



### 3. BOROUGH OF AVALON

This jurisdictional annex to the Cape May County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Borough of Avalon with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Avalon, describes who participated in the planning process, assesses Avalon’s risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

#### 3.1 HAZARD MITIGATION PLANNING TEAM

The Borough of Avalon identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many Borough departments. The Office of Emergency Management represented the community on the Cape May County HMP Planning Partnership and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 3-1 summarizes Borough officials who participated in the development of the annex and in what capacity. Additional documentation of the Borough’s planning activities through Planning Partnership meetings is included in Volume I.

Table 3-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Ed Dean, Emergency Management Coordinator/Fire Chief/Construction Official Address: 3100 Dune Drive, Avalon, NJ 08202 Phone Number: 609-967-5920 Email: <a href="mailto:edean@avalonboro.org">edean@avalonboro.org</a>	Name/Title: Kevin Scarpa, Rescue Squad Coordinator Address: 3100 Dune Drive, Avalon, NJ 08202 Phone Number: 609-967-5920 Email: <a href="mailto:kscarpa@avalonboro.org">kscarpa@avalonboro.org</a>
<b><i>National Flood Insurance Program Floodplain Administrator</i></b>	
Name/Title: Scott J. Wahl, NFIP Administrator Address: 3100 Dune Drive, Avalon, NJ 08202 Phone Number: (609) 967-5917 Email: <a href="mailto:swahl@avalonboro.org">swahl@avalonboro.org</a>	
<b><i>Additional Contributors</i></b>	
Name/Title: Paul Short Jr., Code Enforcement Officer Method of Participation: Attended the OEM Coordinator Meeting held on September 24, 2024.	

#### 3.2 COMMUNITY PROFILE

Avalon is a resort and residential community located on the northern portion of Seven Mile Island in Cape May County, New Jersey. The Borough is known for its spectacular beaches and natural resources. It is bordered to the north by Townsends Inlet, to the west by Great Sound and Gravens Thorofare/Intracoastal Waterway, to the east by the Atlantic Ocean, and to the south by Stone Harbor, with which Avalon shares Seven Mile Island. Much of Avalon’s land area is preserved open space inclusive of thousands of acres of saline wetlands and upland dune habitats.



### 3.2.1 Governing Body Format

Avalon is governed by the Mayor and Borough Council. The council is composed of elected officials who work alongside the mayor to govern the Borough, and is composed of a Council President, Council Vice President, and several council members. Both the Mayor and Borough Council are responsible for creating and passing local ordinances and resolutions, overseeing the Borough’s budget and finances, managing and maintaining the essential services such as public safety, and developing policies which guide the administration of the borough.

### 3.2.2 Population and Social Vulnerability

According to the U.S. Census, the 2020 population for Avalon was 1,243 , a 1.3 percent of the County population.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 1.7 percent of the population is 5 years of age or younger, 61.5 percent is 65 years of age or older, 0.0 percent is non-English speaking, 5.7 percent is below the poverty threshold, and 12.9percent is considered disabled.

#### ALICE in Cape May County

ALICE is an acronym for Asset Limited, Income Constrained, Employed – households that earn more than the Federal Poverty Level, but less than the basic cost of living for the County. While conditions have improved for some households, many continue to struggle, especially as wages fail to keep pace with the rising cost of household essentials (housing, child care, food, transportation, health care, and a basic smartphone plan). Households below the ALICE Threshold – ALICE households plus those in poverty – can’t afford the essentials.

According to 2021 Point-in-Time-Data from ALICE, 26% of the 48,860 households in Cape May County are ALICE households (on par with the state average of 26%). The median household income in Cape May is \$78,657, and the County sees a labor force participation rate of 57%. Cape May County faces low household income compared to the state average of \$89,296, along with a low labor participation rate of 57% compared to the state average of 66%. 8% of Cape May households live in poverty, which falls below the state average of 10%.

## 3.3 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Avalon performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed



and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Avalon to identify opportunities for integrating mitigation concepts into ongoing Borough procedures.

### 3.3.1 Planning and Regulatory Capability and Integration

Table 3-2 summarizes the planning and regulatory tools that are available to Avalon.

Table 3-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>CODES, ORDINANCES, &amp; REGULATIONS</b>				
<b>Building Code</b>	Yes	NJAC 5:23-3.14. International Building Code – New Jersey Edition, 2021, NJAC 5:24-3.14 Adopted September 6, 2022, effective March 6, 2023	State and Local	Avalon Construction Department
How has or will this be integrated with the HMP and how does this reduce risk? The Uniform Construction Code reduces the risk through the establishment of minimum building and systems design standards, including, but not limited to wind, snow, and flood damage resistance, and limiting the spread of fire.				
<b>Zoning/Land Use Code</b>	Yes	Zoning Regulations, Chapter 27, 2002	Local	Borough Council
How has or will this be integrated with the HMP and how does this reduce risk? The Borough integrates mitigation into this section by encouraging elevations in the SFHA up to 3 feet above the BFE and by requiring new development to protect from flooding by maintaining the integrity of the stormwater management system.				
<b>Subdivision Code</b>	Yes	Subdivision and Site Plan Review Ordinance, Chapter 26, 2008	Local	Planning Board
How has or will this be integrated with the HMP and how does this reduce risk? Purpose is to promote orderly growth and development in the Borough of Avalon through the positive application of high standards of design and construction, contribute to the overall quality of the environment and to further the goals and objectives of the Borough's Master Plan and subsequent re-examinations and the purpose of the Borough's Zoning Ordinance. Aspects of this Ordinance have integrated the hazard mitigation plan as this section requires in its Design Standards; dune protection, energy conservation, limiting impacts to vegetation and other natural features, encouraging green building techniques, flood protection, soil conservation, landscaping, nonstructural stormwater controls and open space.				
<b>Site Plan Code</b>	Yes	Subdivision and Site Plan Review Ordinance, Chapter 26, 2008	Local and County	Planning Board
How has or will this be integrated with the HMP and how does this reduce risk? Purpose is to promote orderly growth and development in the Borough of Avalon through the positive application of high standards of design and construction, contribute to the overall quality of the environment and to further the goals and objectives of the Borough's Master Plan and subsequent re-examinations and the purpose of the Borough's Zoning Ordinance. Aspects of this Ordinance have been integrated into mitigation plan as this section requires in its Design Standards, dune protection, energy conservation, limiting impacts to vegetation and other natural features, encouraging green building techniques, flood protection, soil conservation, landscaping, nonstructural stormwater controls and open space.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Stormwater Management Code</b>	Yes	Stormwater Regulations, Chapter 30, 2006, as amended by Ord. No. 878-2024	Local	Planning Board / Borough Council

How has or will this be integrated with the HMP and how does this reduce risk?  
 Purpose is to establish minimum stormwater management requirements and controls for all major developments undertaken in the Borough of Avalon. In addition, it is the policy initiative of this Section for the design of Flood control, groundwater recharge, and pollutant reduction to be provided through nonstructural or low impact techniques before relying on structural Best Management Practices. Aspects of this Ordinance have been incorporated into the mitigation plan by way of substantial efforts toward the provision of environmentally sensitive, nonstructural stormwater management techniques that maximize water quality and groundwater recharge, and minimize flooding.

<b>Post-Disaster Recovery/ Reconstruction Code</b>	Yes	The NJ Uniform Construction Code, Avalon Borough Code Chapters 19, 20, 25, 26, 27, 28, 30 and 31 provide regulations for planning and reconstruction within the Borough of Avalon.	State, local	Planning-Zoning Board / Avalon Construction Department
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How has or will this be integrated with the HMP and how does this reduce risk?  
 Chapter 19, Flood Damage Prevention regulates to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific flood hazard areas through the establishment of comprehensive regulations for management of flood hazard areas. This chapter also specifically tries to minimize the need for future expenditure of public funds for flood-control projects and response to and recovery from flood events.

Chapter 20, Building and Construction adheres to the NJ Uniform Construction Code.

Chapter 25, Land Use Procedures establishes the planning board and land use procedures for the Borough.

Chapter 27, Zoning guides the regulations on orderly growth and development of the Borough in accordance with the comprehensive Master Plan. More specifically this Chapter also works to:

- To protect the established character and social and economic well being of the community, to secure safety from fire, and other dangers;
- To maintain community character and visual environment;
- To lessen congestion;
- To facilitate adequate provision for transportation, schools, parks and other facilities and services;
- To invigorate the business environment;
- To promote the establishment of appropriate population densities and concentrations that will contribute to the well being of persons, neighborhoods, and the community;
- To promote the conservation of open space and valuable natural resources;
- To preserve and enhance important characteristics of the natural environment; and
- To these ends, to regulate heights, design, appearance, number of stories and size of buildings and other structures as well as their placement on the land.

Chapter 28, Property Restrictions includes the Borough's regulations and guidance on deed restrictions and procedures for specific deeds.

Chapter 30, Stormwater Regulations establishes the minimum stormwater management requirements and control for major development within the Borough.

Chapter 31, Soil and Soil Removal requires compliance for soil removal and soil modifications with Borough law and regulations.



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Real Estate Disclosure Requirements</b>	Yes	Senate Bill 3110; P. L. 2023, c. 93, July 3, 2023	State	Sellers and Landlords of commercial or residential property

How has or will this be integrated with the HMP and how does this reduce risk?

landlord’s tenants, prior to lease signing or renewal, whether the property is located in the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area (“100-year floodplain”) or Moderate Risk Flood Hazard Area (“500-year floodplain”) and if the landlord has actual knowledge that the rental premises or any portion of the parking areas of the real property containing the rental premises has been subjected to flooding. The law does not apply to (1) landlords who lease commercial space or residential dwellings for less than one month, (2) residential dwellings in a premises containing not more than two units, (3) owner-occupied premises containing not more than three units, or (4) hotels, motels, or other guest houses serving transient or seasonal guests for a period of less than 120 days.

