MEMORANDUM
Town of Nags Head
Planning & Development Department

To: Planning Board
From: Holly White, Principal Planner
Michael Zehner, Director of Planning & Development
Date: March 11, 2020
Subject: Updated Flood Maps, Flood Prevention Ordinance, and Related Regulations

Overview

As the Planning Board is aware, the Town now has the Letter of Final Determination concerning the updated FEMA Flood Insurance Rate Map (F.I.R.M.) as of December 19, 2019. As previously relayed, the updated map would be effective no later than 6 months after receipt of the letter, so June 19, 2020. The Board of Commissioners and Planning Board met jointly at the Planning Board's meeting on February 18, 2020 to review and discuss an initial draft of the updated Flood Damage Prevention Ordinance, along with updated building height measurement and fill provisions, to be considered in concert with the updated F.I.R.M. covering the Town. Please find the minutes from that meeting attached. The minutes were also provided to the Board of Commissioners at their meeting on March 4, 2020 where there was a brief discussion about the maps, ordinance, and local elevation standard. Additionally, a Community Informational Meeting was held on Monday, March 9th. The meeting materials and a recording of the meeting are available at www.nagsheadnc.gov/floodmaps.

The anticipated schedule of next steps is as follows:

- March 17, 2020 - Planning Board Meeting; consider recommendation
- April 8, 2020 - Board of Commissioners Consent Agenda; request to schedule public hearing
- May 6, 2020 - Board of Commissions Public Hearing; Final Action (or continued consideration to June 3, 2020 meeting)
- June 19, 2020 - Effective Date (no later than)

Background on Flood Maps

The preliminary F.I.R.M., released in June of 2016, revealed that many areas of the Town will be removed from the Special Flood Hazard Area. Additionally, the Base Flood Elevations have been significantly reduced in areas remaining in the Special Flood Hazard Area. The F.I.R.M. depicts impacts from storm surge for the 1% (or 100-year) and .2% (500-year) flood zones; however, Staff does not believe that the F.I.R.M. accurately represents the overall risk of flooding in the Town.
There is an overall reduction of properties located in flood zones in the Town on the preliminary F.I.R.M. This includes fewer properties in AE and VE flood zones and an overall increase in properties located in X flood zones, even on the oceanfront. Further,

mapped base flood elevations (BFE's) are being reduced from a current BFE of 8-10' in the AE flood zone to 4-5' on the preliminary F.I.R.M. In addition, a new AO flood zone has been added to the area west of the primary frontal dune. AO flood zones only require elevation above existing grade.

The draft preliminary maps can be viewed using the State's FRIS (Flood Risk Information System) digital online mapping system at the following: LINK - Be sure to click the drop down button in the upper right hand corner and select "Preliminary" instead of "Effective to view the draft maps.

Due to significant number of properties with known flooding histories moving into the X or Shaded X zones on the preliminary maps, local elevation standards of 12' for areas east of NC 12 and SR 1243 and 10' for areas west of NC 12 and SR 1243 is proposed as part of the Flood Damage Prevention Ordinance adoption. The development of the local elevation standard has been a joint effort Dare County and the Towns of Manteo, Nags Head, Kill Devil Hills, Kitty Hawk, Southern Shores, and Duck. The local elevation standard (LES) means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) to mitigate flood hazards in the Shaded X, X, AE, AO, VE, as depicted on the FIRMs for Nags Head.

Maps supporting the proposed local elevation standards, depicting the existing elevations of grades, existing elevations for first floors, and comparing the flood zone coverages based on the existing and preliminary maps, are attached for the Board's review and will be discussed at the meeting. These maps were previously distributed to the Board prior to the Community Informational Meeting.

Draft Flood Prevention Ordinance Amendments & Other Related Amendments

The Town is required to update its Flood Damage Prevention Ordinance, in conjunction with the maps and flood insurance study, with the most recent version of the State Model Ordinance for Coastal Areas. There are changes in the State Model Ordinance that the Town has to adopt in order to remain in the National Flood Insurance Program (NFIP). Additionally, there are State recommended options. These changes are reflected in the attached Adoption Ordinance for the Flood Damage Prevention Ordinance. In conjunction with amendment of the Flood Damage Prevention Ordinance, it will also be necessary to update relevant portions of Article 4. *Development Review Process*, concerning Floodplain Development Permits; Article 8. *District Development Standards*, concerning the measurement of height; and Article 11. *Environmental Provisions*, Part 1 *Stormwater, Fill, and Runoff Management,* concerning the regulation of fill. These changes are also represented in the attached Adoption Ordinance for the Flood Damage Prevention Ordinance.

