
Disaster Debris Management Plan	X		2017	
Tracking elevation certificates and/or Letter of Map Change	X			All elevation certificates are uploaded to Forerunner floodplain software and made public
Post-Disaster Recovery Plan		X		
Current/recent redevelopment plans or studies		X		
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discuss hazard mitigation	X			Flood Mitigation Plan
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Manasquan Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Steven Winters Part-Time Municipal employee Also Construction Official He is a CFM No other CFM's employed
Grant Writer	X		Contractor
Staff trained to support mitigation	X		
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		We have agreements with Monmouth County
Non-governmental organizations/other partners	X		Rutgers University

Position	Yes	No	Explanation
that work with the municipality on mitigation projects			
Organizations that work with socially vulnerable or underserved populations	X		Local Ministerium

Education and Outreach Capabilities

Manasquan Borough has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		Through website, social media, quarterly mailings, annual mailing to repetitive loss areas, am radio station, variable message sign and public meetings
StormReady	X		
Firewise USA			
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Manasquan Borough has used the following financial capabilities to implement hazard mitigation activities:

Financial Capability	Yes	No	Explanation
FEMA BRIC		X	
FEMA FMA		X	
FEMA Public Assistance		X	
FEMA HMGP		X	
Non-FEMA Federal Funding Programs	X		
Other FEMA resources		X	
NJ Infrastructure Bank		X	
Other state municipal assistance or grant programs	X		NJDOT transportation Funding, Community Development Block Grants
Evaluation process on the prioritization of risk reduction projects against other local activities	X		Projects are prioritized based upon risk reduction impacts and available funding
Other ongoing efforts to build additional financial capabilities	X		Exploring local funding opportunities (bonding, establishing a tax district, etc.)

Additional Capability Assessment Information:

- Manasquan is a Forerunner community. Forerunner has dynamic tools to better manage flood risk and increase resilience by enforcing floodplain compliance and increasing disaster response by documenting damages in the field and providing timely information to residents. Forerunner's public features give residents access to relevant property-level flood risk details that help inform key decisions and minimize the number of assistance requests. Forerunner is also designed to make CRS participation easier for the Borough.
- **Community Rating System (CRS) Classification**: 7
- **Sustainable Jersey Participation Status**: Bronze

MITIGATION STRATEGY

Overview and Progress Since Last Update

The Borough of Manasquan is prioritizing flood mitigation in this plan update as a multitude of other local mitigation activities have already been completed since the last update, including but not limited to increasing public notification systems, lightning protection, emergency back-up power for critical facilities as well as redundant communication networks. Manasquan is prioritizing flood mitigation actions such as tide valves, road elevations, seawalls, bulkheads and other storm surge barriers due to an observed increase in frequency of storm events as well as documented and sustained sea level rise which has adversely impacted public safety, increased property damage, and impeded local transportation for Manasquan residents. Flooding poses an increased public safety threat as residents often become trapped in their vehicles or homes and also impacts accessibility of public safety functions such as law enforcement, emergency medical services and fire / rescue responses.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 30-01	Complete the Borough Risk Assessment for Structures, Facilities, and Equipment in the Borough	Conduct a hazard-specific, community-wide risk assessment of all structures, facilities, and equipment and identify, map, quantify, and rank vulnerable structures for each of the hazards. This will include identifying and mapping high hazard areas for each hazard addressed. This will also include inventorying and evaluating existing at-risk housing stock, commercial buildings, as well as public facilities and equipment and assessing each for vulnerabilities to each hazard addressed. The action will be a more detailed presentation and assessment of data from what is in the HMP.	Flood, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightning, Storm Surge, Wildfire, Tornado	N/A	Office of Emergency Management	FEMA HMA, Community Resiliency Grants	$150,000	N/A	Completed	
Action 30-02	Establish Funding Mechanism for HMP	Establish a permanent funding mechanism and budget for hazard mitigation planning and mitigation actions.	Extreme Temperatures, Flood, Drought, Earthquake, Coastal Erosion, Extreme Wind,	N/A	Office of Emergency Management		$50,000	N/A	Completed	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
			Lightening, Storm Surge, Wildfire, Winter Storm, Tornado							
Action 30-03	Continue Monitoring the Implementation of the Hazard Mitigation Plan	Monitor the implementation of the hazard mitigation plan and make updates to the plan as required. This includes forming a plan implementation steering committee to monitor progress on local mitigation actions as well as implementation monitoring schedule and outlining responsibilities.	All Hazards	N/A	Office of Emergency Management	Municipal Budget	$5,000	N/A	Completed	*Ongoing maintenance needed – Borough capability.*
Action 30-04	Continue Monitoring the Implementation of the Hazard Mitigation Plan	Implement a comprehensive program for public information that systematically distributes hazard awareness information as well as actions that citizens can take to mitigate those hazards. The program will also promote household disaster preparedness as well as private mitigation efforts. The program will include the formation of a public information steering committee and will include specific public outreach goals, responsibilities, and monitoring.	All Hazards	N/A	Office of Emergency Management	Local Hazard Mitigation Program, Hazard Mitigation Planning Grants, Community Resilience Grants, HMGP funding	$5,000	N/A	Completed	
Action 30-05	Increase Public Warning Capabilities	Increase public warning capabilities through the implementation of FEMA developed IPAWS alerting, upgrade warning siren coverage, implement a Reverse911 system, upgrade electronic warning sign system coverage, and improve use of web-based programs and social media for public warning.	All Hazards	N/A	Office of Emergency Management	Municipal Budget	$150,000	N/A	Completed	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 30-06	Provide Lightning Protection for Critical Facilities	This action item will include conducting lightning protection of these structures based upon rank (most vulnerable) and importance (most critical). This will include installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities, as well as installing and maintaining surge protection on critical electronic equipment.	Lightning	N/A	Office of Emergency Management	Municipal Budget	$50,000	N/A	Completed	
Action 30-07	Provide Erosion and Wave Protection along the Oceanfront by Constructing a Dune and Wall System along the Coastline	Fortify a one-mile portion of coastline with and engineered dune and wall system consisting of high-strength steel wall covered by dune system and vegetation.	Coastal Erosion	N/A	Office of Emergency Management	FEMA HMA, Army Corp of Engineers	$10,000,000	N/A	Withdrawn (Merge with Action 30-17)	*Removed to merge with Action 30-18.*
Action 30-08	Restore Natural Buffers to Mitigate Flooding Borough-Wide	Provide natural resource restoration to existing dunes, salt marshes, coastal wetlands, maritime forests, stream corridors and natural floodplains in order to enhance natural buffers and flood mitigation. This will include developing a comprehensive approach that combines dune, maritime forest, coastal wetlands, salt marsh, and stream corridor restoration with potential flood mitigation opportunities and integrated high-water controls in order to reduce both riverine and tidal flooding and protect against sea level rise. The project will restore over 60-acres of coastal wetlands and maritime forest and 6-miles of stream corridors.	Flood, Storm Surge, Hurricane/ Tropical Storm/ Nor'easter	N/A	Office of Emergency Management	FEMA HMA, EPA, National Fish and Wildlife Foundation (NFWF), NOAA, New Jersey Corporate Wetlands Restoration Partnership (NJCWRP), North American Wetlands Conservation Council (NAWCC), US Fish and Wildlife Service (FWS)	$7,000,000	N/A	Completed	*Completed as County project with no cost to the Borough. Specific focus on protection against sea-level rise which will increase with climate change.*

