22 – INTERLAKEN BOROUGH

PLANNING TEAM AND PARTICIPATION

Name	Title	Participation
William Hulse	**OEM Coordinator/ Captain of Police**	**Point of Contact, Municipal Workshop #2**
Nicholas Dowling	Deputy OEM Coordinator/Detective	Municipal Workshop #2
Samuel Avakian	Borough Engineer	Municipal Workshop #2

COMMUNITY PROFILE

Overview

Partially located on a small peninsula along the shores of Deal Lake, Interlaken is aptly named after a resort in Switzerland with similar water features. The borough encompasses a total land area of 0.38 square miles and has no commercial or business district. The Main Street Bridge (County Bridge O-11), which connects Interlaken to Loch Arbour, was replaced in 2016. The project included the construction of a new roundabout at the intersection of Main Street and Grassmere Avenue (County Route 15). NJDOT rehabilitated the railroad crossing adjacent to the roundabout for safer and smoother crossings.

Interlaken remains strictly a residential community, as originally intended by its developers. The east-west, tree-lined avenues were named after lakes in England's northern district and cross streets were named from the Scottish Hebrides islands located in the Irish Sea. To protect the Deal Lake ecosystem, the Borough established an arboretum along the lakefront. The Deal Lake Commission seeks to expand the arboretum, renovate the lakefront, and develop pocket parks along the lake shore.

Land Use, Development, & Growth

Interlaken is a predominantly residential community and most of its land is developed. From 2015 to 2020, the community underwent minimal change in its land use composition, with urban or developed land accounting for nearly 77 percent of its total area, and water and wetlands making up 22 percent.

Land Use Type	Total Acres (2015)	Total Acres (2020)	Percent Change
Agriculture	0.0	0.0	>0%
Barren Land	0.0	0.0	>0%
Forest	1.7	1.7	>0%
Urban	196.7	196.7	>0%
Water	42.9	42.9	>0%
Wetlands	13.3	13.3	>0%

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

Recent Major Development and Infrastructure from 2020 to Present

None since 2020.

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

The Borough of Interlaken has historically maintained its single-family residential neighborhood character. Nearly fully developed, projections of population, household, and job growth suggest little change in the near future.

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 Interlaken has an estimated total population of 762. Of this population, an estimated 5.2% is under age 5, and nearly 33% (32.94%) is over age 65. The Borough experienced a population decline in the periods between ACS surveys (2013-2017 and 2018-2022), seeing an estimated -7.6% loss during this time. With an aging population making up a third of their total community, Interlaken 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. A nearly eight percent loss in total population over the five-year survey period should be assessed for impacts on de-densification or change in the built environment leading to heightened vulnerability to future disasters.

There are no portions of the Borough which meet designation criteria for CDRZ, CEJST, or OBC identification.

Demographics Summary	
Total Population *(2018-2022 ACS 5-year Estimates)*	762
Population Change since 2017	-7.6%
Percent of Population Age < 5	5.2%
Percent of Population > 65	32.9%

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	
Hurricane/Tropical Storm	Extreme Temperature	Lightning
Nor'easter	Extreme Wind	Earthquake
Flood	Tornado	Wildfire
Storm Surge	Winter Storm	Drought
	Human-made Hazards	
	Cyber Attack	Civil Unrest
	Economic Disruption	Power Failure
	Pandemic	
	Terrorism	

The Borough ranked Coastal Erosion, Dam Failure, Landslide and Wave Action as N/A.

Hazard Ranking Explanation

No hazards have seen significant changes in the risks they pose to the community. Hurricanes, tropical storms, nor'easters, floods, and storm surges all remain high hazards of concern. Flooding has been the largest concern. Interlaken started to experience more flooding over the summer of 2024 due to cloud bursts, although no events resulted in significant damage. This flooding primarily occurs around Grassmere Avenue, which often faces substantial flooding. Crawford Circle was redone in 2024 to help alleviate some of the flooding. Cyber-attacks and economic disruptions remain medium risks as they are ongoing and, if an event were to occur, it would cause significant disruption.

