28 – LONG BRANCH CITY

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
Guido Monteleone	**Deputy OEM Coordinator**	**Point of Contact, Municipal Workshops #1 and #2**
Stan Dziuba	OEM Coordinator	Municipal Workshop #1
David Graminski	Police Sergeant / Deputy OEM Coordinator	Municipal Workshop #2
Charles F Shirley Jr	Business Administrator / Deputy OEM Coordinator	Plan Review

COMMUNITY PROFILE

Overview

Named for its location along the southern branch of the Shrewsbury River, the City of Long Branch has a land area of 5.1 square miles. In recent years, the city saw large-scale redevelopment along its oceanfront with new high-rise residences, restaurants, and commercial businesses, including the trendy Pier Village. The city recently designated a new developer for its redevelopment project in the historical Broadway corridor.

Long Branch Train Station and its surrounding area was designated a Transit Village in 2021. There are several NJ Transit Bus Stops in Long Branch with service from the 831 and 837 routes, including those along Ocean Boulevard, 2nd Avenue, 3rd Avenue, and Broadway. North Jersey Coastline Rail service can be accessed at Long Branch Station across from Monmouth Medical Center long 3rd Avenue.

Land Use, Development, & Growth

Long Branch is a predominantly residential community, although publicly owned and commercial land also constitute significant portions of its developed land. In 2020, urban or developed land accounted for nearly 87 percent of the town's total area, while water, wetlands and barren land together made up 11 percent. From 2015 to 2020, there was negligible change in the Borough's overall land use composition.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	4.8	4.8	>0%
Barren Land	142.2	146.6	3%
Forest	45.9	37.8	-18%
Urban	3059.7	3054.7	>0%
Water	209.3	207.7	-1%
Wetlands	44.2	54.4	23%

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

Recent Major Development and Infrastructure from 2020 to Present

Long Branch continues to complete major roadway improvements throughout the City; and completed work on 35 roads in 2022. This initiative was financed using federal, state, and city funding sources totaling nearly $3 million. NJDOT designated the area surrounding the city's train station as a Transit Village. In February of 2023 the City was awarded $13.2 million to construct a tunnel intended to connect the areas situated to the east and west of the train station. The project includes upgrades to the station and surrounding area, reconstructed commuter parking lot for multi-model public transportation, ride share, and taxi service, a heated pedestrian overhang for bus service, and landscape improvements.

In September of 2023 FHWA approved and additional $7.9 Million in funding to complete the pedestrian tunnel project bringing the total to $15.1 million.

Several new multifamily residential developments were approved in the Transit Village District in 2021, the first year of Long Branch having an area with the designation. The Transit Village area center around Long Branch Station and Monmouth Medical Center and stretches as far south as Bath Avenue and as North as Chelsea Avenue. In 2022, Long Branch had a $2 million expansion and renovation of the city's senior center to include renovations to the entire exterior of the building, new health screening rooms, fitness space, and more.

- Transit tunnel to reconnect Morris Ave across the train tracks. Not in a flood zone.
- Seaview Towers at Bath Ave and Ocean Blvd. being redeveloped. Not in flood zone.
- Seashore School on Bath Ave. Not in flood zone.
- Pure Village phases 4 and 5. Don't flood, but nearby Laird Street does when outfall gets clogged.
- Lower Broadway in full development right now, both big lots. Never flooded.
- Ferry terminal pier at end of Laird Street, starting construction in the spring. Not an active ferry, just a pier with fishing. This pier falls within NJ Inland Design Flood Elevation which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper).
- Other projects in the next five years – nothing in the flood zone.
- Takanassee Lake dredging project. That area gets runoff from Monmouth University and heavy sedimentation.

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

The former Seaview Towers apartment buildings, which were deemed an imminent hazard in 2021 and subsequently demolished, is slated to be replaced by the Atlantic Club, a new luxury condo property approved by Long Branch's Planning Board in 2023. This site falls within NJ Inland Design Flood Elevation which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper).

