ORDINANCE_____

AN ORDINANCE TO AMEND CHAPTER 101, FLOOD DAMAGE REDUCTION, OF THE MUNICIPAL CODE OF THE TOWN OF DEWEY BEACH, DELAWARE, 2005, AS AMENDED, RELATING TO THE FREEBOARD HEIGHT REQUIREMENT FOR THE ELEVATION OF BUILDINGS, STRUCTURES AND EQUIPMENT.

WHEREAS, at a properly-noticed public meeting held on September 8, 2023, The Dewey Beach Climate Change Committee recommended the Planning Commission and Town Council explore the possibility of increasing the town freeboard; and

WHEREAS, at a property-noticed public hearing held on September 17, 2024, the Dewey Beach Planning Commission recommended to the Town Council that the freeboard requirement be increased to 3 feet.

NOW, THEREFORE, BE IT ENACTED AND ORDAINED, by the Commissioners of the Town of Dewey Beach, Sussex County, Delaware, in session met, as follows:

Section 1. Amend §101-27A(1) of the Municipal Code of the Town of Dewey Beach relating to elevation requirements of residential structures and residential portions of mixed-use structures as depicted by strikeout and underlined substitutions below:

> The lowest floor (including basement) shall be elevated to or above the base flood elevation plus ~~12 inches~~ 3 feet. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)]~~

Section 2. Amend §101-27A(2) of the Municipal Code of the Town of Dewey Beach relating to elevation requirements of residential structures and residential portions of mixed-use structures as depicted by strikeout and underlined substitutions below:

> In areas of shallow flooding (Zone AO), if not dry floodproofed, the lowest floor (including basement) shall be elevated at least as high above the highest adjacent grade as the depth number specified in feet on the Flood Insurance Rate Map plus ~~12 inches~~ 3 feet or at least two feet plus ~~12 inches~~ 3 feet if a depth number is not specified; adequate drainage paths shall be provided to guide floodwaters around and away from the structure. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)]~~

Section 3. Amend §101-33B(1) of the Municipal Code of the Town of Dewey Beach relating to elevation requirements of residential and nonresidential structures as depicted by strikeout and underlined substitutions below:

> The bottom of the lowest horizontal structural member supporting the lowest floor (excluding the pilings, pile caps, columns, grade beams, and bracing), shall be located at or above the base flood elevation plus ~~12 inches~~ 3 feet. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)]~~

Section 4. Amend §101-33D(1) of the Municipal Code of the Town of Dewey Beach relating to

elevation requirements of manufactured homes as depicted by strikeout and underlined substitutions below:

> Meet the elevation requirements of Subsection B., provided that the bottom of the lowest horizontal structural member is at or above the base flood elevation plus ~~12 inches~~ 3 feet. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)]~~

Section 5. Amend **§**101-28A(1) of the Municipal Code of the Town of Dewey Beach relating to elevation requirements for nonresidential structures and nonresidential portions of mixed-use structures as depicted by strikeout and underlined substitutions below:

> The lowest floor (including basement) shall be elevated to or above the base flood elevation plus ~~12 inches~~ 3 feet or the structure shall be dry proofed in accordance with Subsection B. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)];~~

Section 6. Amend **§**101-28A(2) of the Municipal Code of the Town of Dewey Beach relating to elevation requirements for nonresidential structures and nonresidential portions of mixed-use structures as depicted by strikeout and underlined substitutions below:

> In areas of shallow flooding (Zone AO), if not dry floodproofed, the lowest floor (including basement) shall be elevated at least as high above the highest adjacent grade as the depth number specified in feet on the Flood Insurance Rate Map plus ~~12 inches~~ 3 feet or at least two feet plus ~~12 inches~~ 3 feet if a depth number is not specified; adequate drainage paths shall be provided to guide floodwaters around and away from the structure. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)];~~

Section 7. Amend **§**101-29E of the Municipal Code of the Town of Dewey Beach relating to elevation requirements of electrical service and mechanical equipment in accessory structures as depicted by strikeout and underlined substitutions below:

> Electrical and mechanical equipment shall be elevated to or above the level of the base flood elevation plus ~~12 inches~~ 3 feet. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)]~~

Section 8. Amend **§**101-25B of the Municipal Code of the Town of Dewey Beach relating to elevation requirements of gas or liquid storage tanks as depicted by strikeout and underlined substitutions below:

> Above-ground tanks in special flood hazard areas shall be elevated to or above the level of the base flood elevation plus ~~12 inches~~ 3 feet or shall be anchored at-grade and designed and constructed to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads , including the effects of buoyancy, during conditions of base flood. ~~[SB 64 Recommended Standard 7A; Require 12 inches of freeboard (height above minimum elevation)]~~

Section 9. If any provision of this Ordinance shall be deemed or held to be invalid or unenforceable for any reason whatsoever, then such invalidity or unenforceability shall not affect any other provision of this Ordinance which may be given effect without such invalid or unenforceable

provision, and to this end, the provisions of this Ordinance are hereby declared to be severable.

Section 10. This Ordinance shall take effect immediately upon its approval by the Delaware Department of Natural Resources and Environmental Control (DNREC).

Adopted by at least a majority of the Commissioners of the Town of Dewey Beach on September 20, 2024.

SYNOPSIS

This Act raises the freeboard requirement from 1 foot to 3 feet above base flood elevation meaning that new construction shall be elevated by an additional 2 feet to lessen the threat of damage caused by flood waters.

Climate Change Committee Recommendation to Increase Town Freeboard Requirements

Last year's initial set of recommendations from the Climate Change Committee included a recommendation to increase the town's freeboard requirements for structures in a FEMA-designated flood zone.

Except for some limited options for "floodproofing" of commercial properties, the Town Code currently requires for newly constructed and substantially renovated buildings that the first floor be elevated to a height equal to or greater than the FEMA base flood elevation plus 1 foot of freeboard. The 2018 Town Comprehensive Plan includes a recommendation to consider an increase in the freeboard requirement and proposes that Planning and Zoning consider possible amendments to Chapters 185 Zoning and 101 Flood Loss Reduction if an increase in freeboard is deemed appropriate.

Recognizing the potential for a possible change in freeboard requirements, The Town Commissioners voted unanimously last June to require that the first finished floor of the new Town Hall should not be below base flood elevation plus 3 feet.

Town Commissioners are asked to refer this issue to Planning and Zoning for further consideration, public hearing, and recommendations.

Background:

A significant portion of Dewey Beach, (every street below Clayton St), is located within a Special Flood Hazard Area (SFHA) as designated on the current Flood Insurance Rate Map (FIRM). These areas have a high risk of flooding, with a one-percent annual chance of flood events, often referred to as 100-year floods. This classification means that property owners with federally backed mortgages in these zones are required to carry flood insurance. The town has been proactive in addressing flood risks through stormwater management projects and participating in the National Flood Insurance Program (NFIP) to offer protection and insurance benefits to its residents

Dewey Beach revised by ordinance Chapter 101 Flood damage reduction in 2014; this replaced an earlier *his ordinance also repealed former Ch. 101, Floodplain Management, adopted 9-7-1984 as Ch. **16** of the 1984 Code, as amended*.

From the General provisions of section 101 - 1: Findings:

A.

The Federal Emergency Management Agency (FEMA) has identified special flood hazard areas within the boundaries of the Town of Dewey Beach. Special flood hazard areas are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare. Development that is inadequately elevated, improperly floodproofed, or otherwise unprotected from flood damage also contributes to the flood loss.

B.

The Town of Dewey Beach, by resolution, agreed to meet the requirements of the National Flood Insurance Program and was accepted for participation in the program on June 18, 1982. As of that date or the initial effective date of the Town of Dewey Beach Flood Insurance Rate Map, all development and new construction as defined herein, are to be compliant with these regulations.