Significant Hazard Events Since Last Plan Update

There have been no hazards resulting in significant damage in the last five years; however, there have been some disruptions regarding flooding. Grassmere Avenue often experiences significant flooding. Although the flooding does not affect the houses along the avenue, the entire road floods. Crawford Circle also used to flood significantly but was redone to help alleviate some of the flooding. In September 2024, a significant storm resulted in flooding due to a large amount of rain in a short time, causing the water to have nowhere to exit.

Climate Change Impacts on Extent and Magnitude of Hazards

Climate change is expected to significantly impact the risks and hazards faced by Interlaken Borough. As global temperatures rise, the frequency and intensity of extreme weather events such as hurricanes, nor'easters, and extreme temperatures are likely to increase. This will exacerbate existing vulnerabilities, particularly in flood-prone areas like Grassmere Avenue, which already experiences substantial flooding1. The borough's infrastructure, including critical facilities, will face heightened risks of damage and disruption. Additionally, the aging population in Interlaken Borough, with nearly 33% of residents over age 65, may experience increased health risks during extreme weather events, necessitating robust evacuation plans and resilient networks for resource accessibility1.

Moreover, climate change will likely lead to more frequent and severe droughts, which can strain water resources and increase the risk of wildfires. The borough's efforts to balance residential development with public safety will become more challenging as the impacts of climate change intensify. Proactive measures, such as enhancing stormwater management systems, protecting critical facilities, and improving communication and education on hazard risks, will be essential to mitigate the adverse effects of climate change on Interlaken Borough

RISK ASSESSMENT

National Flood Insurance Program (NFIP) statistics

Interlaken Borough	
Initial FIRM	3/15/1974
Effective FIRM	1/2/1981
Number of Policies In-Force:	12
Total Losses:	18
Total Payments:	$186,687.31
Number of RL Properties:	2
Number of Mitigated RL Properties:	0
RL – Total Losses:	4
RL – Total Paid:	$74,333.80
Number of SRL Properties:	0
Number of Mitigated SRL Properties:	0
SRL – Total Losses:	0
SRL – Total Paid:	$0