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 30-09	Floodproof Residential and Non-Residential Structures	This action item will include conducting flood proofing of these structures based upon rank (most vulnerable) and importance (most critical). These structures will be protected from flooding by a combination of methods, including, but not limited to wet floodproofing in a basement, wet floodproofing of areas above base flood elevation, using water resistant paints or other materials to allow for easy clean up after floodwater exposure, and by dry floodproofing non-residential structures by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls to keep water out.	Flood, Storm Surge, Hurricane/ Tropical Storm /Nor'easter	N/A	Office of Emergency Management	FEMA HMA	$10,000	N/A	Withdrawn (Merge with Action 30-15)	*Removed to merge with Action 30-16*
Action 30-10	Elevate Residential and Non-Residential Structures & Equipment, especially Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties	This action item will include elevating these structures based upon rank (most vulnerable) and importance (most critical). These structures, facilities, and equipment will be elevated at least 1-food above minimum NFIP base flood elevation requirements to protect from flooding, storm surge, and sea level rise.	Flood, Storm Surge, Hurricane/ Tropical Storm/ Nor'easter	N/A	Office of Emergency Management	FEMA HMA	$200,000,000	N/A	Withdrawn (Merge with Action 30-15)	*Removed to merge with Action 30-16*
Action 30-11	Provide Erosion and Wave Protection along the Oceanfront by Constructing a Dune and Wall System along the Coastline	Fortify a one-mile portion of coastline with and engineered dune and wall system consisting of high-strength steel wall covered by dune system and vegetation.	Coastal Erosion	N/A	Office of Emergency Management	FEMA HMA, USACE	$10,000,000	N/A	Withdrawn (Merge with Action 30-17)	*Removed to merge with Action 30-18*

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 30-12	Develop a Drought Emergency Plan	Develop a drought emergency plan which includes criteria for drought-related actions, identifying local drought indicators, such as precipitation, temperature, guidance from NJDEP, and institute voluntary and mandatory water conservation measures during drought conditions and emergencies.	Drought	Low	Office of Emergency Management	Municipal Budget	$50,000	1 year	Completed	This action item was implemented in 2024 in coordination with water tank replacement and local drought.