The model notice is to contain the heading “Flood Risk” and questions for the landlord to answer regarding the landlord’s actual knowledge of past flooding of the property. The questions regarding the property being in a FEMA Special or Moderate Risk Flood Hazard Area shall not contain the option for “unknown.” To determine how the questions are to be answered, FEMA’s current flood insurance rate maps for the leased premises area must be consulted. The landlord will be required to answer whether the rental premises or any portions of the parking areas of the real property containing the rental premises ever experienced any flood damage, water seepage, or pooled water due to a natural flood event and, if so, the number of times that has occurred.

The notice to residential tenants must also indicate that flood insurance may be available to renters through FEMA’s National Flood Insurance Program to cover their personal property and contents in the event of a flood and that standard renter’s insurance does not typically cover flood damage.

For sales, the law also amends the New Jersey Consumer Fraud Act, N.J.S.A. 56:8-1 et seq., to require sellers of real property to disclose, on the property condition disclosure statement, whether the property is located in the FEMA Special or Moderate Risk Flood Hazard Area and any actual knowledge of the seller concerning flood risks of the property to the purchaser before the purchaser becomes obligated under any contract for the purchase of the property.

The disclosure statement must contain the heading “Flood Risk” and ask the seller the following questions:

- Is any or all of the property in the Special Flood Hazard Area (“100-year floodplain”) or a Moderate Risk Flood Hazard Area (“500-year floodplain”) according to FEMA’s current flood insurance rate maps?
- Is the property subject to any requirement under federal law to obtain and maintain flood insurance on the property? Properties in the Special Flood Hazard Area with mortgages from federally regulated or insured lenders are required to obtain and maintain flood insurance.
- Have you ever received assistance from, or are you aware of any previous owners receiving assistance from FEMA, the U.S. Small Business Administration, or any other federal disaster flood assistance for flood damage on the property? For properties that have received flood disaster assistance, the requirement to obtain flood insurance passes down to all future owners.
- Is there flood insurance on the property? A standard homeowner’s insurance policy typically does not cover flood damage.
- Is there a FEMA elevation certificate available for the property? If so, it must be shared with the buyer. An elevation certificate is a FEMA form, completed by a licensed surveyor or engineer, that provides critical information about the flood risk of the property and is used by flood insurance providers to determine the appropriate insurance rating for the property.
- Have you ever filed a claim for flood damage to the property with any insurance provider? If the claim was approved, what was the amount received?
- Has the property experienced any flood damage, water seepage, or pooled water due to a natural flood event, such as heavy rainfall, coastal storm surge, tidal inundation, or river overflow? If so, how many times?

Not all provisions of this law have become effective at the time of the writing of this plan.



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Growth Management</b>	No	-	-	-

How has or will this be integrated with the HMP and how does this reduce risk?

<b>Environmental Protection Ordinance(s)</b>	Yes	Avalon Borough Code Chapters 19, 20, 24, 25, 26, 27, 28, 30 and 31 provide regulations for planning and environmental protection within the Borough of Avalon.	Local	Borough Council / Planning-Zoning Board
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How has or will this be integrated with the HMP and how does this reduce risk?

Chapter 19, Flood Damage Prevention regulates to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific flood hazard areas through the establishment of comprehensive regulations for management of flood hazard areas. This chapter also specifically tries to manage the alteration of natural floodplains, stream channels and shorelines.

Chapter 20, Building and Construction adheres to the NJ Uniform Construction Code.

Chapter 24, Environmental Trust Fund protects the unique environmental conditions which exist within the Borough.

Chapter 25, Land Use Procedures establishes the planning board and land use procedures for the Borough.

Chapter 26, Subdivision and Site Plan Review works to:

- Promote orderly growth and development in the Borough of Avalon.
- Set forth a clear statement of development application requirements.
- Promote a desirable visual environment through creative development techniques, good civic design and arrangement.
- Improve the efficiency and safety of vehicular and pedestrian circulation systems within and outside individual developments.
- Encourage harmonious and efficient use of Borough land.
- Provide safeguards to minimize the impact of development on the environment including, but not limited to, soil erosion and sedimentation, air pollution and water pollution.
- Preserve existing trees and vegetation.
- Promote landscape design which is both functional and aesthetically pleasing using plants which are indigenous and appropriate to the character of the Borough of Avalon.
- Ensure the provision of adequate water supply, drainage and stormwater management, sanitary facilities and other utilities and services.
- Promote the establishment of appropriate population densities including providing reasonable opportunity for the development of affordable housing.
- Protect the public health, safety and general welfare through the preservation of the Borough beaches and dunes.
- And, through the positive application of high standards of design and construction, contribute to the overall quality of the environment and to further the goals and objectives of the Borough's Master Plan and subsequent re-examinations and the purpose of the Borough's Zoning Ordinance.

Chapter 27, Zoning guides the regulations on orderly growth and development of the Borough in accordance with the comprehensive Master Plan. More specifically this Chapter also works to:

- To protect the established character and social and economic well being of the community, to secure safety from fire, and other dangers;
- To maintain community character and visual environment;
- To lessen congestion;
- To facilitate adequate provision for transportation, schools, parks and other facilities and services;



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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- To invigorate the business environment;
- To promote the establishment of appropriate population densities and concentrations that will contribute to the well being of persons, neighborhoods, and the community;
- To promote the conservation of open space and valuable natural resources;
- To preserve and enhance important characteristics of the natural environment; and
- To these ends, to regulate heights, design, appearance, number of stories and size of buildings and other structures as well as their placement on the land.

Chapter 28, Property Restrictions includes the Borough’s regulations and guidance on deed restrictions and procedures for specific deeds.

Chapter 30, Stormwater Regulations establishes the minimum stormwater management requirements and control for major development within the Borough.

Chapter 31, Soil and Soil Removal requires compliance for soil removal and soil modifications with Borough law and regulations.

<b>Flood Damage Prevention Ordinance</b>	Yes	Borough Flood Damage Prevention Ordinance, Chapter 19, Adopted 7-27-2022 by Ord. No. 849-2022, effective September 1, 2022	Federal, State, County and Local	Borough Council / Floodplain Administrator
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How has or will this be integrated with the HMP and how does this reduce risk?

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:

- Protect human life and health;
- Minimize expenditure of public money for costly flood control projects;
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public and risk to those individuals who are providing rescue efforts;
- Minimize prolonged business interruptions;
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, bridges located in areas of special flood hazard;
- Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- Ensure that potential buyers are notified that property is in an area of special flood hazard; and
- Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

Integrated mitigation actions in this Section include methods and provisions for: a. Restricting or prohibiting uses which are potentially dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities; b. Requiring that uses vulnerable to floods including facilities which serve such uses, be protected against flood damage at the time of initial construction; c. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters; d. Controlling filling, grading, dredging, and other development which may increase flood damage; and, e. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

<b>Wellhead Protection</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Emergency Management Ordinance</b>	Yes	Ordinance No. 742-2016	State / Borough Council	Department of Public Safety

How has or will this be integrated with the HMP and how does this reduce risk?

Establishes the position of Chief of Emergency Management (Emergency Management Coordinator) (EMC), who shall perform functions appropriate to the Division. The EMC operates under the authority of NJOEM Directive No. 102.

- The Municipal Emergency Management Coordinator shall be responsible for planning, activating, coordinating and the conduct of Emergency Management operations within the municipality.
- The Municipal Emergency Management Coordinator shall be a member and shall serve as chairman of the local Emergency Management Council.

Each Emergency Management Coordinator shall appoint one and may appoint more than one Deputy Emergency Management Coordinators with the approval of the Mayor. Wherever possible, such Deputies shall be appointed from among the salaried officers of the municipality.

<b>Climate Change Ordinance</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Other: Water and Sewer Ordinance</b>	Yes	Chapter 14, 2000	State and Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?

The power of the municipality to acquire, construct, finance, operate and maintain water supply facilities and sewerage services is provided by N.J.S.A. 40A:31-1 et seq., and N.J.S.A. 40A:26A-4 et seq. The purpose of Article II, Sewers, is to provide for the maximum possible beneficial public use of the wastewater facilities through regulation of sewer construction, sewer use and wastewater discharges and provide procedures for complying with the requirements.

**PLANNING DOCUMENTS**

<b>General/Comprehensive Plan</b>	Yes	Borough Master Plan Re-examination, adopted April 11, 2017	State and Local	Planning/Zoning Board
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How has or will this be integrated with the HMP and how does this reduce risk?

Purposes of the Master Plan include, providing protection from flooding, Promoting the use of shoreline protection measures and the use of green building with these integrating Mitigation Plan objectives;

- Implement the Borough's 2015 Flood Mitigation Plan
- Research additional Bay Back improvements to alleviate flooding
- Research additional outfall pipes and pumping systems to handle stormwater
- Develop a flood proofing education program for businesses
- Research possible State and Federal grant funding for flood protection
- Develop a program or zoning ordinances to assist owners in the elevation of residential structures which exist below the FEMA Base Flood Elevation (BFE) + 3'
- Identify and evaluate properties with repetitive flood losses
- Identify and evaluate streets with repetitive flooding problems
- Encourage the installation of additional check valves on outfall pipes
- Develop vegetation recommendations for living shorelines, berms and dunes
- Encourage the use of alternative shoreline methods

Encourage LEED construction

<b>Capital Improvement Plan</b>	Yes	2025 Capital Improvement Program	Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
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The 2025 Capital Improvement Program oversees the development of the Capital Improvement Plan for the Borough which contains projects that are prioritized for the fiscal year and states funds necessary to complete them.