Next Steps

After the Planning Board meeting, staff will incorporate any suggested changes in the draft Flood Damage Prevention Ordinance and the text amendment will officially be presented to the Board of Commissioners at their May 6, 2020 meeting for a public hearing and possible adoption.

Attachments:

1. Minutes of the February 18, 2020 Joint Meeting of the Planning Board and Board of Commissioners
2. Adoption Ordinance
3. Elevation Map
4. FFE Analysis Map
5. Flood Zone Comparison Maps

Summary of February 18, 2020 Planning Board and Board of Commissioners Joint Discussion to Review Draft Flood Damage Prevention Ordinance Amendments

Chair Vaughan called for a motion to enter into a joint meeting with the Board of Commissioners to review and discuss the draft flood damage prevention ordinance amendments. Molly Harrison so moved, Gary Ferguson seconded, and the motion passed by unanimous vote.

Planning Director Michael Zehner introduced staff in attendance and provided a brief introduction of the preliminary flood maps and draft flood damage prevention ordinance.

Mr. Zehner indicated that the Town received maps in June 2016. There has been on-going discussion about the maps since that time with staff and the boards. The preliminary maps update the current 2006 maps. The Town received a letter of final determination in December 2019 that gives the Town until June 19, 2020 to adopt the preliminary maps, ordinance, and study. Mr. Zehner indicated that there are concerns with the preliminary maps and what is reflected in the draft ordinance addresses that. There is a tight timeline to adopt. Mr. Zehner said that much of the draft ordinance is based off of the model. However, there are other options where additional feedback is needed. Mr. Zehner stated that the goal of this meeting is to gain feedback from the Board of Commissioners and the Planning Board on the draft ordinance so that staff can bring back a refined final draft to Planning Board in March. Mr. Zehner indicated that staff is trying to avoid having more than a one meeting delay due to the adoption date on or before June 19th. Planning Director Zehner concluded and turned the presentation over to Planner Holly White.

Planner Holly White shared how the municipalities in Dare County and the County have been jointly working together to review the maps, develop the “Low Risk is Not No Risk” Outreach Strategy, and develop a local elevation standard (LES) in light of the underrepresented risk on the maps. The planners group worked with the local building and development community as well as other municipalities to ensure as much consistently in the development of the local elevation standard language as possible.

Ms. White indicated that the local elevation standard is a locally adopted elevation level that is used as the Regulatory Flood Protection Elevation (RFPE). The Town’s RFPE now is the Base Flood Elevation (BFE) plus freeboard. White said that the LES would mean regulating in Shaded X or X, AE, or AO, V flood zones. We currently do not regulate in the Shaded X or X now. The benefit of doing this is that it realizes insurance benefits to property owners, but the Town is able to regulate for known risks. White further said that adopting a higher standard would protect homeowners from building in a way that would later cause higher insurance rates (if the map changed in the future) for non-conforming structures.

Ms. White rereviewed that the Town currently has AE and VE flood zones and that is a 1% chance or 100-year flood. This means there is a 1% chance in a year for a 100-year flood. The AO flood zone is new for Nags Head on this preliminary map. This is also a 1% chance or 100-year flood but is limited to cases where there is overtopping of the dune and ponding behind the primary frontal dune. There is typically a minimum elevation above adjacent grade for AO. The Town also has Shaded X and X zones and that is a .2 chance of flood but there are currently no regulations for these areas.

Ms. White summarized the major changes in the flood maps for the board. She indicated that these included increases in the number of properties in X flood zone (even X on the oceanfront); fewer VE and AE zone properties; and reduced base flood elevations. Ms. White said that on the current maps AE flood zones have a BFE of 8-10' and the new maps have BFE's of 4-5'. Additionally, in VE the Town has a consistent VE 11' on the current maps, but the preliminary maps show BFE's ranging from 9-12 along oceanfront.