Source: FEMA Policy and Loss Data, August 2024

Vulnerability of the Built Environment

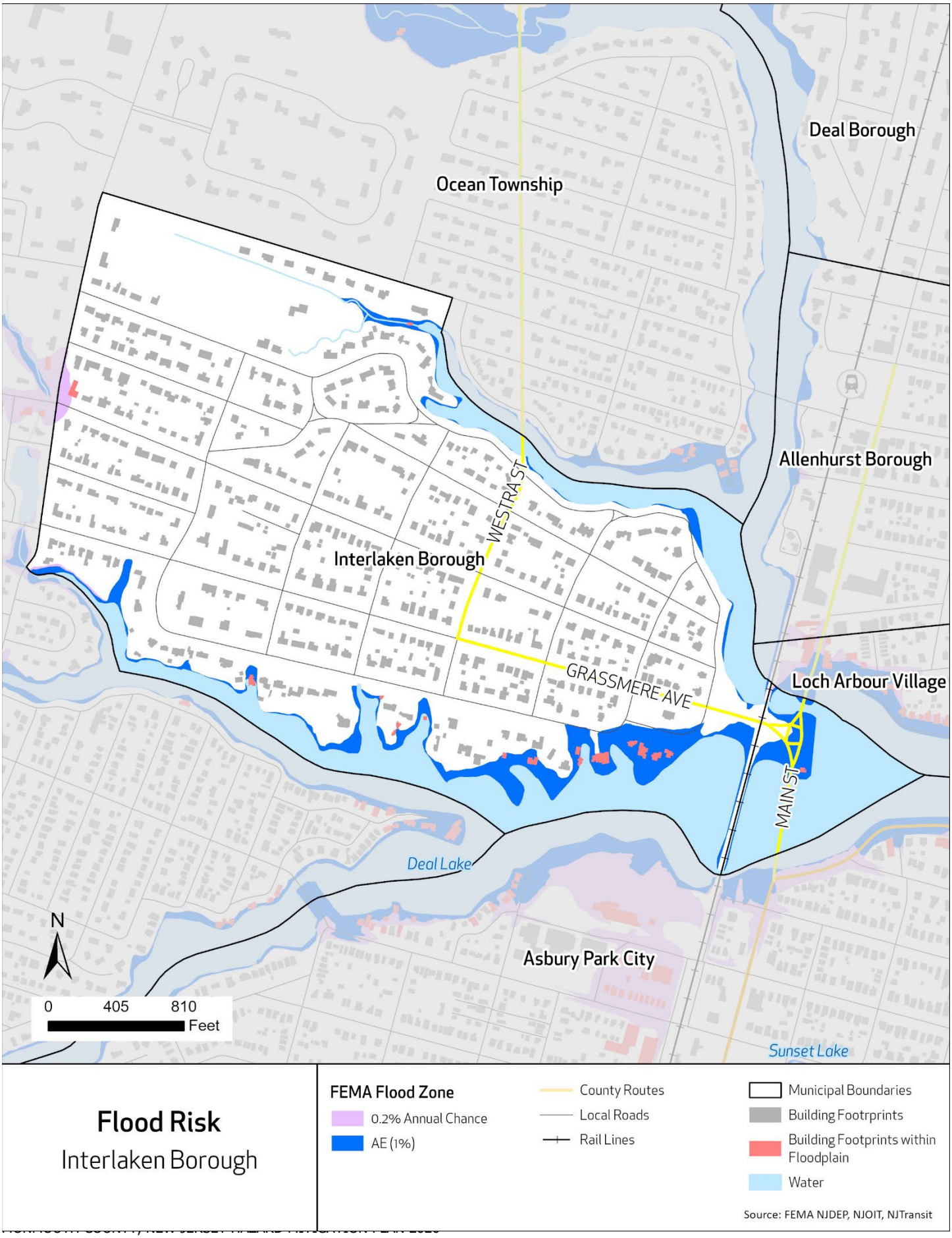
The Special Flood Hazard Area (SFHA) in the Borough of Interlaken l is primarily centered adjacent to the main waterbody, Deal Lake. Approximately 22.1 percent of the total area of Interlaken lies within the 1% annual chance flood zone as defined by FEMA. An additional 0.3 percent of the area of the municipality is in the 0.2% annual chance flood zone.

About 93.8 percent of Interlaken is considered developed. Of the developed parcels of the town, 14.5 percent fall within the 1% annual chance flood zone and 0.7 percent are within the 0.2% annual chance flood zone. This illustrates that development in the municipality has generally occurred in areas that are less prone to flooding.

	Percentage in the 1% Floodplain	Percentage in the 0.2% Floodplain	5 feet of Sea Level Rise
Developed Parcels	14.5%	0.7%	NA
Exposed Land Area	22.1%	0.3%	NA

During the planning process, Interlaken identified 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 2 total facilities. Of these facilities, none are within the floodplain or area projected to be inundated under sea level rise.

	Number in the 1% Floodplain	Number in the 0.2% Floodplain	Number within 5 feet of Sea Level Rise
Community Lifelines and Critical Facilities	-	-	NA