The Long Branch Planning Board approved the former Seashore School site to be developed into 94 market rate units. The developer will also build an acre-sized public park to give back to the city. Two other condominium apartment complexes are in various stages of construction along Ocean Boulevard. The Reef and Aqua Vista projects propose a combined total of 46 new condominium apartments. This site falls within NJ Inland Design Flood Elevation which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper).

The fourth and final phase of Pier Village is located at the south end of the redevelopment area, was approved by the County's Development Review Committee in July 2023. The project consists of a 107-room hotel with a pool, a lounge, a spa, and a public plaza. This site falls within NJ Inland Design Flood Elevation which is FEMA's 1% annual chance floodplain + 3 feet (NJFloodMapper).

In 2023, Long Branch approved a redeveloper agreement for its Lower Broadway redevelopment area. The agreement calls for 299 dwelling units, of which 30 will be affordable units. In addition, the project is required to provide at least 22,000 square feet of new retail space. The agreement requires the developer to pay a fee of $100,000 to the City, and construction must start within six months of receiving site plan approval. The County's Development Review Committee voted to approve the project in August 2023.

The Federal Transit Administration awarded $2.4 million to develop a conceptual design for a pier and ferry terminal. The Long Branch pier and ferry terminal project is currently in the engineering and design phase.

Demographics & Vulnerable Populations

This plan analyzed census-derived data on population trends and population age distributions to help illustrate potential vulnerability within the city. 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 City of Long Branch's total estimated population is 31,932. Of this population, an estimated 6.6% is under age 5 and 16.4% is over age 65. The city experienced a moderate 3.8% population growth estimated between the ACS survey periods of 2013-2017 and 2018-2022. With an aging population making up over sixteen percent of Long Branch's total community, Long Branch may focus hazard mitigation efforts on those with robust messaging and engagement for local residents, evacuation plans inclusive of populations with mobility issues, and resilient networks for resource accessibility post-disaster.

Within Long Branch City, there are twenty block groups meeting criteria for overburden (OBC) according to the State of New Jersey. These block groups are clustered in the City's north and western portions, and identify overburden based on criteria of vulnerable populations: *Low Income* (three block groups), *Minority* (four block groups), and *Low Income and Minority* (thirteen block groups). There are five tracts meeting CEJST criteria throughout Long Branch; these tracts are identified due to characteristics including *Workforce Development, Water and Wastewater, and Health*. There are no parts of the city which meet criteria under CDRZ identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	31,932
Population Change since 2017	3.8%
Percent of Population Age < 5	6.6%
Percent of Population > 65	16.4%

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 City's hazard ranking. The full risk assessment for each hazard is located in Section 4.0.

Hazard Ranking

High	Medium	Low
Natural Hazards		
Hurricane/tropical storm	Extreme wind/tornado	Drought
Nor'easter	Lightning	Forest fires
Storm surge	Winter storm	Earthquake
Flood	Coastal erosion	
	Wave action	
Human-made Hazards		
	Cyber attack	Civil unrest
	Economic disruption	
	Power failure	
	Terrorism	
	Pandemic	

Hazard Ranking Explanation

Long Branch City regularly experiences coastal flooding and flooding related to the high-water table in the area. Recent property damage from Nor'easters in 2021 and heavy rain events in 2023 has heightened the community's desire to prepare for and mitigate this high wind and flood hazard events.

Due to its location along the Atlantic coastline and being situated near several creeks, Long Branch faces ongoing impacts from coastal erosion and tidal flooding. These impacts are currently mitigated through regular beach replenishment projects and maintenance of outfalls. The state, county, and USACE have been notified of the outfalls that need repairs.

Significant Hazard Events Since Last Plan Update

Heavy rain caused flooding in some areas for about 8 hours, but no major damage was reported. The flooding was primarily related to two creeks, involving tidal flooding and runoff from Tinton Falls and the watershed from Monmouth University. There are outfalls that were replaced by USACE, but they now need repairs. Additionally, the installation of underground storage may be considered. The area is in better shape, but due to its low-lying nature, some flooding is unavoidable. Outfalls requiring repairs include one where Atlantic Ave meets the ocean, one south of Joline, and a few further south. The state, county, and USACE have been notified of these needed repairs. Oceanfront flooding is not common, with most flooding coming from tributaries. The only significant ocean flooding occurred during Sandy.