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 30-13	Conduct Seismic Retrofitting of Structures, Facilities, and Equipment	This action item will include conducting seismic retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to bracing of generators, elevators, and other vital equipment, strengthening and retrofitting non-reinforced masonry buildings and non-ductile concrete facilities that are particularly vulnerable to ground shaking, retrofitting building veneers to prevent failure, anchoring rooftop-mounted equipment, and otherwise retrofitting structures and equipment to make earthquake resistant. This will also include reviewing building codes and structural policies to	Earthquake	Low	Office of Emergency Management	Municipal Budget	$1,000,000	5+ years	Ongoing	This action does not address socially vulnerable populations. The impacts of climate change does not impact the natural hazard this action item addresses. This action item has not been implemented due to lack of funding.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		ensure they are adequate to protect older structures from seismic damage. This item will also include requiring or encouraging seismic engineering measures and construction techniques that may include the mitigation actions above.								
Action 30-14	Provide Back-up Power Generation for Critical Facilities	Post inventory of all critical facilities and equipment, tasks ranked in order of importance. Emergency back-up generators will be provided and maintained at each of the facilities - Generators need to be updated or replaced.	All Hazards	Medium	Office of Emergency Management	FEMA HMA	$200,000	2 years	Ongoing	This action does not address socially vulnerable populations. The impacts of climate change may increase or decrease the severity and likelihood of the risk item this action item addresses. This action item has not been fully implemented due to lack of funding.
Action 30-15	Enforce Compliance with NFIP's CRS Program	Manasquan participates in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). This project will include increased regulatory standards both in and out of the floodplain, including enacting and enforcing regulations that exceed NFIP minimum standards so that more flood protection is provided for any development. Existing ordinances will be reviewed and made more stringent, including requiring buildings to be constructed above the minimum elevation required by NFIP, requiring foundation protection on new buildings, requiring any new critical facilities to be built outside of flood zone,	Flood, Storm Surge, Hurricane/ Tropical Storm/ Nor'easter	Medium	Office of Emergency Management	Local Hazard Mitigation Program	$5,000	5+ years	Ongoing	This action does not address socially vulnerable populations. The impacts of climate change may increase or decrease the severity and likelihood of the natural hazard this action item addresses. This action item reduces flood risk.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		requiring new development to provide positive drainage away from the structure, updating the definition of substantial improvement to include accumulation of improvements counted over 10 years, as well as formally adopting preliminary FIRMS.								
Action 30-16	Floodproof structures or elevate structures and equipment (especially RL, SRL), Relocate structures, critical facilities, equipment.	This action will include floodproofing of structures based on rank (most vulnerable) and importance (most critical). This action will include elevating structures where appropriate at least 1-foot above minimum NFIP base flood elevation requirements. This item will include relocating structures where appropriate, to lower-hazard areas.	Flood, Storm Surge, Sea Level Rise, Hurricane/ Tropical Storm/ Nor'easter	High	Office of Emergency Management	Community Resiliency Grants, FEMA HMA	$500,000,000	5+ years	Ongoing	Merge of Actions 30-09 & 30-10. This action does not address socially vulnerable populations. The impacts of climate change may increase or decrease the severity and likelihood of the natural hazard this action item addresses. This action item has not been fully implemented due to lack of funding. This action item addresses flood risk.
Action 30-17	Comprehensive Flood Mitigation Plan	This action item encompasses the local flood mitigation plan for the Borough of Manasquan developed for the purpose of protecting life and property, enhancing public safety and providing unimpeded transportation. This action item includes: Elevation of critical infrastructure including access roads; Installation of flood barriers, including seawalls, bulkheads, berms and roadway crowning; Drainage improvements including tide (check) valves, upgraded	Flood, Storm Surge, Sea Level Rise, Hurricane/ Tropical Storm/ Nor'easter	High	Office of Emergency Management	Community Resiliency Grants, FEMA HMA, Transportation Funds	$15,000,000	15 years	Ongoing	This action does not address socially vulnerable populations. The impacts of climate change may increase or decrease the severity and likelihood of the natural hazard this action item addresses. This action item has not been fully implemented due to lack of funding. This action item addresses flood risk.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		piping and drainage structures.								
Action 30-18	Construct a Seawall and Flood Gate, including erosion and wave protection by dune and wall system along coast	This action item includes the construction of a seawall along the Atlantic Ocean and a flood gate across the Manasquan Inlet. This project would protect all communities in the Manasquan River floodplain from coastal flooding, storm surge and sea level rise.	Flood, Storm Surge, Coastal Erosion, Sea Level Rise, Hurricane/ Tropical Storm/ Nor'easter	High	Office of Emergency Management, US Army Corps of Engineers	Federal USACE Funds, NJ Shore Protection Fund	$8 B	15+ years	Ongoing	Merge of Actions 30-07 & 30-11. This action does not address socially vulnerable populations. The impacts of climate change may increase or decrease the severity and likelihood of the natural hazard this action item addresses. This action item has not been implemented due to schedule / lack of funding. This action item addresses flood risk.
Action 30-19	Conduct an Inventory and Retrofit Structures, Facilities, and Equipment to Sustain High Winds	An inventory of public and commercial buildings that are vulnerable to high winds will be identified; this action item will include conducting retrofitting of these structures based upon rank (most vulnerable) and importance (most critical).	Extreme Wind	Medium	Office of Emergency Management	Municipal Budget	$3,000,000	5+ years	Ongoing	This action does not address socially vulnerable populations. The impacts of climate change may increase or decrease the severity and likelihood of the natural hazard this action item addresses. This action item has not been implemented due to lack of funding. This action item addresses extreme wind risk.