Flood Risk

Interlaken Borough

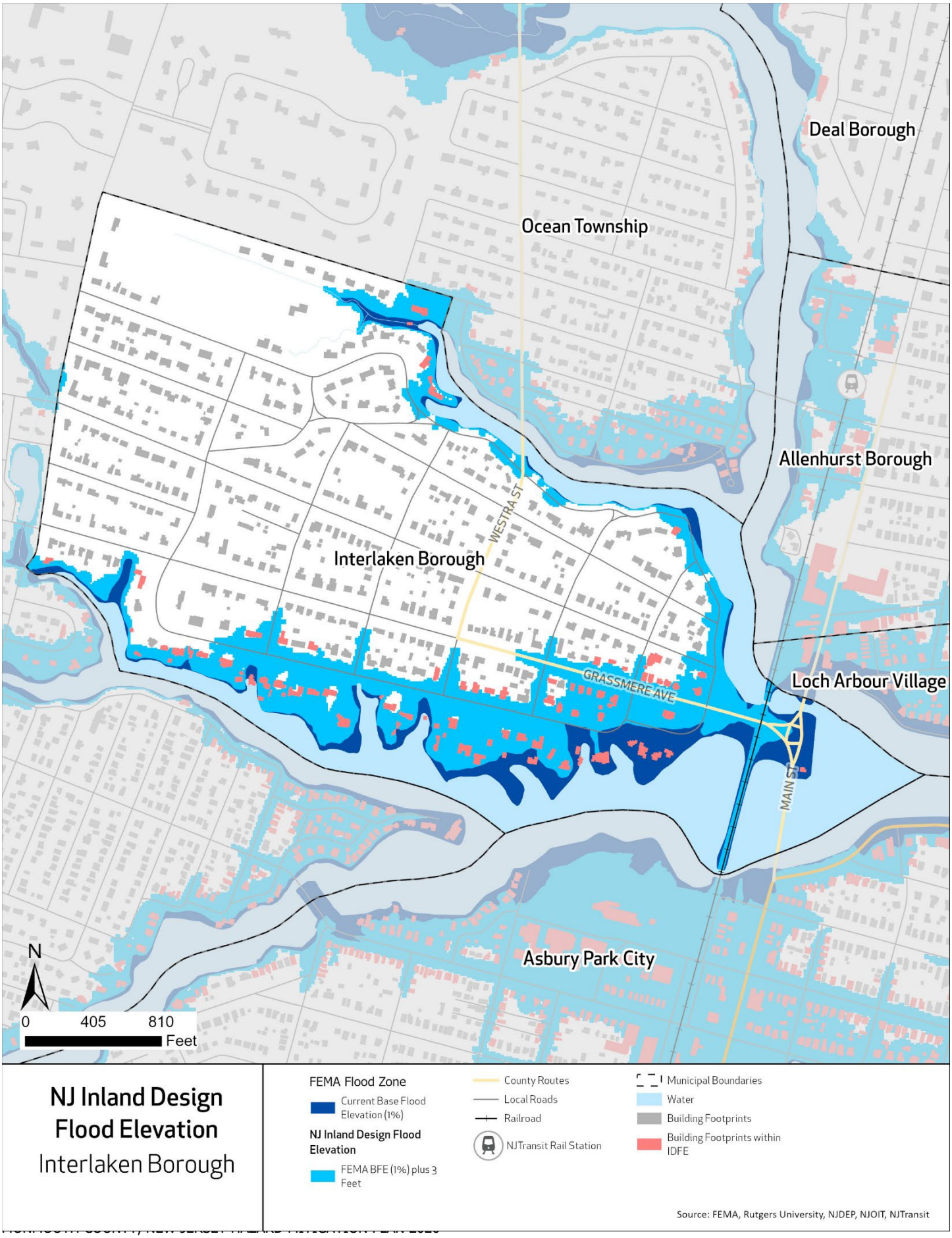
FEMA Flood Zone

- 0.2% Annual Chance
- AE (1%)

- County Routes
- Local Roads
- Rail Lines

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

Source: FEMA NJDEP, NJOIT, NJTransit


Deal Borough
Ocean Township
Allenhurst Borough
WESTRA ST
Interlaken Borough
GRASSMERE AVE
Loch Arbour Village
MAIN ST
Asbury Park City
N
0
405
810
Feet
NJ Inland Design Flood Elevation
Interlaken Borough
FEMA Flood Zone
Current Base Flood Elevation (1%)
NJ Inland Design Flood Elevation
FEMA BFE (1%) plus 3 Feet
County Routes
Local Roads
Railroad
NJTransit Rail Station
Municipal Boundaries
Water
Building Footprints
Building Footprints within IDFE
Source: FEMA, Rutgers University, NJDEP, NJOIT, NJTransit