Climate Change Impacts on Extent and Magnitude of Hazards

The City of Long Branch is already experiencing significant risks from natural hazards such as hurricanes, tropical storms, floods, and coastal erosion. Climate change is expected to exacerbate these risks, increasing both their extent and magnitude. Rising sea levels and more frequent and intense storm events will likely lead to more severe coastal erosion and flooding. The city's location, with a significant portion of its developed area within the 1% annual chance flood zone, makes it particularly vulnerable. Additionally, the aging population in Long Branch, with over 16% of residents over 65, may face increased challenges during extreme weather events due to mobility issues and limited access to resources.

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Long Branch City	
Initial FIRM	5/31/1974
Effective FIRM	5/05/1976
Number of Policies In-Force:	1585
Total Losses:	1,374
Total Payments:	$52,491,833.50
Number of RL Properties:	49
Number of Mitigated RL Properties:	0
RL – Total Losses:	126
RL – Total Paid:	$4,684,421.26
Number of SRL Properties:	9
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	46
SRL – Total Paid:	$2,454,241.68

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

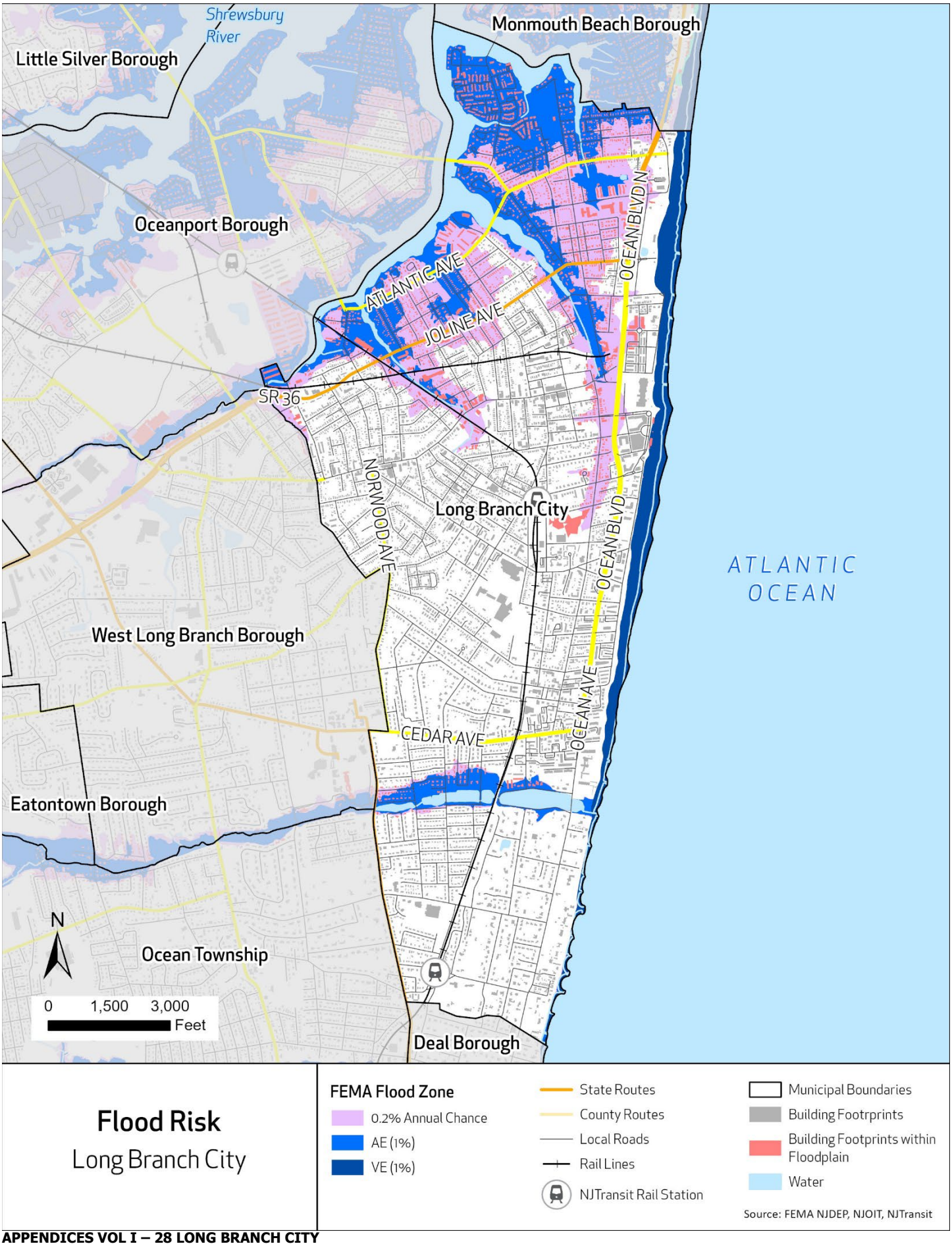
The Special Flood Hazard Area (SFHA) in the City of Long Branch is primarily located adjacent to the main waterbodies of the city, Lake Takanassee in the south of town and the Shrewsbury River and its tributaries in the north, as well as the Atlantic Ocean. Approximately 21.4 percent of the total area of Long Branch lies within the 1% annual chance flood zone as defined by FEMA. An additional 13.8 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 86.6 percent of Long Branch is considered developed. Of the developed parcels of the town, 16.0 percent fall within the 1% annual chance flood zone and 13.7 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	16.0%	13.7%	9.5%
Exposed Land Area	21.4%	13.8%	12.7%