Ms. White explained to the boards that if the Town elected to adopt an LES, the Town would adopt the maps for flood insurance purposes. However, the LES would still be needed to mitigate and protect future losses. She indicated that the easiest way to explain the LES was from a geographical perspective. East of NC 12 and SR 1243 would be treated the same as the current V zone is treated. This area includes the Shaded X, X, AO, and V zone properties and would have an elevation requirement of 12'. West of NC 12 and SR 1243 would be required to meet a 10' elevation requirement. This area includes Shaded X, X, and AE flood zones. Ms. White said that in all cases the LES would be higher than the preliminary mapped flood zone. She concluded explanation of the LES by saying that the LES is consistent with the regulatory flood protection elevation (RFPE) of the currently effective flood maps.

A board member referenced the graphic in the presentation and asked where the freeboard was in the LES. White responded that the LES had been developed, to this point, without a freeboard but this may need to be amended to achieve more CRS (Community Rating System) points. Staff is still exploring how we will best be rated for purposes of CRS and whether the term freeboard is needed for CRS rating. Due the conditions present in Nags Head and past flooding, the easiest way to convey the local elevation standard to the public as been the geographic reference to east and west of 12 and 1243. She pointed out that in the referenced graphic, the freeboard is between the base flood elevation and the regulator flood protection elevation.

Ms. White referenced the map in the presentation and noted that the map depicts current X zone structures in relationship to existing elevation contours in the Town. She said that most existing X zone properties are located above 10' elevation contour. Ms. White added that there has been an increase in the number of repetitive loss properties in between the highways and in west side neighborhoods. She explained that this is notable because historically repetitive loss properties have primarily been on the oceanfront or sound front. To be considered repetitive loss, the structure must have obtained 2 or more losses in a 10-year period.

Ms. White outlined the major components of the local elevation standard, as proposed in the draft ordinance. She noted that this included:

- LES: 12' East of 12/1243 and 10' west of 12/1243
- East of 12/1243: Treat as V Zone with V zone requirements; no enclosures
- West of 12/1243: Limit enclosures 300 sq. ft. or less
- Existing structures: Areas cannot be converted for temperature-controlled space unless meets RFPE
- Section 11.44.2.7.9., Standards in Shaded X and X:
    - Substantial improvement/damage definitions do not apply
    - Lateral additions- allowed up to 10%; if greater than 10% total floor area on the level of addition- must meet RFPE
    - Remodeling/renovations existing habitable area- allowed as long as footprint does not increase.

Ms. White then outlined the major options as noted in the draft ordinance. These included:

- 11.43.5.1. Elevation Certificates
    - Can require 3 certificates- recommend 2 (after first floor and prior to CO)
- 11.43.5.6. Finished construction V zone certification
    - Require V zone certification at permitting
- 11.44.2.4. Elevated Buildings
    - Non-conversion agreement recorded with Register of Deeds for enclosed areas
- 11.44.2.7.5. Substantial Improvement/Damage
    - Utilize 365 day period
    - Repetitive Loss language optional

Board of Commissioner Webb Fuller asked what a non-conversion agreement is? Ms. White and Mr. Cory Tate, Building Inspector, responded that this is simply an agreement, signed and recorded by homeowner, that prevents areas below regulatory flood protection elevation from being covered to habitable area.

Mayor Ben Cahoon asked if the Town was creating our own certification forms or using FEMA's form. Ms. White responded that we would rely on FEMA's elevation certificate form. Mr. Tate noted that staff had discussed the possibility of creating a town specific V Zone Certification form that would include certification language unique to coastal areas for pools and fill.

Ms. White proceeded with the presentation and explained that needed modifications to the UDO and references to height. She explained that the way height is measured is not changing. Allowances are being made to not penalize the height of structures that are required to meet the LES in Shaded X and X.

Ms. White then reviewed the provisions for fill in the draft ordinance. She noted that the regulations for fill in the flood ordinance are limited to V Zones and areas east of 12 and 1243. The stormwater ordinance would need to be updated for consistency as it also addresses fill separately. Ms. White pointed out that the ordinances states:

- No alteration of sand dunes that increase potential flood damage
- Fill is limited to 2' or less
- If 2' or greater, an analysis prepared by a design professional demonstrating no diversion of floodwaters
- Minor grading and minor quantities of nonstructural fill allowed (landscaping, drainage, parking slabs, pool decks, patios, etc.)

Board members had questions about how fill was regulated. There was general discussion about the where, how much fill, and in what cases if less than 2' of fill was proposed. Ms. White and Mr. Zehner explained that fill less than 2' would only be allowed for landscaping, drainage, parking, pool decks, and patios. No structural fill is allowed in V flood zones. If fill was greater than 2', an analysis would be needed by an engineer. The boards further discussed how fill is relative to height and where height is measured from when fill is included. Staff explained that height is measured from a post fill elevation.