NFIP - The National Flood Insurance Program (NFIP) was established by Congress in 1968 to reduce the financial burden of flood damage by offering affordable flood insurance to property owners in participating communities. It encourages sound floodplain management practices and provides mapping and regulatory measures to minimize future flood risks. Administered by FEMA,

the NFIP aims to decrease the impact of flooding on private and public structures, and offers financial assistance to flood victims while promoting safer community development.

Key Components and Objectives of NFIP:

The NFIP has several primary components:

- **Insurance**: Providing flood insurance to property owners in participating communities.
- **Floodplain Management**: Reducing future flood damage through community-enforced building and zoning ordinances.
- **Flood Hazard Mapping**: Identifying and mapping floodplain areas to help communities manage flood risks.

What is CRS:

The Community Rating System (CRS) is an integral part of the National Flood Insurance Program (NFIP). It is a voluntary program that incentivizes communities to implement floodplain management practices that exceed the minimum NFIP requirements. Here's how the CRS relates to the NFIP:

Purpose of the CRS

The CRS aims to encourage communities to take proactive steps to reduce flood risk, enhance public safety, protect natural floodplain functions, and ultimately decrease the financial impact of flooding on residents. By engaging in the CRS, communities can earn discounts on flood insurance premiums for their residents.

Relationship to the NFIP

The CRS is a complementary program to the NFIP, enhancing its goals by providing additional incentives for communities to adopt more rigorous floodplain management practices. While the NFIP sets the baseline for floodplain management and offers insurance to property owners, the CRS encourages communities to exceed these baseline requirements, thereby fostering greater flood resilience and providing financial benefits to residents.

In summary, the CRS is a valuable component of the NFIP, promoting better floodplain management practices and offering tangible benefits to communities and their residents through reduced flood insurance premiums and enhanced flood protection measures.

Dewey Beach's current CRS class is a 9 (a 5% discount) in premiums.

What is Freeboard?

a. An additional amount of height above the Base Flood Elevation used as a factor of safety (e.g., 2 feet above the Base Flood) in determining the level at which a structure's lowest floor must be elevated or floodproofed to be in accordance with state or community floodplain management regulations.

b. Freeboard is a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed. Freeboard is not required by NFIP standards, but communities are encouraged to adopt at least a one-foot freeboard to account for the one-foot rise built into the concept of designating a floodway and the encroachment requirements where floodways have not been designated. Freeboard results in significantly lower flood insurance rates due to lower flood risk.

Increasing freeboard in a community's building regulations can earn significant points within the Community Rating System (CRS) of the National Flood Insurance Program (NFIP). These points contribute to a community's overall CRS score, which determines the level of discount residents receive on their flood insurance premiums. By adopting higher freeboard standards, communities demonstrate enhanced floodplain management practices, thereby improving their CRS class rating and providing greater financial benefits through reduced insurance costs for property owners.

Recommendation – raise freeboard to from one foot to three feet above base flood level

This would include Residential structures, residential portions of mixed-use structures (101-27); Non Residential structures and nonresidential portions of mixed used structures (101-28) and accessory structures (101-29)

Benefit:

Raising freeboard, which refers to the elevation of a building's lowest floor above the base flood elevation (BFE), provides several significant benefits in terms of flood risk reduction and insurance costs. Here are the key advantages:

1. Reduced Flood Risk

- **Enhanced Protection**: By elevating a structure above the BFE, the risk of floodwaters reaching the living spaces and causing damage is significantly reduced. This protection extends to personal property and critical building systems like electrical panels, HVAC systems, and plumbing.
- **Increased Safety**: Higher freeboard levels provide additional safety margins against unforeseen circumstances, such as levee failures, storm surges, or heavier-than-expected rainfall, which can cause flood levels to exceed predicted BFEs.

2. Lower Flood Insurance Premiums

- **Insurance Savings**: Structures built with higher freeboard generally qualify for lower flood insurance premiums under the National Flood Insurance Program (NFIP). Insurance rates are based on the elevation of the lowest floor relative to the BFE, so higher elevations can lead to substantial savings on premiums.
- **Long-Term Cost Savings**: While raising the freeboard may involve higher initial construction costs, the long-term savings in flood insurance premiums and potential flood damage repairs can outweigh these initial expenses.