<b>Disaster Debris Management Plan</b>	Yes	2025 Emergency Operating Plan	Local	Department of Public Works
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How has or will this be integrated with the HMP and how does this reduce risk?

Establishment of a debris management provides for the safe and efficient removal of debris post disaster. The plan supports health and safety and recovery by providing a safe disposal site for debris. The plan provides a staging location for debris so that roadways may be reopened sooner after an incident has occurred.

<b>Floodplain Management or Watershed Plan</b>	Yes	Borough Floodplain Management Plan Evaluation Report 2025 & 2022 Comprehensive Floodplain Management Plan	Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?

The plan identifies floodplain vulnerabilities and establishes projects with the goals to mitigate flood damage by using engineering controls, communications, early warning systems, and education of the general public. The Floodplain Management Plan Committee is comprised of the municipal engineer, municipal emergency planners, the municipal business administrator, and resident and business stakeholders.

<b>Stormwater Management Plan</b>	Yes	Ordinance No. 574-2006	State, local	Public Works Department
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How has or will this be integrated with the HMP and how does this reduce risk?

The goal of the stormwater management plan is to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge by establishing minimum standards for major development.

<b>Open Space Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Urban Water Management Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Habitat Conservation Plan</b>	Yes	Dune Vegetation Management Plan, 2009	Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?

The goals of the Plan are to; Maintain a healthy, diverse dune system comprised primarily of native species; Establish a science-based approach to evaluating and managing dune vegetation, in a manner to achieve the goals of the Borough; To identify problems associated with invasive plant species in the dune system and to define the nature and extent of the related issues; To develop a Dune Vegetation Management Plan that addresses control of invasive plant species; To provide management standards and techniques that allow for the improvement of the vegetative component of the dune ecosystem; and to identify and protect dune vegetation die back areas.

<b>Economic Development Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Community Wildfire Protection Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<b>Community Forest Management Plan</b>	Yes	Community Forestry Management Plan	Local	Borough Council

How has or will this be integrated with the HMP and how does this reduce risk?

It is a 5-year Plan approved by the NJDEP. A Community Forestry Management Plan approved by the New Jersey State Forest Service is an essential guide to successfully achieving a healthy, safe, and sustainable community forest. The Plan also ensures that the Borough has taken the necessary first step toward compliance with the Shade Tree and Community Forestry Assistance Act. Compliance by the Borough of Avalon affords the community increased liability protection under the Tort Claims Act. The Plan includes aspects of the HMP as it incorporates actions to control invasive species, in addition to dune protection, erosion control and advancing Climate Change initiatives.

<b>Transportation Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Agriculture Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Climate Action/ Resilience/Sustainability Plan</b>	Yes	Climate Adaptation: The State of Practice in U.S. Communities, 2016	Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?

The Plan discusses the Borough's comprehensive efforts to protect against flooding, to increase shoreline protections measures, to further public outreach and education and to seek additional state and federal funding to implement planned projects. The Plan discusses many of the Borough's accomplishments to address the increase in the severity of storm events related to Climate Change, along with ongoing and proposed actions incorporated as aspects of the HMP.

<b>Tourism Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Business/ Downtown Development Plan</b>	No	-	-	-
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How has or will this be integrated with the HMP and how does this reduce risk?

<b>Other: Shoreline Management Plan</b>	Yes	Article 34, Environmental Conservation Law, Coastal Erosion Hazard Areas 6 NYCRR Part 505, Coastal Erosion Management Regulations	State, Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?

The plan includes regulations protecting dunes and other natural flood barriers from encroachment by development, and trespassing and destruction of trees and native plants, which root systems provide resilience to the dune system. The plan also prohibits unapproved development in floodways and watercourses.

**RESPONSE/RECOVERY PLANNING**

<b>Emergency Operations Plan</b>	Yes	Emergency Operating Plan (EOP)	Local	Borough Council
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How has or will this be integrated with the HMP and how does this reduce risk?



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
<p>The Borough's Emergency Operating Plan (EOP) annexes are living documents that are reviewed frequently by the various department heads or emergency managers in charge of them to ensure that the annexes remain relevant at all times.</p> <p>The EOP incorporates integrated short term response capabilities utilizing interdepartmental communication and coordination through a central emergency operations center (EOC).</p> <p>Post event preliminary damage assessments (PDAs) are provided for both public and private sector damage estimates within twenty four hours of the end of the event.</p> <p>The EOC receives PDAs from the department of public works for public sector damages and from the deputy emergency management coordinators for private property damage, either for local action or inclusion into a disaster declaration.</p> <p>When the emergency is deemed to have ended, long term recovery planning and coordination moves to the office of the municipal business administrator who has broad abilities to delegate or contract with vendors for recovery operations.</p>				
<b>Continuity of Operations Plan</b>	Yes	Continuity of Operations Plan	Local	Borough Council
<p>How has or will this be integrated with the HMP and how does this reduce risk?            Enables municipal operations to continue throughout any given emergency and provides the process for returning to normal operations at the end of the crisis.</p>				
<b>Substantial Damage Response Plan</b>	No	-	-	-
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p>				
<b>Threat and Hazard Identification and Risk Assessment</b>	Yes	Threat and Hazard Identification and Risk Assessment (THIRA)	Local	Borough Council
<p>How has or will this be integrated with the HMP and how does this reduce risk?            The Borough of Avalon is 95 percent built out. Most of the development is vulnerable to damage from flooding, wind, and other environmental emergencies. By continually updating the threat and hazard identification and risk assessments, resources may be allocated to mitigate damage from high and moderate event scenarios.</p>				
<b>Post-Disaster Recovery Plan</b>	No	-	-	-
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p>				
<b>Public Health Plan</b>	No	-	-	-
<p>How has or will this be integrated with the HMP and how does this reduce risk?</p>				
<b>Other</b>	Yes	"Getting to Resilience" Report, September 2015	Local	Borough Council
<p>How has or will this be integrated with the HMP and how does this reduce risk?            The five topics covered by the Plan include; Risk &amp; Vulnerability, Public Engagement, Planning Integration, Disaster Preparedness &amp; Recovery, and Hazard Mitigation Implementation.</p>				

### 3.3.2 Development and Permitting Capability

Table 3-3 summarizes the capabilities of Avalon to oversee and track development.



Table 3-3. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? <ul style="list-style-type: none"> <li>If you issue development permits, what department is responsible?</li> <li>If you do not issue development permits, what is your process for tracking new development?</li> </ul>	Yes	The Construction Division, Floodplain Administrator is responsible for issuing development permits.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	Permits are not tracked by hazard area. Pursuant to Chapter 19 of Avalon Borough Code, all of Avalon is in a flood hazard area.
Do you have a buildable land inventory? <ul style="list-style-type: none"> <li>If you have a buildable land inventory, please describe</li> </ul>	Yes	The Borough of Avalon is largely built out. There is not considered to be any buildable land inventory.
Describe the level of buildout in your jurisdiction.	N/A	Borough land is fully inventoried and dedication to open space or build-out is well over 99 percent of available land area.

### 3.3.3 Administrative and Technical Capability

Table 3-4 summarizes potential staff and personnel resources available to Avalon and their current responsibilities that contribute to hazard mitigation.

Table 3-4. Administrative and Technical Capabilities

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
<b>ADMINISTRATIVE CAPABILITY</b>		
Planning Board	Yes	Planning/Zoning
Zoning Board of Adjustment	Yes	Planning/Zoning
Planning Department	Yes	Zoning Official
Mitigation Planning Committee	Yes	Administration, Floodplain Administrator
Environmental Board/Commission	Yes	Avalon Environmental Commission
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Department of Public Works
Construction/Building/Code Enforcement Department	Yes	Construction Official
Emergency Management/Public Safety Department	Yes	Emergency Management Coordinator / Chief of Police
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Department of Public Works
Mutual aid agreements	Yes	Numerous mutual aid agreements



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	No	-
<b>TECHNICAL/STAFFING CAPABILITY</b>		
Planners or engineers with knowledge of land development and land management practices	Yes	Joseph Maffei, Planning/Zoning Board
Engineers or professionals trained in building or infrastructure construction practices	Yes	Mott, MacDonald – Engineers and Planners
Planners or engineers with an understanding of natural hazards	Yes	Mott, MacDonald – Engineers and Planners
Staff with expertise or training in benefit/cost analysis	Yes	Mott, MacDonald – Engineers and Planners
Professionals trained in conducting damage assessments		Staff available at the Borough.
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Mott, MacDonald – Engineers and Planners
Staff that work with socially vulnerable populations or underserved communities	Yes	Avalon Rescue Squad
Environmental scientists familiar with natural hazards	Yes	Staff available at the Borough.
Surveyors	Yes	Mott, MacDonald – Engineers and Planners
Emergency manager	Yes	The Emergency Management Coordinator
Grant writers	Yes	Triad Associates
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

### 3.3.4 Fiscal Capability

Table 3-5 summarizes financial resources available to Avalon.

Table 3-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	Yes



Financial Resources	Accessible or Eligible to Use? (Yes/No)
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes

### 3.3.5 Education and Outreach Capability

Table 3-6 summarizes the education and outreach resources available to Avalon.