During the planning process, Long Branch 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 41 total facilities. Of these facilities, nine are located within the floodplain. Of these nine, one is also located within the area projected to be inundated under sea level rise.

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	6	1
Water Systems	2	-	-



Flood Risk

Long Branch City

FEMA Flood Zone

- 0.2% Annual Chance
- 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

NJ Inland Design Flood Elevation

Long Branch City

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

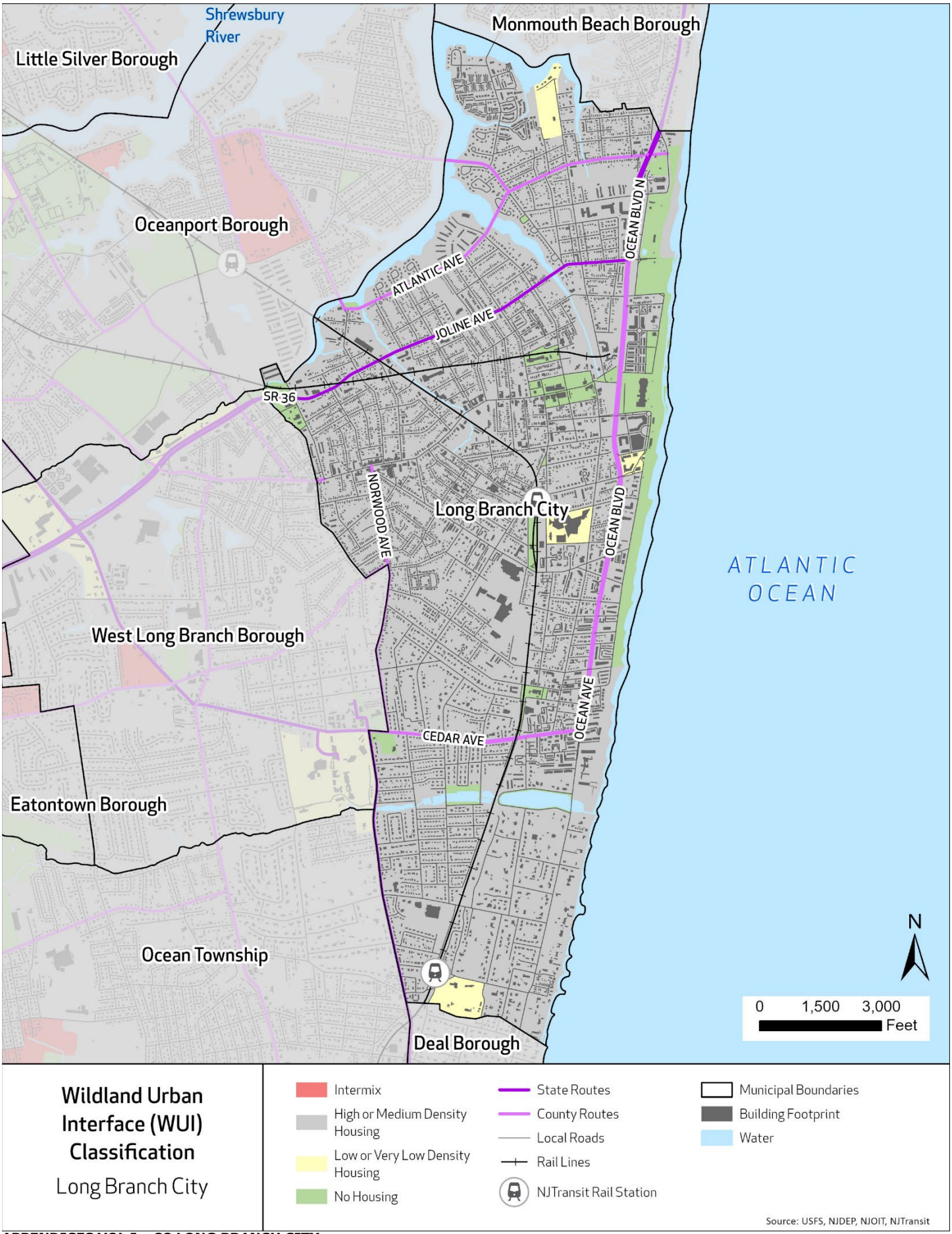
Source: FEMA, Rutgers University, NJDEP, NJOIT, NJTransit

Permanent Inundation Under Sea Level Rise (SLR) Scenarios

Long Branch City

- 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

Source: NOAA, NJDEP, NJOIT, NJTransit


Shrewsbury River
Little Silver Borough
Monmouth Beach Borough
Oceanport Borough
ATLANTIC AVE
JOLINE AVE
SR 36
OCEAN BLVD N
OCEAN BLVD
NORWOOD AVE
Long Branch City
ATLANTIC OCEAN
West Long Branch Borough
CEDAR AVE
OCEAN AVE
Eatontown Borough
Ocean Township
Deal Borough
N
0 1,500 3,000
Feet
Wildland Urban Interface (WUI) Classification
Long Branch City
Intermix
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

Long Branch City 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			
Capital Improvement Plan	X			
Local Emergency Operations Plan/Continuity of Operations Plan	X		2023	Basic framework for mitigation, preparedness, response and recovery for our town
Floodplain Development Ordinance	X			
Floodplain Management Plan	X			
Stormwater Management Ordinance	X			
Stormwater Management Plan	X			
Watershed Management Plan		X		
Sheltering Plan	X			
Evacuation Plan	X			
Substantial Damage/Improved Structures Response	X			
Repetitive Loss Plan		X		All properties are tracked
Disaster Debris Management Plan	X			
Tracking elevation certificates and/or Letter of Map Change		X		
Post-Disaster Recovery Plan	X			
Current/recent redevelopment plans or studies	X			
Community Wildfire Protection Plan		X		
Climate Adaptation Plan		X		
Other Plans that discusses hazard mitigation		X		
Other ordinance and regulation that mitigate the impacts of natural hazards		X		

Administrative and Technical Capabilities

Long Branch City has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		
Grant Writer	X		
Staff trained to support mitigation	X		
Existing mutual aid or technical assistance agreements to support hazard mitigation projects	X		
Non-governmental organizations/other partners that work with the municipality on mitigation projects	X		
Organizations that work with socially vulnerable or underserved populations	X		