Ms. White concluded the presentation by reviewing the matrix that outlines what all communities are doing for the LES. How Nags Head is implementing the LES, is consistent with other communities. The main difference is that Nags Head is utilizing the 12' LES east of NC 12 and SR 1243 and 10' west of NC 12 and SR 1243. White reintegrated that is the goal of staff to bring forward a clean draft to the Planning Board at the March Planning Board meeting.

Mayor Cahoon kicked off a discussion by the boards by circling back to discuss fill and height.

Planning Director Michael Zehner referenced back to the March 4th Staff Memo titled, "Updated Flood Maps, Flood Prevention Ordinance, and Related Regulations". On page 5 and 6 of the memo, Mr. Zehner referenced,

> ***" 8.6.4.1.1.*** In any Shaded X, X, or AE special flood hazard area flood zone, height will be measured from the regulatory flood protection elevation or finished grade, whichever is higher. In cases where there is a ground floor enclosure below the regulatory flood protection elevation, height shall be measured from finished grade."

Mr. Zehner indicated that how height is measured is not changing. The proposed language does not penalize property owners for meeting flood regulations. The modifications simply apply this allowance to be applied to Shaded X and X flood zone properties. The Town has previously not regulated Shaded X and X flood zones. Board members discussed concerns over how height is measured and the potential for incredibly tall buildings if height is measured from RFPE. There was also a great deal

of discussion about whether height was measured from the finished fill height or pre-fill and whether this was good or not. Mayor Cahoon indicated that there had been a separate discussion on fill that would be concluded soon. Mayor Cahoon further noted that the maps and ordinance would be adopted ahead of the fill ordinance. Staff and the board would need to remember when the fill ordinance is adopted that the flood ordinance and height measurements would need to be consistent between the ordinances.

Mr. Zehner reviewed the regulations for the height of structures in coastal high hazard areas:

> ***"8.6.4.1.2.*** *In coastal high hazard areas ~~or,~~ VE zones, AO, and Shaded X or X special flood hazard areas east of Hwy 12 and 1243, height shall be measured from regulatory flood protection elevation. In cases where the finished grade elevation is above the regulatory flood protection elevation, height shall be measured at approximately eighteen (18) inches above the highest, undisturbed, finished grade directly beneath the structure."*

He explained that you could not use fill to elevate the building pad because fill couldn't be used for structure support in V zones. Additionally, height would be measured from the 18" above highest, undisturbed finished grade or "free of obstruction". Board members discussed how height should be measured in VE zones: was this from natural grade, fill grade, or free of obstruction (i.e. 18 inches above the highest, undisturbed, finished grade). Staff clarified that this is 18 inches above highest, adjacent grade or free of obstruction. Mayor Cahoon gave an example of how height would be measured in a V zone.

Commissioner Fuller asked when the board would be able to discuss hard edged structures, rock, and stormwater. Planning Director Zehner indicated that BOC asked them to come back to PB and the discussion would start later in the meeting.

Mayor Cahoon recapped and asked that in regard to this ordinance the major changes were:

- 2 elevations standards- 12' east of NC 12/SR 1243 and 10' west of NC 12/SR 1243
- Resolving question about freeboard and whether that was needed as part of the definition for our LES
- Lateral additions- Allowance up to 10% at same level of non-conforming structures
- Height relative to flood standards

Assistant Town Manager, Andy Garman noted that the modification of the substantial damage and improvement language was also a significant change. Currently, a property is either in or out flood zone. If a property is in a flood zone, they have to comply with the 50% language or the substantial improvement/damage definitions. Mr. Garman explained that with the adoption of the LES, if a property were in an x flood zone then

the substantial improvement rule does not apply. He noted that was a big difference than in the past. Mayor Ben Cahoon said this would help some of those structures that have not been able to make those improvements in the past and staff concurred.

Staff brought up the online preliminary maps and staff and the board examined the differences between the currently adopted and the preliminary maps. The boards looked at specific examples of commercial structures that may be positively impacted by changes to the substantial improvement language.