Table 3-6. Education and Outreach Capabilities

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	Business Administrator maintains the municipal website, social media, and emergency website. Deputy EMC maintains the AM radio station and multiple flashing emergency signs throughout the Borough.
Personnel skilled or trained in website development	Yes	Business Administrator and Deputy EMC
Hazard mitigation information available on your website	Yes	Flooding from storms has been identified as the primary hazard in Avalon. On the front page of the municipal website is a section titled, "Important Flood Information for Avalon, NJ ." Under the title are links to the Avalon Emergency website, a web page explaining that Avalon is in a flood hazard zone and what that means, a link to the USGS real-time flood gauge at Ingram Thorofare, historical flood data, and links to helpful flood related websites. Links are continually checked and updated for accuracy as part of the municipality' membership in the National Flood Insurance Program.
Social media for hazard mitigation education and outreach	Yes	Automated Facebook and Instagram flood hazard mitigation messages are posted weekly.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	The Floodplain Management Committee and the Environmental Commission are composed of Borough officials and members of the general public from target sectors related to the work of the committees.



Outreach Resources	Available? (Yes/No)	Comment
Warning systems for hazard events	Yes	Code Red (mass notification system); the Avalon Emergency website, and the AM radio station are dedicated to communication of hazard related information.
Natural disaster/safety programs in place for schools	Yes	The superintendent of the Avalon-Stone Harbor Elementary School maintains an emergency planning document that utilizes a tiered parent notification system to advise parents of developing emergencies and school closings.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	The Avalon Rescue Squad, in cooperation with the Avalon Police Department and the Cape May County Emergency Communications Center, monitor members of the senior alone population who request the service. The service is provided without charge.
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Code Red (mass notification system), the Avalon Emergency website are dedicated to communication of hazard related information.

### 3.3.6 Community Classifications

Table 3-7 summarizes classifications for community programs available to Avalon.

Table 3-7. Community Classifications

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	Yes	3	May 1, 2020
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	3	June 1, 2023
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	2019
National Weather Service StormReady Certification	Yes	-	(Cape May County)
Firewise Communities classification	No	-	-
New Jersey Sustainable Jersey Community	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

N/A = Not applicable

— = Unavailable

### 3.3.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 3-8 summarizes the adaptive capacity for each identified hazard of concern and the Borough’s capability to address related actions using the following classifications:



- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

Table 3-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Temperature	Moderate
Flood	Moderate
Severe Weather	Moderate
Severe Winter Weather	Moderate
Wildfire	Moderate

### 3.4 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 3-1 is responsible for maintaining this information.

#### 3.4.1 NFIP Statistics

Table 3-9 summarizes the NFIP policy and claim statistics for Avalon.

Table 3-9. Avalon NFIP Summary of Policy and Claim Statistics

# Policies	3,775
# Claims (Losses)	2,272
Total Loss Payments	\$26,756,163.99
# Repetitive Loss Properties (NFIP definition)	106
# Repetitive Loss Properties (FMA definition)	32
# Severe Repetitive Loss Properties (NFIP definition)	17
# Severe Repetitive Loss Properties (FMA definition)	33

*NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978.*

*FMA Definition of Repetitive Loss: FEMA’s Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.*

*Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.*

Source: FEMA, 2024



### 3.4.2 Flood Vulnerability Summary

Table 3-10 provides a summary of the NFIP program in Avalon.

Table 3-10. NFIP Summary

NFIP Topic	Comments
<b>Flood Vulnerability Summary</b>	
Describe areas prone to flooding in your jurisdiction.	Most of the Borough of Avalon exists in an identified flood hazard zone. Those zones include V-Zone, Coastal A-Zone, A-Zone, AO-Zone, and X-Zones. Flood prone areas are delineated on the Avalon Flood Map, which is available on the official website of the Borough of Avalon and on the Avalon Emergency website. The map is also available in the Avalon Construction Office. Homeowners may check their flood hazard zone by inputting their address in the FEMA Flood Map Service Center at <a href="https://msc.fema.gov/portal/home">https://msc.fema.gov/portal/home</a> .
Do you maintain a list of properties that have been damaged by flooding?	Yes, as of September 1, 2022, all flood damage repair requires a floodplain development permit and a substantial damage evaluation.
Do you maintain a list of property owners interested in flood mitigation?	Yes. The Borough of Avalon hosts an annual flood insurance meeting with every homeowner provided with an individually mailed invitation to attend. Homeowners are encouraged to sign in, and there is an area of the sheet that asks if the homeowner is interested in further discussion of the flood risk and mitigation measures that may be undertaken. Property owners are also encouraged to call the Avalon Floodplain Administrator any time they may have a question regarding flood mitigation. All requests for phone calls are returned, and the Borough maintains a record of such requests as part of its ongoing CRS certification process.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	There is no current list of owners with such interests, however there are currently twelve (12) home elevation projects underway. Two repetitive loss business properties have been demolished and rebuilt to FMEA dry floodproofing standards in the past year.
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No, not at this time.
How do you make Substantial Damage determinations?	Substantial damage determinations are made utilizing guidance found in FEMA P-784, Substantial Damage Estimator (SDE) User Manual and Field Workbook. Damage determinations begin with the preliminary damage assessment during or just after the emergency, as appropriate. Information on damaged structures is forwarded by the Emergency Management Coordinator to the Floodplain Administrator for follow-up inspection.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	For recent events there have been 0 SD determinations.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	Currently there are twelve dwellings being raised to the current design flood elevation requirements. None of the dwellings qualified for NFIP increased cost of compliance funding through the NFIP, nor are there any current private flood mitigation grants in effect. All of the current projects are privately funded.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes, the flood maps adequately addresses the flood risk within the Borough.
<b>NFIP Compliance</b>	
What local department is responsible for floodplain management?	Construction Division, Office of the Floodplain Administrator



NFIP Topic	Comments
Are any certified floodplain managers on staff in your jurisdiction?	Yes, there are certified floodplain managers on staff at the Borough.
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes, the Borough has access to climate change resources.
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, not at this time.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, GIS, education/outreach, inspections (new construction) and inspections pursuant to deed restrictions and non-conversion agreements (annual)
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Initially, the project is reviewed utilizing the tax assessed value with the annual New Jersey Equalization Ratio applied. The Floodplain Administrator is also obligated to consider valuations submitted by a New Jersey Licensed Real Estate Appraiser. Substantial improvement is any improvement to the existing structure exceeding 49 percent of the existing building value over a cumulative ten-year period.
What are the barriers to running an effective NFIP program in the community, if any?	None, at this time.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	None, at this time.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	November 2024
What is the local law number or municipal code of your flood damage prevention ordinance?	Ordinance 849-2022, Codified in Avalon Borough Code, Chapter 19, Flood Damage Prevention
What is the date that your flood damage prevention ordinance was last amended?	July 7, 2022
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	<p>Exceeds.</p> <ul style="list-style-type: none"> <li>FEMA required freeboard = Base Flood Elevation plus one foot. Avalon freeboard is Base Flood Elevation plus three feet</li> <li>Substantial improvement/Substantial Damage threshold minimum requirement is 50 percent of the value of the structure. Avalon Substantial improvement/Substantial Damage threshold is 49 percent.</li> <li>Enclosures below the design flood elevation shall be constructed of materials meeting the requirements of FEMA Technical Bulletin 2, with a final inspection prior to issuance of a certificate to occupy. Avalon adds the requirement that any enclosures below the design flood elevation with the ceiling six-feet or more from the finished floor must have a deed restriction applied and a non-conversion agreement between the municipality and the homeowners acknowledging and certifying that the enclosures will only be used for the parking of motor vehicles, storage, and building entry. An annual inspection is conducted to verify compliance.</li> </ul>



NFIP Topic	Comments
	<ul style="list-style-type: none"> <li>The Borough of Avalon ordinance establishes penalties for non-compliance with the regulations.</li> </ul> <p>The Borough of Avalon ordinance requires that an inspection be performed on dwellings to ensure compliance, to the extent that is possible, prior to transfer of title to a new owner. Non-compliant structures shall be brought into compliance prior to the transfer of title.</p>
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No, however, the Borough of Avalon ordinance is comprehensive.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The Borough of Avalon is always seeking to improve its Class 3 designation, and continually monitors changes to the CRS rules to ensure it maintains its current classification.

### 3.5 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction’s overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 3-11 through Table 3-13.

Table 3-11. Number of Building Permits for New Construction Issued Since the Previous HMP

Year	New Construction Permits Issued			Total
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	
<b>2020</b>				
Total Permits	85	0	0	85
Permits within SFHA	85	0	0	85
<b>2021</b>				
Total Permits	101	0	0	101
Permits within SFHA	101	0	0	101
<b>2022</b>				
Total Permits	92	0	0	92
Permits within SFHA	81	0	1	82
<b>2023</b>				
Total Permits	85	0	2	87
Permits within SFHA	84		2	86
<b>2024</b>				
Total Permits	71	0	1	72
Permits within SFHA	70	0	1	71

SFHA = Special Flood Hazard Area (1% flood event)



Table 3-12. Recent Major Development and Infrastructure from 2017 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
No recent major development.					

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

Table 3-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
No known or anticipated major development.					

### 3.6 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Avalon’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

#### 3.6.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the Borough are shown in Figure 3-1 through Figure 3-3. 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 are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Avalon has significant exposure. The maps show the location of potential new development, where available.