Education and Outreach Capabilities

Long Branch City has the following Education and Outreach capabilities:

Education & Outreach Capability	Yes	No	Explanation
Communicate natural and human-based hazards to the public	X		
StormReady		X	Double check, county is
Firewise USA		X	
Severe Weather Awareness Week		X	
Community Rating System (CRS)	X		

Financial Capabilities

Within the last five years, Long Branch City 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	

Financial Capability	Yes	No	Explanation
Other state municipal assistance or grant programs	X		
Evaluation process on the prioritization of risk reduction projects against other local activities	X		
Other ongoing efforts to build additional financial capabilities		X	

Additional Capability Assessment Information:

- Long Branch 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 City.
- **Community Rating System (CRS) Classification:** 7
- **Sustainable Jersey Participation Status:** Silver

MITIGATION STRATEGY

Completed or Removed Actions

The City of Long Branch is a sustainable community that is focused on actively working to mitigate common issues in town to improve our resilience to major storms and weather events as well as maintaining a level of operational readiness to respond to and mitigate any and all threats. Since 2021, our major focus to was to reduce flooding in prone areas especially those that follow evacuation routes out of and through town through infrastructure updates and assuming the risk in RL and SRL buildings and property. Moving forward, our goal is to continue these efforts as well as implement changes to the sewage treatment plant systems in town and to coordinate with other local and state agencies to achieve a level of whole community resiliency within this vulnerable coastal city.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
There are no completed or removed actions since the last plan update.										

New and Ongoing Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-01	Continue to Enforce Flood Ordinances	Update local ordinances to comply with FEMA's new preliminaries and possibly acquire reductions for residents in flood insurance premiums.	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low	City of Long Branch	Local Budget	Staff time	1 year	Ongoing	Ordinances are always being enforced and our community is ever changing so they are updated semi regularly Still working with local elected officials on trying to reduce premiums
28-02	Continue to Implement the City-Wide Drainage Master Plan	Installation of improved drainage and stormwater pipe to control flood waters and increase strategic locations to control flow.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low	City of Long Branch	Local Budget	$113,500	1 year	Ongoing	Updates to infrastructure are ongoing, due to the nature of how our town works not much can be done in the summertime, lots of new construction leading to more need in other locations

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-03	Upsize the Stormwater Pipe under the New Jersey Transit Rail Line	The stormwater pipe that needs to be upsized under the New Jersey Transit (NJT) Railroad. Replace the piping of the ditch from Morris Ave to the start of the underground piping.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	City of Long Branch	Local Budget, FEMA HMA	$7,030,000	5 + years	Ongoing	Still working with transit to accomplish this, being blocked legislatively right now
28-04	Install Stormwater Control Devices at Lake Takanassee	Install an improved drainage system and stormwater control devices to regulate flood waters and increase strategic locations to control flow.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	Local Budget, FEMA HMA	$314,000	2 years	Ongoing	This has been partially accomplished but there is now need for them on other parts of the lake that were previously not needed
28-05	Install Improved Stormwater Pipe at the Elberon Trestle	Installation of improved drainage and stormwater pipe to control flood waters and increase strategic locations to control flow. Advanced warning systems to alert motorist of the conditions located overhead and will require significant coordination with Ne	Flood, Hurricane and Tropical Storm, Storm Surge	High	City, Ocean Township, Borough of Deal	Local Budget, FEMA HMA	$1,500,000	3 years	Ongoing	This has been partially accomplished but needs to be reevaluated as the issue is somewhat persisting
28-06	Install Duckbill Check Valves along the Shrewsbury River	Installation of duckbill check valves to control flood waters and increase strategic locations to control flow.	Flood, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	Local Budget, FEMA HMA	$136,500	3 years	Ongoing	
28-07	Construct a New Bulkhead at Bay Ave.	Improvements to existing Bay Avenue bulkhead that has proven to be inadequate after the changes in conditions following Superstorm Sandy.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	FEMA HMA	$20M	3 years	Ongoing	This is a top priority for us but is still in the works