The boards broadly discussed how the preliminary maps were developed and why the changes were so significant in the preliminary maps. The question was raised whether the Town has to adopt the maps. Mr. Zehner responded that we are required to adopt the maps, ordinance, and study if the Town wishes to remain a participant in the National Flood Insurance Program (NFIP). At a minimum, the Town must adopt the model ordinance. Mr. Zehner suggested that the Town continue forward on the current path of adoption and if after adoption, modifications were needed, to act at that time. He noted that the regulations proposed keep development consient with the standards for development today.

The boards were concerned about the message that adopting maps would send to homeowners- that flood insurance is not needed because the FEMA maps remove you from the flood zone. The board was concerned that property owners understand they still needed to keep their flood insurance and that there could be long term implications and increases to their flood insurance if there was a lapse in coverage. A suggestion was made that the Town adopt the maps and model ordinance and take their time in reviewing the ordinance. Staff responded that this would create a “gap” in development where people could construct in a way that would put them at risk for flooding.

There was a question on the mapping of the flood zones and whether the Town would have two maps. This potentially could be confusing to property owners and developers. Mr. Zehner responded that we would only utilize the FEMA maps. He further explained that property owners would not be able to just look at the FEMA map and use it regulatory purposes for any community in Dare County. That is why the LES has been developed and the Town has recommended an LES east and west of 12

Mayor Cahoon suggested that we develop an elevation requirement map reflecting the LES. Ms. Molly Harrison, Planning Board member, asked why areas of the soundside and causeway that are at high risk for flooding seem to be regulated at a lesser standard than the oceanfront. There was general discussion again about the accuracy of the maps, the process for developing the maps, and resulting need for the local elevation standard.

The boards generally discussed the language specific to substantial improvement/damage with Fin and Feather as an example and it was noted that how the substantial improvement and damage language is applied may be misunderstood.

There was a general concern that legacy structures not be penalized for non-conformities.

Staff requested that any points that the boards wanted to be carried forward to the Planning Board's next meeting in March be submitted to staff so that there is no delay.

Commissioner Renee Cahoon asked specifically about Section 11.43.7.7 and noted concern about the message this conveys and if this encourages people to enclose. Staff felt that with the other ordinance provisions, there would be regulation of enclosures.

Commissioner Fuller asked about Section 11.43.7.9.3. and whether this would mean you could not apply for a variance after the fact. Mr. Zehner noted that the intent of the language appears that it might preclude someone from doing that. However, staff will follow up with the state coordinator about this provision.

Staff requested that any specific comments or concerns be submitted to staff ahead of the Planning Board meeting. Mayor Cahoon requested that a memo summarizing the joint discussion be developed and provided to the Board of Commissioners at their next meeting.

The Board of Commissioners voted to recess to their afternoon meeting and the Planning Board took a brief recess at 10:15 and reconvened at 10:25 a.m.

Public Comment/Audience Response Following Joint Discussion

Porter Graham, Government Affairs Director for the Outer Banks Home Builders Association thanked the Boards for participating in the discussion of the proposed Flood Ordinance. The OBHBA is concerned about risk to homes that will be newly in the X zone. They want to ensure that property owners keep their flood insurance. Their principal concern is on the building standard element (LES) – 10 ft standard on X and shaded X offset primary vs. proposed 8 ft (Dare County - Donna Creef). Did planning staff Look a future sea level rise in addition to historical data? Lateral additions requirements – Duck is the only other municipality to not allow lateral additions at the same level. Mr. Porter thanked Mr. Zehner for communicating with the Association.

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE TOWN OF NAGS HEAD, NORTH CAROLINA PERTAINING TO FLOOD DAMAGE PREVENTION

ARTICLE I. Purpose(s) and Authority.

WHEREAS, The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143, Parts 3, 5 and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes (NCGS), delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry; and

WHEREAS, The flood prone areas of the Town are subject to periodic inundation which results in loss of life, 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; and

WHEREAS, The Town of Nags Head desires to protect human life, safety and health; minimize expenditure of public money for costly flood control projects; minimize the need for rescue and relief efforts associated with flooding; minimize prolonged business losses and interruptions; minimize damage to public facilities and utilities; minimize damage to private and public property due to flooding; maintain the natural and beneficial functions of floodplains; and mitigate flood risks in Nags Head by implementing local elevation standards for all Special Flood Hazards Areas and Shaded X and X flood zones.