Figure 3-1. Avalon Sea Level Rise and FEMA Flood Hazard Area Extent and Location Map

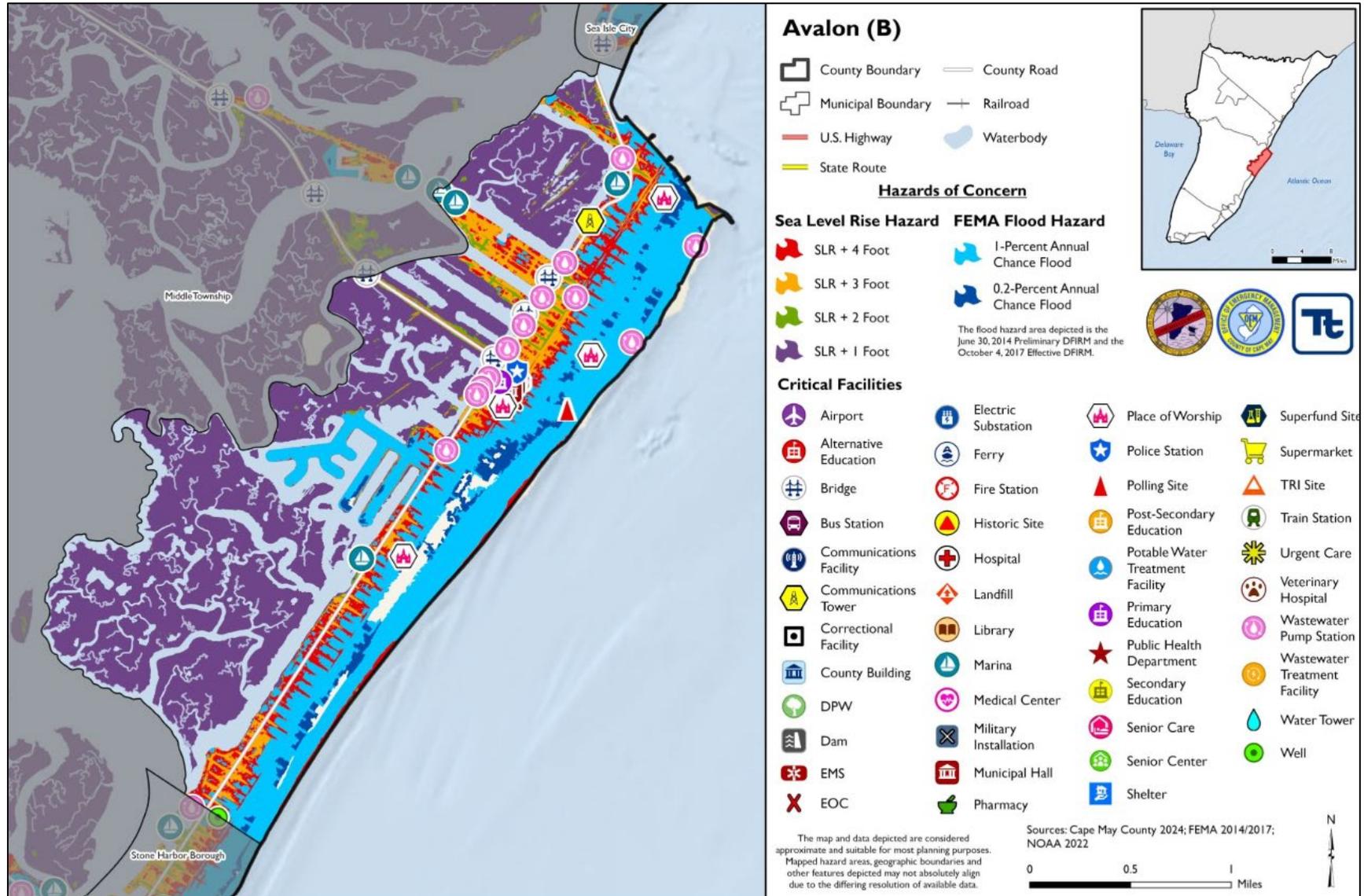




Figure 3-2. Avalon SLOSH Hazard Area Extent and Location Map

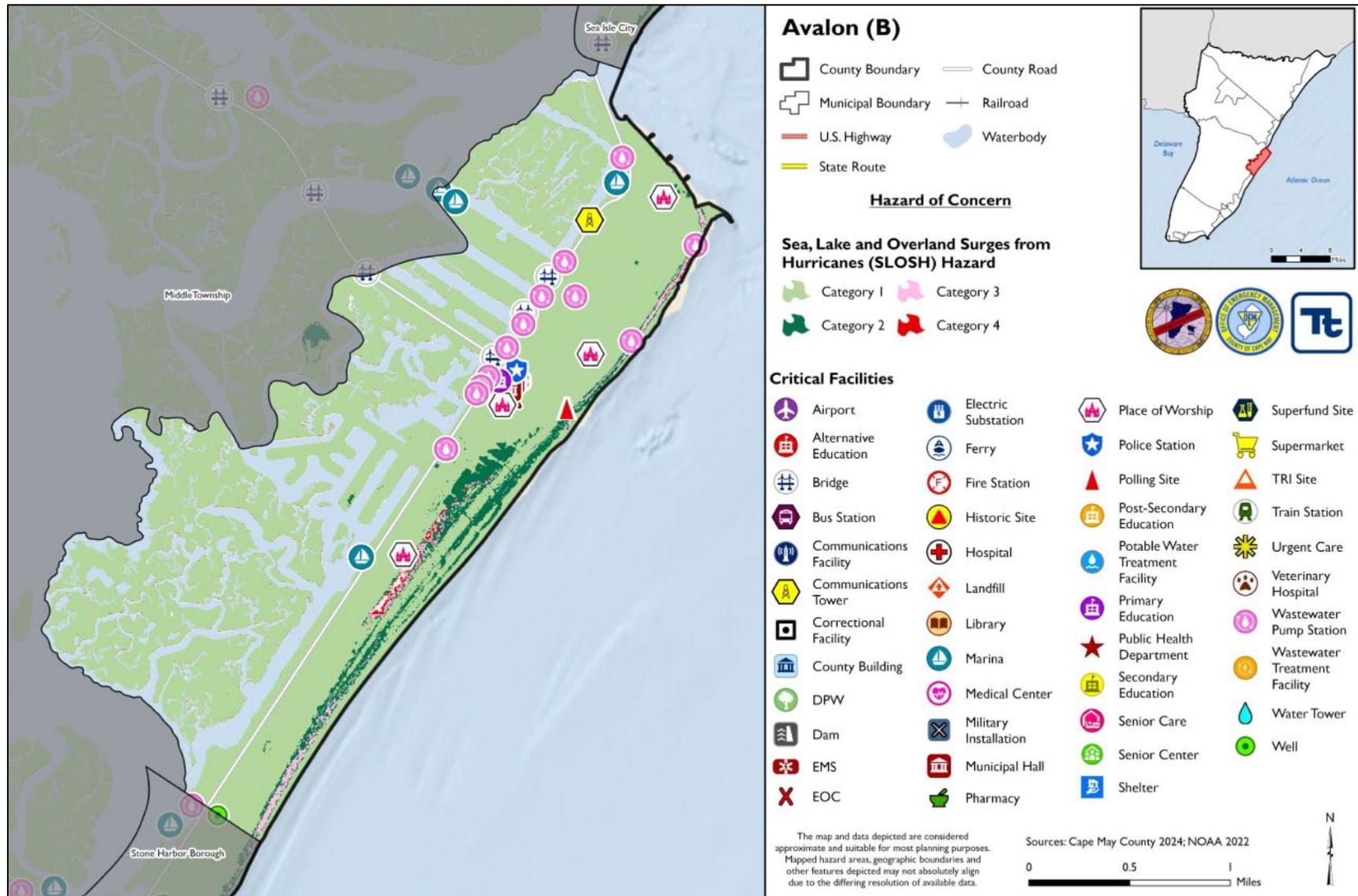
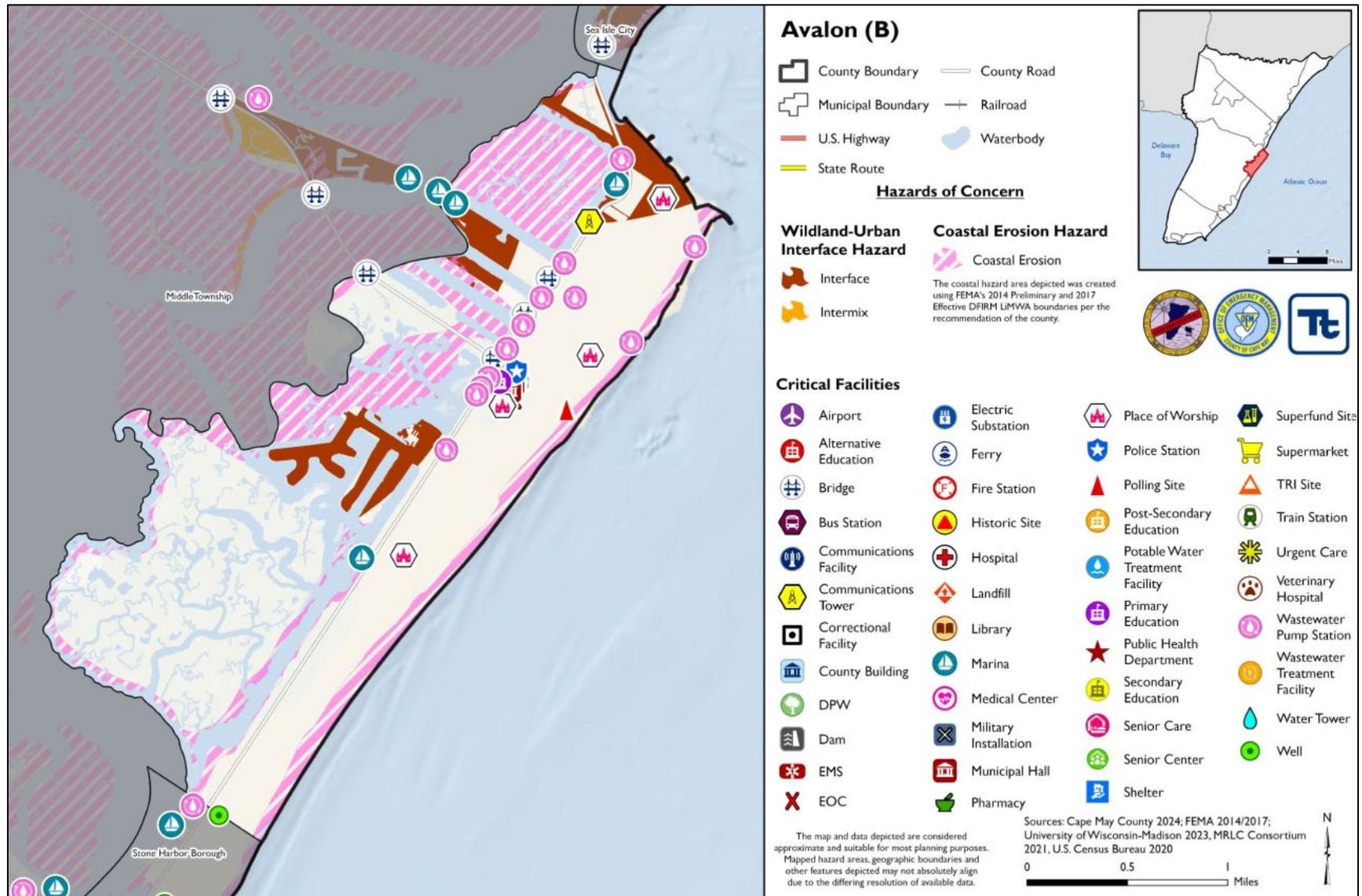