Wildland Urban Interface (WUI) Classification

Interlaken Borough

- High or Medium Density Housing
- No Housing
- County Routes
- Local Roads
- Rail Lines
- NJTransit Rail Station
- Municipal Boundaries
- Building Footprint
- Water

Source: USFS, NJDEP, NJOIT, NJTransit

CAPABILITY ASSESSMENT

Planning & Regulatory Capabilities

Interlaken 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		10-1-2015	Integrating risk assessments, land use strategies, and resilient infrastructure planning to reduce vulnerabilities and enhance community preparedness.
Capital Improvement Plan	X		4-15-2022	Prioritize roads that act as a major travel way in case of an emergency.
Local Emergency Operations Plan/Continuity of Operations Plan	X		1-26-2025	
Floodplain Development Ordinance	X		6-30-2024	Restricts high-risk construction, promoting resilient building practices, and preserving natural floodplain functions to reduce flood damage and protect communities.
Floodplain Management Plan	X		6-30-2024	See Above.
Stormwater Management Ordinance	X		6-30-2024	Improving drainage systems, reducing flood risks, and enhancing water quality to protect infrastructure and communities from storm-related impacts.
Stormwater Management Plan	X		6-30-2024	See Above.
Watershed Management Plan		X		
Sheltering Plan	X		1-26-2025	
Evacuation Plan	X		1-26-2025	
Substantial Damage/Improved Structures Response	X		1-26-2025	
Repetitive Loss Plan		X		
Disaster Debris Management Plan		X		
Tracking elevation certificates and/or Letter of Map Change	X		1-1-2025	Floodplain manager reviews application for conformance.
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			The Borough places a high priority on tree preservation to preserve its community character. In 2016, the Borough received funding to hire a forester to inventory all the trees within the Borough and make recommendations on maintaining this resource. This effort led to the adoption of a tree preservation ordinance in 2020 designed to prevent indiscriminate, uncontrolled, and excessive destruction, removal, and clear cutting of trees to maintain borough's aesthetic character and prevent erosion.

Administrative and Technical Capabilities

Interlaken Borough has the following Administrative and Technical capabilities:

Position	Yes	No	Explanation
Floodplain Administrator	X		Leon S. Avakian Inc.
Grant Writer	X		Leon S. Avakian Inc.
Staff trained to support mitigation	X		Interlaken OEM
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	

Position	Yes	No	Explanation
Organizations that work with socially vulnerable or underserved populations		X	

Education and Outreach Capabilities

Interlaken Borough has the following Education and Outreach capabilities:

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

Financial Capabilities

Within the last five years, Interlaken 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	
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:

MITIGATION STRATEGY

Overview and Progress Since Last Plan Update

Since the 2021 plan update, the Borough of Interlaken has focused on strengthening flood resilience, improving stormwater infrastructure, and enhancing emergency preparedness to mitigate natural hazard risks. Key initiatives have included upgrades to drainage systems, reinforcement of coastal barriers, and improved coordination for emergency response efforts. Over the next five years, Interlaken will prioritize shoreline flood mitigation, roadway elevations along critical access routes, and investments in sustainable stormwater management to address increasing climate challenges. These proactive measures will help protect residents, reduce property damage, and ensure long-term community resilience.