3. Increased Property Value and Marketability

- **Higher Property Value**: Homes and buildings constructed with additional freeboard are often seen as more resilient and safer investments. This can translate into higher property values and increased attractiveness to potential buyers.
- **Market Appeal**: In flood-prone areas, homes with elevated freeboard may have a competitive edge in the real estate market, as buyers are often willing to pay a premium for increased safety and lower insurance costs.

4. Compliance and Incentives

- **Regulatory Compliance**: In some areas, local building codes and floodplain management regulations require structures to be built with a certain amount of freeboard above the BFE. Compliance with these regulations is essential for obtaining building permits and ensuring legal conformity.
- **Community Rating System (CRS) Points**: Communities participating in the NFIP's CRS can earn points for requiring additional freeboard in their building codes. Higher CRS ratings can lead to broader community-wide insurance premium discounts for residents.

5. Environmental and Community Benefits

- **Reduced Floodplain Development**: Encouraging or requiring higher freeboard can help deter development in high-risk flood zones, preserving natural floodplains and their ecological benefits.
- **Community Resilience**: Widespread adoption of elevated freeboard standards can enhance overall community resilience to flooding events, reducing the economic and social impacts of floods.

Why raise to three feet and not four or five?

Raising freeboard to three feet above the base flood elevation (BFE) provides a balanced approach to enhancing flood protection while considering practicality and cost. Here are some reasons why three feet of freeboard is often recommended over four or five feet:

Enhanced Flood Protection

- **Safety Margin**: Three feet of freeboard significantly reduces the risk of flood damage by providing a safety margin above the anticipated flood levels, accounting for uncertainties in flood predictions and potential increases in flood severity due to climate change (Delaware Sea Grant).

Cost-Effectiveness

- **Construction Costs**: Adding three feet of freeboard is generally more cost-effective than four or five feet, as the additional height increases construction costs and structural requirements. This makes three feet a practical choice that balances safety and affordability (Delaware Sea Grant).
- **Insurance Premiums**: Three feet of freeboard can result in substantial savings on flood insurance premiums under the NFIP, providing a good return on investment by lowering long-term insurance costs without excessive upfront expenses (Delaware Sea Grant).

Regulatory Compliance and Community Standards

- **Building Codes**: Many local building codes and floodplain management regulations recommend or require at least three feet of freeboard. Adhering to these standards ensures compliance with local regulations and helps communities qualify for better CRS ratings, which can lead to community-wide insurance discounts (Delaware Sea Grant).
- **Community Rating System (CRS) Points**: Implementing three feet of freeboard can earn significant points in the CRS, which helps communities improve their class rating and reduce flood insurance premiums for all residents (Delaware Sea Grant).

Practical Considerations

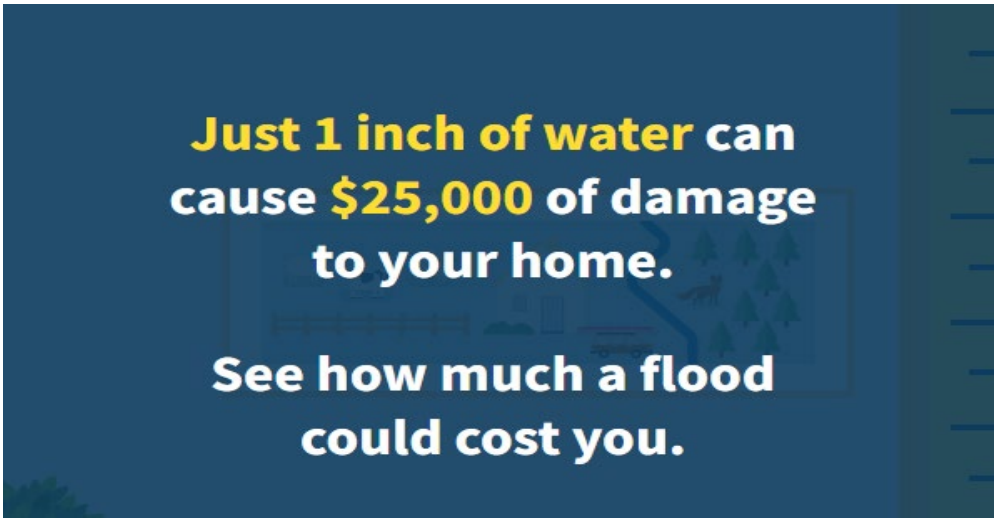
- **Structural Integrity**: Raising a building too high may pose structural challenges and increase the risk of wind damage. Three feet is often seen as a height that enhances flood resilience without compromising the building's structural integrity or requiring extensive engineering modifications (Delaware Sea Grant).
- **Accessibility**: Higher elevations may complicate accessibility, particularly for individuals with mobility issues. Three feet is a manageable increase that generally avoids the need for extensive ramps or lifts (Delaware Sea Grant).