Figure 3-3. Avalon WUI and Coastal Erosion Hazard Area Extent and Location Map





### 3.6.2 Hazard Event History

The history of natural and non-natural hazard events in Avalon is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 3-14 provides details on loss and damage in Avalon during hazard events since the last hazard mitigation plan update.

Table 3-14. Hazard Event History in Avalon

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Avalon
February 11, 2021	Severe Winter Weather (4597-DR-NJ)	Yes	Widespread snow fell and accumulate between 3 to 5 inches across the County, with some amounts locally a little higher. The County was eligible for Public Assistance through Federal Declaration.	No damages or losses eligible for reimbursement
September 1-3, 2021	Remnants of Hurricane Ida (EM-3573-NJ, DR-4614-NJ)	Yes	The remnants of Hurricane Ida produced heavy rainfall through the County. The County was eligible for Public Assistance through Federal Declaration.	No damages or losses eligible for reimbursement
January 3, 2022	Severe Winter Weather, Flood	No	A quick moving winter storm impacted Cape May County where a widespread 6 to 12 inches of snow fell. Moderate coastal flooding in the tidal areas of Cape May County occurred around the time of the morning high tide causing numerous road closures.	No damages or losses eligible for reimbursement
April 1, 2023	Severe Weather	No	Thunderstorms produced damaging winds and small to medium-sized hail. Multiple trees downed on Corson Tavern Road and Route 9 in Dennis Township. A structure fire was caused by lightning in Rio Grande.	No damages or losses eligible for reimbursement
September 23, 2023	Severe Weather	No	Tropical Storm Ophelia resulted in a steady onshore flow along the coast, causing widespread tidal flooding. There were numerous road closures. Many homes and other buildings were surrounded by flood waters with some minor property damage occurring.	No damages or losses eligible for reimbursement
January 19, 2024	Severe Winter Weather	No	A winter storm brought widespread light to moderate snowfall accumulations across the region. Snowfall totals ranged largely from around 3 to 4 across much of the zone. The highest snowfall report was from Dennis Township with 4.9.	No damages or losses eligible for reimbursement

EM = Emergency Declaration (FEMA)  
 FEMA = Federal Emergency Management Agency  
 DR = Major Disaster Declaration (FEMA)  
 N/A = Not applicable



### 3.6.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Avalon.

#### Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Avalon reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the Borough agreed with the hazard rankings identified in Table 3-15.

Table 3-15 shows Avalon’s final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 3-15. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	Low
Extreme Temperature	Medium
Flood	High
Severe Weather	High
Severe Winter Weather	Medium
Wildfire	Medium

*Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction*

#### Critical Facilities

Table 3-16 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 3-16. Critical Facilities Flood Vulnerability

Name	Type	Vulnerability	
		1% Annual Chance Event	0.2% Annual Chance Event
21st. Street Bridge	Bridge	Y	Y
25th. Street Bridge	Bridge	Y	Y
Avalon Canal Bridge	Bridge	Y	Y
AVALON VOLUNTEER FIRE DEPARTMENT	Fire Station	Y	Y



Name	Type	Vulnerability	
		1% Annual Chance Event	0.2% Annual Chance Event
Commodore Bay Marina	Marina	Y	Y
Sunrise Marina	Marina	Y	Y
Avalon Bay Park Marina	Marina	Y	Y
Avalon Police Department	Police Station	Y	Y
Avalon OEM	EOC	Y	Y
8Th St Stormwater Pump Station	Wastewater Pump Station	Y	Y
19Th St Stormwater Pump Station	Wastewater Pump Station	Y	Y
23Rd St Stormwater Pump Station	Wastewater Pump Station	Y	Y
29Th St Stormwater Pump Station	Wastewater Pump Station	Y	Y
26Th St Stormwater Pump Station	Wastewater Pump Station	Y	Y
32Nd St Stormwater Pump Station	Wastewater Pump Station	Y	Y
33Rd St Stormwater Pump Station	Wastewater Pump Station	Y	Y
34Th St Stormwater Pump Station	Wastewater Pump Station	Y	Y
21St St Stormwater Pump Station	Wastewater Pump Station	Y	Y
22Nd St Stormwater Pump Station	Wastewater Pump Station	Y	Y
11Th St Stormwater Pump Station	Wastewater Pump Station	Y	Y
AVALON RESCUE	EMS	Y	Y
Avalon	Municipal Hall	Y	Y
BORO OF AVALON Municipal Hall	Municipal Hall	Y	Y
CAPE MAY COUNTY MUA	Wastewater Pump Station	Y	Y
Longport Media Tower	Communications Tower	Y	Y
Maris Stella Roman Catholic Church	Place of Worship	Y	Y
St John By the Sea Episcopal Church	Place of Worship	Y	Y
Wells Memorial Presbyterian Church	Place of Worship	N	Y
First United Methodist Church	Place of Worship	Y	Y
Avalon Library	Library	Y	Y
Avalon Elementary School	Primary Education	Y	Y
COMMUNITY HALL	Polling Site	N	Y

Source: Cape May County 2022, 2024; HIFLD 2024; USACE 2024

In addition to critical facilities that are exposed to flooding, there are no dams or high hazard dams located in the Borough.

### 3.6.4 Identified Issues

After a review of Avalon’s hazard event history, hazard rankings, hazard location, and current capabilities, Avalon identified the following vulnerabilities within the community:

- Avalon experiences tidal flooding of Ocean Drive and surrounding residential neighborhood from Bay Park Marina.
- The Borough has a Continuity of Operations Plan (COOP) that requires updating to address hazards and government functions.



- The Borough has an adopted floodplain management plan that assists with its CRS rating. The plan will be undergoing a five-year re-examination in 2021.
- Avalon has a large visitor base and second home population that do not have readily available resources or knowledge of potential flooding events. The Borough seeks to provide a locally controlled means to notify residents of the impending flooding.
- Avalon's back bay waterfront features stretch of bulkheads that prevent erosion and protect upland properties from wave damage. Bulkheads have been replaced with piecemeal and are at varying heights. Low-lying bulkheads cause water to inundate during surge events. Borough owned bulkheads are being replaced at 20th St. and Fifth Ave., 26th St. and Ocean Drive, and 28th Street and Ocean Drive. Other bulkhead replacements are under review to be funded in 2021 – 2022.

### 3.7 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

#### 3.7.1 Past Mitigation Action Status

Table 3-17 indicates progress on the Borough's mitigation strategy identified in the 2017 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

#### 3.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 2-17, Avalon identified the following mitigation efforts completed since the last HMP:

- Regional StormReady – coordination with County.
- Identified aging stormwater infrastructure.
- Floodplain Management Plan reviewed in 2024.