Completed or Removed Actions

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
-	-	-	-	-	-	-	-	-	-	The Brough has no completed or withdrawn 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
22-1	Systematically Conduct Upgrades and Improvements to Sewer Systems, Stormwater Systems, and Outflow Pipes	Over the course of several years, systematically make upgrades and improvements to sewer systems, storm water management systems, and outflow pipes. These improvements will increase capacity, will reduce blockage, and outflow pipes will be retrofitted with back/low valves.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medi um	Borough Administrator overseeing engineering firm	Sewer Taxes/Loc al Budget	$1M	2 years	Ongoing	This will allow that no infiltration be exposed to the system and that stormwater management is maintained on individual lots.
22-2	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Elevation and/or acquisition of flood-prone residential structures, with particular focus on those in our community that are on FEMA's Repetitive Loss List and Severe Repetitive Loss List. New Jersey is committed to continuing the reduction of RL and SRL properties in the State; in turn, they have assigned a	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Engineer	FEMA HMA	TBD	1 year	Ongoing	With the Village having control over the beach club property, it will allow for full control over the projects that can be done on site. This will allow that no new major construction be proposed. We are committed to supporting these projects as interested homeowners come forward and will support such homeowners, despite the loss in tax revenue, because we recognize the importance of making

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
		high priority to mitigating SRL and RL properties in the State Hazard Mitigation Plan.								our community more disaster-resistant and reducing the financial burden of repetitive flooding in our community.
22-3	Construct Flood Measure (e.g. floodwalls or small berms) along Deal Lake	Use minor structural projects that are smaller and more localized (e.g., floodwalls or small berms) along Deal Lake, which causes repetitive flooding in the Borough.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Borough Engineering	FEMA HMA	$200,000	3 years	Ongoing	The creation of a berm would create a damming situation along the Village property to create more capacity in the lake.
22-4	Construct strengthened bulkhead along with Loch Arbour Village and City of Asbury Park	Strengthen flood resilience along Deal Lake with a fortified bulkhead. Collaboration with surrounding municipalities ensures cost-effectiveness and durability.	Flood, Nor'easter, Hurricane and Tropical Storm		Loch Arbour Village, Interlaken Borough, City of Asbury Park	FEMA HMA	$2,000,000	3 years	New	The raising of the bulkhead would create a damming situation along the Village property to create more capacity in the lake.
22-5	Deal Lake Dredging	Deal Lake plays a crucial role in stormwater management for surrounding communities. Dredging increases its capacity to store and convey stormwater, reducing the risk of flooding during heavy rains and protecting local infrastructure.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Borough, Deal Lake Commission	Municipal funds, Deal Lake Commission	$1,000,000	3 years	New	Dredging the lake will allow for more capacity in the lake. During a storm event, moving the water off of the road and into the body of water. Regular dredging complements broader lake management strategies, such as shoreline restoration and vegetation control. It sets the stage for sustainable practices that maintain the lake's ecological and recreational value. Dredging removes sediments laden with nutrients, such as phosphorus and nitrogen, that contribute to algal blooms. These blooms deplete oxygen levels, harm aquatic life, and degrade the lake's water quality. Cleaner water supports biodiversity and recreational uses.

Action	Name	Description	Hazards Addressed	Pri-ority	Responsible Party	Potential Funding	Cost Estimate	Time-line	Action Status	Notes
22-6	Crawford Circle Drainage Improvements	Upsizing the storm drainage pipe under Crawford Circle is a crucial step toward improving the stormwater management infrastructure in the area. By increasing the capacity of the pipe, this project will reduce the risk of localized flooding during heavy rainfall events and enhance the overall drainage efficiency. The upgraded pipe will align with county regulations, ensuring compliance with modern standards for stormwater conveyance and environmental protection.	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Mid	Borough	Borough	$400,000	3-5 Years	New	This will allow for more efficient stormwater management in an area that is high priority as a roadway utilized in a evacuation. There is flooding experienced during storm events that need to be addressed. This improvement will also help mitigate potential damage to roadways, properties, and adjacent infrastructure caused by overflow or insufficient drainage. In addition, the project supports long-term sustainability by accommodating anticipated increases in stormwater volume due to changing climate conditions. By addressing this critical issue proactively, the community can achieve a safer, more resilient, and environmentally compliant drainage system.