Summary

Raising freeboard to three feet is a strategic choice that offers substantial flood protection, cost savings on insurance, compliance with local regulations, and structural feasibility. While raising it to four or five feet could provide additional protection, the incremental benefits may not justify the significantly higher costs and practical challenge

Source Information:

https://www.floodsmart.gov/flood-insurance-cost



From Town of Dewey Beach Town Code 1 – 16 Definitions:

BUILDING HEIGHT

The vertical distance from some specific reference point to the highest point of the building or structure not specifically listed in the "Exclusions to height restriction" standards in Chapter **185**, Zoning, Table 2, Bulk Zoning Standards in All Districts. For any property located in a special flood hazard area (SFHA) as designated on an effective Flood Insurance Rate Map (FIRM), this specific reference point shall be taken as the elevation defined by FEMA's base flood elevation plus Town mandatory freeboard. For any property outside such SFHAs, this specific reference point shall be taken as the elevation of the crown of the roadway abutting the property, or alley accessway if there is no primary roadway, taken at the center point of the lot frontage, i.e., grade.

Elevating Above the BFE Saves Money

- One-floor residential structure with no basement built Post-FIRM in SFHA
- $200,000 coverage for the building and $80,000 for contents
- At BFE Insurance Premium: $2,136

Zone AE	Annual NFIP Insurance Savings	Savings Over 30 Year Mortgage*
1 ft. below BFE	-$2,650	-$79,500
At BFE	0	0
1 ft. freeboard	$1,063 (50%)	$31,890
2 ft. freeboard	$1,426 (67%)	$42,780
3 ft. freeboard	$1,545 (72%)	$46,350

**Estimate based average 2016 rates*

FEMA

113 Credit Points and Credited Activities

To be recognized in the insurance rating system, local floodplain management activities must be described, measured, and evaluated by the CRS. The basic document detailing the program is the *CRS Coordinator's Manual*. It sets forth the procedures, creditable activities, and the credit points assigned to each activity, and gives examples of activities and how their credit is calculated.

113.a. Credit Points and Classification

A community receives a CRS classification based upon the total credit for its activities. There are 10 CRS classes. Class 1 requires the most credit points and gives the greatest premium reduction or discount. A community that does not apply for the CRS, or does not obtain the minimum number of credit points, is a Class 10 community and receives no discount on premiums. The qualifying community total points, CRS classes, and flood insurance premium discounts are shown in Table 110-1.

Table 110-1. CRS classes, credit points, and premium discounts.

CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

SFHA: Zones A, AE, A1–A30, V, V1–V30, AO, and AH

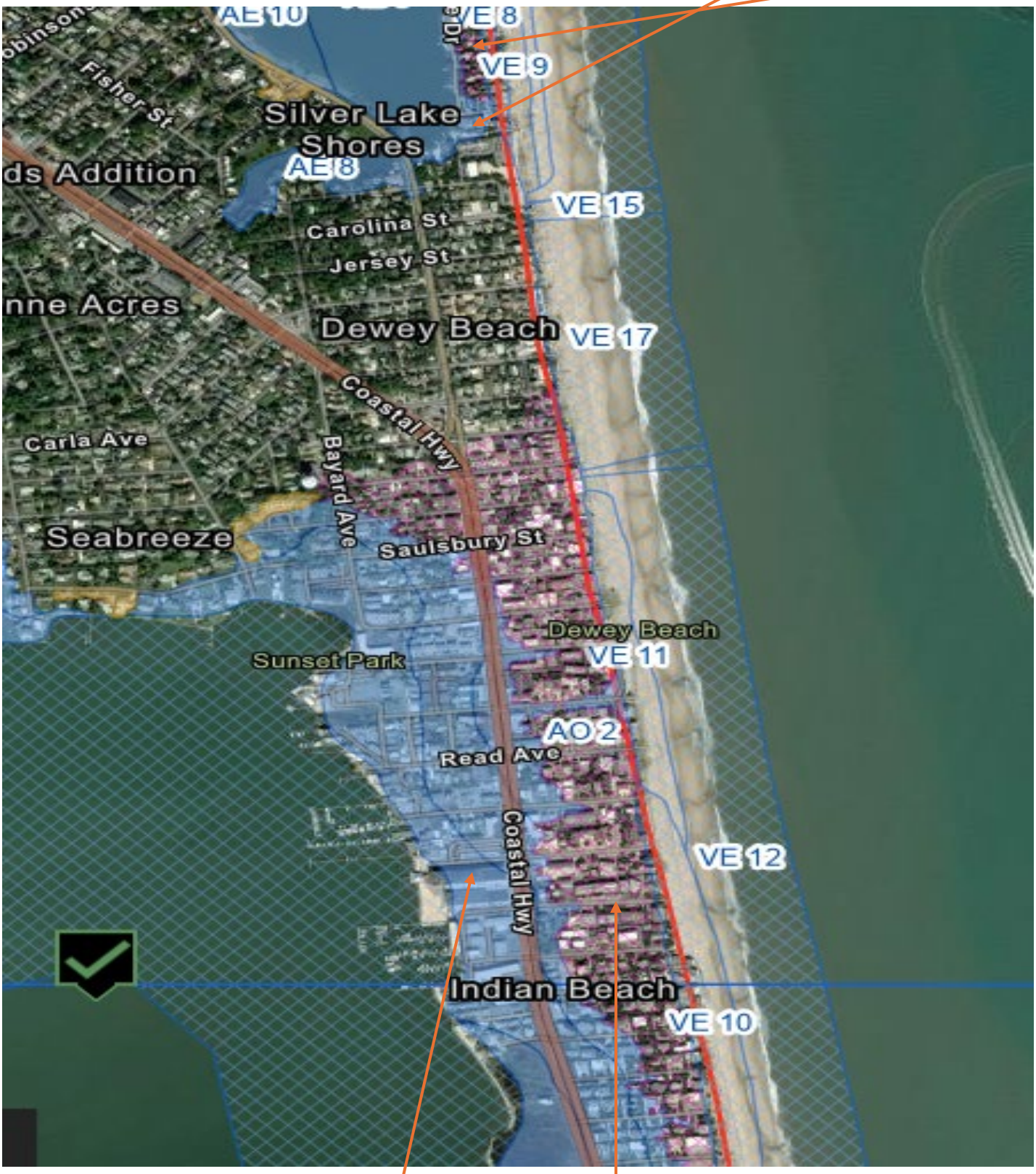
Outside the SFHA: Zones X, B, C, A99, AR, and D

Preferred Risk Policies are not eligible for CRS premium discounts because they already have premiums lower than other policies. Preferred Risk Policies are available only in B, C, and X Zones for properties that are shown to have a minimal risk of flood damage.

Some minus-rated policies may not be eligible for CRS premium discounts.

Premium discounts are subject to change.

Dewey Beach Special Flood Hazard Area (SFHA) as set by FEMA (blue area) & (pink X area)



Special Flood Hazard Area (SFHA) as set by FEMA (blue area) & (pink X area)