Since the adoption of the County's first HMP, Avalon has made significant mitigation progress in the following areas:

- Stormwater Maintenance
- Other Agency Coordination
- Floodplain Management Plan
- Grant Writing



Table 3-17. Status of Previous Mitigation Actions

Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2026 HMP or Discontinue 2. If including action in the 2026 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2021-AVALON-001	North End Stormwater Mitigation Project	Flood; Severe Weather; Hurricane/Tropical Storm; Nor'easter; Climate Change and Sea Level Rise	Borough Engineer, Middlesex Water Co., Borough Administration	<p>Problem: The Borough experiences Nuisance flooding of the north end beach block area. Design and cost estimates underway. The Borough intends to fund and complete the project in the north end of town in the beach blocks from 10th St. to 19th St. in 2021.</p> <p>Solution: The Borough proposes to increase stormwater drainage capacity in the area. Upgrade stormwater pump station(s). Design and cost estimates underway. The Borough intends to fund and complete the project in the north end of town in the beach blocks from 10th St. to 19th St. in 2021.</p>	<p>1. No Progress - Abandoned 2. Cost to mitigate nuisance flooding in the area was deemed too high for the benefit that would be derived.</p>	<p>1. Discontinue 2. N/A 3. Cost to benefit ratio too high</p>
2021-AVALON-002	Bay Park Marina Rehabilitation	Flood; Severe Weather; Hurricane/Tropical Storm; Nor'easter; Climate Change and Sea Level Rise	Borough Engineer, Taylor Design Group, Borough Administration, Avalon Recreation	<p>Problem: Avalon experiences tidal flooding of Ocean Drive and surrounding residential neighborhood from Bay Park Marina.</p> <p>Solution: The Borough proposes to regrade marina basin to control flooding of the surrounding area. Install new bulkhead to current standards. Utilize natural flood barrier and turtle nesting habitat in areas without bulkhead to control flooding. Install new boat ramp to current design standards (safety). Elevate marina administration building for resiliency.</p>	<p>1. In progress 2. Two phases of the project have been awarded and are under construction. A third phase, the living shoreline, was offered as an option and the bid was deemed to be in excess of allowable cost. Phase one to be completed by the end of May, 2025. Phase two to commence after Labor Day 2025. Phase three will be rebid. Grant funding has been secured for this phase of the project.</p>	<p>1. Include. 2. The Borough will continue to work to regrade marina basin to control flooding of the surrounding area. Install new bulkhead to current standards. Utilize natural flood barrier and turtle nesting habitat in areas without bulkhead to control flooding. Install new boat ramp to current design standards (safety). Elevate marina administration building for resiliency. Phase one to be completed by the end of May, 2025. Phase two to commence after Labor Day 2025. Phase three will be rebid. Grant</p>



Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2026 HMP or Discontinue 2. If including action in the 2026 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
						funding has been secured for this phase of the project. 3. N/A
2021-AVALON-003	Adopt COOP	All hazards	Borough Administration, Borough Office of Emergency Management	<p>Problem: The Borough has a Continuity of Operations Plan (COOP) that requires updating to address hazards and government functions.</p> <p>Solution: The Borough proposes to Review, amend, adopt new COOP for the Borough of Avalon</p>	1. In progress 2. Allocation of man hours to complete	1. Include. 2. The Borough proposes to Review, amend, adopt new COOP for the Borough of Avalon. 3. N/A
2021-AVALON-004	StormReady Status	All hazards	Avalon Administration, Avalon Office of Emergency Management, DPW, Borough Engineer	<p>Problem: The National Weather Service's StormReady Program recognizes communities that recognize natural hazard vulnerability and take steps to inform residents and prepare for those events to take place. Avalon is seeking to be recognized in this program.</p> <p>Solution: Avalon proposes to complete requirements for Borough to be recognized as a StormReady Community</p>	1. Ongoing 2. No obstacles, moved to County responsibility	1. Discontinue 2. N/A 3. Cape May County has taken a regional approach to Storm Ready status
2021-AVALON-005	Evaluate, and revise Floodplain Mitigation Plan (FPM) – 5-year review	Flood; Severe Weather; Hurricane/Tropical Storm; Nor'easter; Climate Change and Sea Level Rise	Borough Engineer, Avalon OEM, Avalon Chamber of Commerce	<p>Problem: The Borough has an adopted floodplain management plan that assists with its CRS rating. The plan will be undergoing a five-year re-examination in 2021.</p> <p>Solution: The FPM will be fully reviewed in 2021, presented to Borough Council and members of the public, and adopted in late 2021.</p>	1. In progress 2. No obstacles	1. Include. 2. The FPM was fully reviewed in 2024, presented to Borough Council and members of the public. The Borough will conduct an annual update which is due in 2025. 3. N/A



Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2026 HMP or Discontinue 2. If including action in the 2026 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
2021-AVALON-006	Establish a local tide gauge	All hazards	Borough Administration, Borough Engineer, DPW	<p>Problem: Avalon has a large visitor base and second home population that do not have readily available resources or knowledge of potential flooding event. The Borough seeks to provide a locally controlled means to notify residents of impending flooding.</p> <p>Solution: The Borough proposes to install local tide gauge that can be coordinated with data sets to provide early warning of impending tidal flooding</p>	<p>1. In progress 2. Cost, location of the equipment</p>	<p>1. Include 2. The Borough will seek funding and cost reduction measures to install local tide gauge that can be coordinated with data sets to provide early warning of impending tidal flooding. 3. N/A</p>
2021-AVALON-007	Bulkhead improvements	Flood; Hurricane/Tropical Storm; Nor'easter; Climate Change and Sea Level Rise	Avalon Administration, DPW, Borough Engineer	<p>Problem: Avalon's back bay waterfront feature stretches of bulkheads that prevent erosion and protect upland properties from wave damage. Bulkheads have been replaced piecemeal and are at varying heights. Low-lying bulkheads cause water to inundate during surge events. Borough owned bulkheads are being replaced at 20th St. and Fifth Ave., 26th St. and Ocean Drive, and 28th Street and Ocean Drive. Other bulkhead replacements are under review to be funded in 2021 – 2022.</p> <p>Solution: In 2020, Avalon completed the replacement of the 21st Street bulkhead and awarded a contract for the replacement of bulkheads at 22nd Street/Sixth Avenue, 26th Street at Ocean Drive, and 80th Street. The 72nd Street bulkhead at Ocean Drive will also be replaced in 2021. In 2021,</p>	<p>1. In progress 2. No obstacles. Avalon continues to identify bulkheads that have reached or are nearing the end of their life.</p>	<p>1. Include 2. The Borough will continue implementing the bulkhead replacement program. This program will work to monitor existing bulkheads to ensure they remain structurally sound. 3. N/A</p>



Project Number	Project Name	Hazard(s) Addressed	Responsible Party	Brief Summary of the Original Problem and the Solution (Project)	Action Review 1. Status (In Progress, Ongoing Capability, No Progress, Complete) 2. Provide a narrative to describe progress or obstacles that have prevented implementation	Next Steps 1. Project to be included in the 2026 HMP or Discontinue 2. If including action in the 2026 HMP, revise/reword to be more specific (as appropriate). 3. If discontinue, explain why.
				Avalon will consider replacing one or more bulkheads, including the 23rd Street, 29th Street, 33rd Street, and 34th Street bulkheads along Ocean Drive. The replacement of these bulkheads to a higher elevation will result in reduction in flooding from major tidal events.		



### 3.7.3 Proposed Hazard Mitigation Actions for the HMP Update

Avalon participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Avalon would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in Borough priorities.

Table 3-18 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume I identifies 14 evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned (-1, 0, or 1) for each of the evaluation criteria. Table 3-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.



Table 3-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X									X
Drought	X									X
Earthquake	X									X
Extreme Temperature	X									X
Flood	X	X			X	X			X	X
Severe Weather	X	X			X	X			X	X
Severe Winter Weather	X									X
Wildfire	X									X
Dam Failure	X									X

*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 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

*Preventative Measures (PR)*—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.

*Property Protection (PP)*—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.

*Public Information (PI)*—Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.

*Natural Resource Protection (NR)*—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.

*Structural Flood Control Projects (SP)*—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

*Emergency Services (ES)*—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities



Table 3-19. Summary of Prioritization of Actions

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low		
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		Total	
2026-Avalon-01	Bay Park Marina Rehabilitation	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	12	High
2026-Avalon-02	Adopt COOP	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2026-Avalon-03	Evaluate, and revise Floodplain Mitigation Plan (FPM) – 5-year review	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	High
2026-Avalon-04	Establish a local tide gauge	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	12	High
2026-Avalon-05	Bulkhead Retrofit	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	12	High
2026-Avalon-06	Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Property Mitigation	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	11	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



Action 2026-Avalon-01. Bay Park Marina Rehabilitation

Lead Agency:	Borough Engineer	
Supporting Agencies:	Taylor Design Group, Borough Administration, Avalon Recreation	
Hazards of Concern:	Flood, Severe Weather	
Description of the Problem:	Avalon experiences tidal flooding of Ocean Drive and surrounding residential neighborhood from Bay Park Marina.	
Description of the Solution:	The Borough will continue to work to regrade the marina basin to control flooding of the surrounding area. Install a new bulkhead to current standards. Utilize natural flood barriers and turtle nesting habitat in areas without bulkhead to control flooding. Install a new boat ramp to current design standards (safety). Elevate Marina Administration building for resiliency. Phase one to be completed by the end of May 2025. Phase two commences after Labor Day 2025. Phase three will be rebid. Grant funding has been secured for this phase of the project.	
Estimated Cost:	Medium	
Potential Funding Sources:	FMA, HMGP, Annual budget, staff time, State grants	
Implementation Timeline:	Medium (1-5 years)	
Goals Met:	1, 2, 3, 4	
Benefits:	High (\$100,000)	
Impact on Socially Vulnerable Populations:	Socially vulnerable populations which reside in the area or utilize the Marina and Ocean Drive will be better protected against flood impacts.	
Impact on Future Development:	Future development planned for nearby this area and which will utilize this roadway will be better protected against flood impacts.	
Impact on Critical Facilities/Lifelines:	The Ocean Drive is a critical lifeline for residents to use during hazard events to evacuate. This action will ensure it is safe to use during flood events.	
Impact on Capabilities:	This action will strengthen the capabilities of EMS to respond to residents needs by maintaining the Ocean Drive during flood events to be accessible.	
Climate Change Considerations:	Climate change will continue to impact the severity and frequency of flood events. This action will work to address and mitigate future flood risks.	
Mitigation Category	Structure and Infrastructure Project	
CRS Category	Structural Flood Control Project,	
Priority	High	
Alternatives	Action	Evaluation
	No Action	Problem persists.
	Remove Ocean Drive	Not an option, loss of critical roadway.
	Remove the Bay Park Marina	Not an option, costly, loss of a critical facility for residents.