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-08	Elevate Flood-prone Residential Properties Below the BFE, especially Repetitive Loss and Severe Repetitive Loss Properties	Project will consist of the elevation of approximately 150 flood-prone residential structures that are below the approved base flood elevations.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch Emergency Management	FEMA HMA	$2.1M	5 + years	Ongoing	Repetitive loss is tracked, and some purchasing has been done
28-09	Acquire and demolish/relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	The City will work with private property owners that are on FEMA's Repetitive Loss and Severe Repetitive Loss list on mitigation solutions, including available grants for home elevation or flood-proofing.	Flood, Wave Action, Nor'easter, Storm Surge	High	City of Long Branch	FEMA HMA	TBD	3 years	Ongoing	Again, a work in progress
28-10	Purchase and Install Portable Flood Diversions	Purchase a portable muscle wall that can is plastic and will lock together and go underground.	Flood, Extreme Wind, Hurricane and Tropical Storm	High	City of Long Branch	FEMA HMA	$226,000	1 year	Ongoing	
28_11	Target Harden Critical Facilities by Installing Surveillance Cameras, an Access Control System, Security Personnel, and/or Bulletproof Glass	Harden municipal buildings, schools, and public spaces when special events occur in the City.	Terrorism	Medium	City of Long Branch	Homeland Security grants	$1.5M	5 + years	Ongoing	This was mostly accomplished for the PD but not some of our infrastructure
28-12	Purchase and Install Back Up Servers at Polling Stations	Back up servers for polling stations.	Cyber Attack	Medium	City of Long Branch	Homeland Security grants	$800,000	5 + years	Ongoing	This had to take a back burner position since the grants were directed to deal with the pop-up party issue

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-13	Purchase Portable Traffic Lights	Portable synchronized traffic lights for evacuation routes, including Route 36, Route 71, and Ocean Ave.	All Hazards	Medium	City of Long Branch	Homeland Security grants	$50,000	1 year	Ongoing	Grants diverted for pop up party issue
28-14	Relocate Police Station out of Flood Hazard Area	Relocate Police Station from Basement of 344 Broadway where flooding occurs during heavy rain, hurricane, high tide.	All Hazards	Medium	City of Long Branch	EMA HMA, Local Budget	$7,000,000	5 + years	Ongoing	Working on this, new property purchased but waiting for new budget
28-15	Purchase and Install Flood Warning Signs	Purchase flood warning signs and install at four locations: Long Branch Avenue, Elberon Trestle, Route 36 and Florence Ave, and the Atlantic Ave and Edwards Ave intersection.	All Hazards	Medium	City of Long Branch	Local Budget	$160,000	3 years	Ongoing	Has been done in most areas, still looking to add more in new flooding zones
28-16	Replace Bulk Head at Long Branch Promenade	Replace 50-year-old bulkhead at Long Branch Promenade. Bulkhead is damaged and is approaching 50 years old.	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	City of Long Branch	FEMA HMA	$10M	1 year	Ongoing	DEP pushback I believe
28-17	Create Water Retention Areas to Alleviate Flooding	Install retention areas around city where nuisance, riverine, and tidal flooding continue to occur.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	City of Long Branch	FEMA HMA	$500,000	2 years	Ongoing	Working with developers to include these in new construction projects

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
28-18	Install Flood Gate within Manahassett Creek	Install Flood gate within Manahassett Creek at Sands Point to alleviate the flooding from storm surge throughout Long Branch, Eastern side of Oceanport, and the Northern end of Monmouth Beach.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	City of Long Branch	FEMA HMA		1 year	Ongoing	
28-19	Install Living Breakwaters	Install a series of Living Breakwaters that would be positioned in the Shrewsbury River.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Wave Action	High	Oceanport, Rumson, Monmouth Beach, Long Branch	FEMA HMA	See Notes	2 years	New	Rip-Rap and Armor Stone: $35.9M Oyster Rings: $5.4M ExoForms: $3M Oyster Castles: $1.5M