Action 2026-Avalon-02. Adopt COOP

Lead Agency:	Borough Administration	
Supporting Agencies:	Borough Office of Emergency Management	
Hazards of Concern:	All Natural Hazards	
Description of the Problem:	The Borough has a Continuity of Operations Plan (COOP) that requires updating to address hazards and government functions.	
Description of the Solution:	The Borough proposes to review, amend, adopt new COOP for the Borough of Avalon.	
Estimated Cost:	Low	
Potential Funding Sources:	Annual budget, Staff time	
Implementation Timeline:	Low (1-2)	
Goals Met:	1, 2, 3, 4, 5, 6, 7	
Benefits:	High (\$100,000)	
Impact on Socially Vulnerable Populations:	Socially vulnerable populations, such as the elderly or disabled, will be better protected against hazard events which result in the loss of utilities and lifelines. This population relies on utilities and lifelines for life safety and this action will ensure they continue to operate during natural hazard events.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	Critical facilities and lifelines will be better protect against natural hazard events and their continuity of operations will be maintained.	
Impact on Capabilities:	This will strengthen the Borough's capabilities to provide utilities to residents in need.	
Climate Change Considerations:	Climate change will continue to impact the severity and frequency of natural hazard events. This action will work to address and mitigate future hazard risks.	
Mitigation Category	Local Plans and Regulations	
CRS Category	Emergency Services	
Priority	High	
Alternatives	<b>Action</b>	<b>Evaluation</b>
	No Action	Problem persists.
	Rely on state resources	Not always reliable or locally specific.
	Rely on federal resources	Not always reliable or locally specific.



Action 2026-Avalon-03. Evaluate, and revise Floodplain Mitigation Plan (FPM) – 5-year review

Lead Agency:	Avalon OEM	
Supporting Agencies:	Borough Engineer, Avalon Chamber of Commerce	
Hazards of Concern:	Flood, Severe Weather	
Description of the Problem:	The Borough has an adopted floodplain management plan that assists with its CRS rating. The plan will be undergoing a five-year re-examination in 2021.	
Description of the Solution:	The FPM was fully reviewed in 2024, presented to Borough Council and members of the public. The Borough will conduct an annual update which is due in 2025.	
Estimated Cost:	Low	
Potential Funding Sources:	Annual budget, Staff time	
Implementation Timeline:	Short (1-2 years)	
Goals Met:	1, 2, 3, 4, 5, 6, 7	
Benefits:	High (\$100,000)	
Impact on Socially Vulnerable Populations:	Socially vulnerable populations, such as the elderly and disabled, will have access to flood information in the FPM flood profile section of the plan. This will better educate so that they can prepare and better respond to this hazard.	
Impact on Future Development:	Future development will be better mitigated against flood hazards through the mitigation actions proposed in the FMP.	
Impact on Critical Facilities/Lifelines:	Critical facilities will be better mitigated against flood hazards through the mitigation actions proposed in the FMP.	
Impact on Capabilities:	The FMP will strengthen the Borough's floodplain management capabilities and CRS class rating to maintain their CRS class.	
Climate Change Considerations:	Climate change will continue to impact the severity and frequency of flood events. This action will work to address and mitigate future flood risks.	
Mitigation Category	Local Plans and Regulations	
CRS Category	Preventative Measures	
Priority	High	
Alternatives	Action	Evaluation
	No Action	Problem persists.
	Utilize state flood plans	Will lose CRS points and potentially lose insurance reduction for residents.
	Utilize 2024 plan moving forward	Will lose CRS points and drop a class if plan is not updated.



Action 2026-Avalon-04. Establish a local tide gauge

Lead Agency:	Borough Administration	
Supporting Agencies:	Borough Engineer, DPW	
Hazards of Concern:	Flood, Severe Weather	
Description of the Problem:	Avalon has a large visitor base and second home population that do not have readily available resources or knowledge of potential flooding events. The Borough seeks to provide a locally controlled means to notify residents of the impending flooding.	
Description of the Solution:	The Borough will seek funding and cost reduction measures to install a local tide gauge that can be coordinated with data sets to provide early warning of impending tidal flooding.	
Estimated Cost:	Medium	
Potential Funding Sources:	Annual budget, FMA, NOAA, USACE	
Implementation Timeline:	Short 91-2 years)	
Goals Met:	1, 2, 3, 4, 5, 6	
Benefits:	High (\$100,000)	
Impact on Socially Vulnerable Populations:	Socially vulnerable populations, such as the elderly or disabled, will have access to real time information to stay informed on when to evacuate before events become life threatening.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	The tide gauge will be a critical lifeline for the community to receive warnings for evacuation in case of a serious flood.	
Impact on Capabilities:	This action will strengthen the Borough's capabilities to warn residents of a flood to prepare or safely evacuate in time.	
Climate Change Considerations:	Climate change will continue to impact the severity and frequency of flood events. This action will help to warn residents of future flood events before they become life threatening.	
Mitigation Category	Structure and Infrastructure Project	
CRS Category	Structural Flood Control Project,	
Priority	High	
Alternatives	<b>Action</b>	<b>Evaluation</b>
	No Action	Problem persists.
	Rely on state warning systems	Not always locally significant and reliable.
	Rely on federal warning systems	Not always locally significant and reliable.



Action 2026-Avalon-05. Bulkhead Retrofit

Lead Agency:	Borough Engineer	
Supporting Agencies:	Avalon Administration, DPW	
Hazards of Concern:	Flood, Severe Weather	
Description of the Problem:	<p>Avalon's back bay waterfront features stretch of bulkheads that prevent erosion and protect upland properties from wave damage. Bulkheads have been replaced with piecemeal and are at varying heights. Low-lying bulkheads cause water to inundate during surge events.</p> <p>Borough owned bulkheads are being replaced at 20th St. and Fifth Ave., 26th St. and Ocean Drive, and 28th Street and Ocean Drive. Other bulkhead replacements are under review to be funded in 2021 – 2022.</p>	
Description of the Solution:	<p>The Borough will continue implementing the bulkhead replacement program. This program will work to monitor existing bulkheads to ensure they remain structurally sound.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	FMA, HMGP, FMA, Annual budget	
Implementation Timeline:	Ongoing	
Goals Met:	1, 2, 3, 4, 5, 6, 7	
Benefits:	High (\$100,000)	
Impact on Socially Vulnerable Populations:	<p>Socially vulnerable populations which reside in the neighborhoods which are protected by bulkheads will have adequate flood protection moving forward through the upgrades of these aging infrastructure.</p>	
Impact on Future Development:	<p>Future development planned for these areas will be better protected by updated bulkhead.</p>	
Impact on Critical Facilities/Lifelines:	<p>The bulkheads will protect critical facilities and lifelines such as utilities and roadways from flood impacts.</p>	
Impact on Capabilities:	<p>This action will increase the flood mitigation capabilities of the Borough and ensure continuity of operations for EMS to access residents through the protection of critical roadways.</p>	
Climate Change Considerations:	<p>Climate change will continue to impact the severity and frequency of hazard events such as flooding and severe weather. This action will work to mitigate future flood concerns for the Borough.</p>	
Mitigation Category	Structure and Infrastructure Project	
CRS Category	Structural Flood Control Project,	
Priority	High	
Alternatives	<b>Action</b>	<b>Evaluation</b>
	No Action	Problem persists.
	Remove all bulkheads	Not an option, loss of protection, problem persists or worsens.
	Construct a levee around the bulkheads	Costly, not efficient and there is not enough space to build a full levee system.



Action 2026-Avalon-06. Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Mitigation

Lead Agency:	Borough Floodplain Administrator	
Supporting Agencies:	DPW, Borough Administration	
Hazards of Concern:	Flood, Severe Weather	
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Borough has 106 repetitive loss properties and 17 severe repetitive loss properties, but other properties may be impacted by flooding as well.	
Description of the Solution:	Conduct outreach to 124 flood-prone property owners, including RL/SRL property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information, and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, FMA, HMGP, match from property owners	
Implementation Timeline:	Ongoing	
Goals Met:	1, 2, 3, 4, 5, 6, 7	
Benefits:	High (\$100,000)	
Impact on Socially Vulnerable Populations:	Removing homes from the floodplain immediately removes the risk to life and property. Socially vulnerable populations may be able to have houses elevated or acquired when it would otherwise be unaffordable.	
Impact on Future Development:	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.	
Impact on Critical Facilities/Lifelines:	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.	
Impact on Capabilities:	Removing the risk from the immediate floodplain via acquisition of properties will free up resources for search and rescue and other emergency operations as needed.	
Climate Change Considerations:	Climate change is likely to increase the frequency and severity of severe rainfall, flash flooding, riverine flooding, and coastal flooding from sea level rise and storm surge events. Removing structures from the floodplain will reduce the response and recovery costs as a result of these events and decrease the loss of human life as a result of these events. Elevating structures will reduce the recovery costs as a result of these events.	
Mitigation Category	Structure and Infrastructure Project	
CRS Category	Property Protection	
Priority	High	
Alternatives	Action	Evaluation
	No Action	-
	Levee around floodplain	Costly, not enough room



	Deployable flood barriers	Requires deployment. Residents may not have adequate time to deploy, especially those who are elderly or disabled.
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