WHEREAS, The Town of Nags Head 2017 Comprehensive Plan includes goals and policies that support the Town's continued participation in the National Flood Insurance Program (NFIP) and ensure the Town is a disaster resilient community that can survive, recover from, and thrive after a natural or man-made disaster; and

WHEREAS, the Board of Commissioners finds that these text amendments are consistent with the goals, objectives and policies of the Town's adopted Comprehensive Plan, and that this action is reasonable and in the public interest, and is in the interest of and not contrary to the public's health, safety, morals and general welfare for the Town to amend the Towns Unified Development Ordinance as stated below.

ARTICLE II. Amendment of the Unified Development Ordinance.

NOW, THEREFORE, BE IT ORDAINED by the Board of Commissioners of the Town of Nags Head, North Carolina, that the Unified Development Ordinance of the Town Code shall be amended as follows:

PART I. That **Article 11, Environmental Regulations**, **Part III. Flood Damage Prevention** shall be deleted in its entirety and replaced with the following:

PART III. FLOOD DAMAGE PREVENTION

SECTION 11.41 STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES.

11.41.1. Statutory Authorization.
The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143, Parts 3, 5 and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes (NCGS), delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety and general welfare of its citizenry. Therefore, the Board of Commissioners does ordain as follows in this Article 11, Part III.

11.41.2. Findings of Fact.

> ***11.41.2.1.*** The flood prone areas of the Town are subject to periodic inundation which results in loss of life, 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.
>
> ***11.41.2.2.*** These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

11.41.3. Statement of Purpose.
It is the purpose of this Article 11, Part III to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by provisions designed to:

> ***11.41.3.1.*** Restrict or prohibit uses which are 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;
>
> ***11.41.3.2.*** Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
>
> ***11.41.3.3.*** Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
>
> ***11.41.3.4.*** Control filling, grading, dredging and other development which may increase erosion or flood damage; and
>
> ***11.41.3.5.*** Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters, or which may increase flood hazards to other lands.

11.41.4. Objectives.
The objectives of this article are to:

> ***11.41.4.1.*** Protect human life, safety and health;

11.41.4.2. Minimize expenditure of public money for costly flood control projects;

11.41.4.3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

11.41.4.4. Minimize prolonged business losses and interruptions;

11.41.4.5. Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone, cable and sewer lines, streets and bridges, located in flood prone areas;

11.41.4.6. Minimize damage to private and public property due to flooding;

11.41.4.7. Make flood insurance available to the community through the National Flood Insurance Program (NFIP);

11.41.4.8. Maintain the natural and beneficial functions of floodplains;

11.41.4.9. Help maintain a stable tax base by providing for the sound use and development of flood-prone areas; and

11.41.4.10. To ensure that potential homebuyers are notified that property is in a Special Flood Hazard Area (SFHA) or other areas prone to flooding.

11.41.4.11. Mitigate flood risks in Nags Head by implementing local elevation standards for all Special Flood Hazards Areas and Shaded X and X flood zones.

SECTION 11.42 GENERAL PROVISIONS.

11.42.1. Lands to Which this Article 11, Part III Applies.

This Article 11, Part III shall apply to all areas within the jurisdiction of the Town, including Extra-Territorial Jurisdictions (ETJs) as allowed by law.

11.42.2. Basis for Establishing the Special Flood Hazard Areas.

The special flood hazard areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Insurance Study (FIS) dated June 19, 2020 for Town of Nags Head, Dare County and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance, and all revisions thereto after January 1, 2021. Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of the Town of Nags Head are also adopted by reference and declared a part of this ordinance. Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within 3 months.

11.42.3. Establishment of a Local Elevation Standard (LES)

The Local Elevation Standard means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) to mitigate flood hazards in the Shaded X, X, AE, AO, VE, as depicted on the FIRMs for Nags Head. These areas may be vulnerable to flooding from storm surge, wind-driven tides, and excessive rainfall. Many of these areas have repetitively flooded and continue to remain at risk to flooding. Therefore, an elevation standard and other floodplain development standards are needed to meet the objectives of this Section as identified in 11.41.4.

11.42.3.1. In Nags Head the RFPE is as defined as:

11.42.3.1.1. Coastal High Hazard Areas (CHHA)- Properties located to the east of NC 12 and SR 1243 are located in an active oceanfront environment that is vulnerable to storm surge, erosion, sea level rise, and other hazards. These areas have special flood hazards associated with high velocity waters from storm surges or seismic activity and, therefore, the RFPE is 12 feet NAVD 1988.

11.42.3.1.2. Properties west of NC 12 and SR 1243- The RFPE for properties located west of NC 12 and SR 1243 and in flood zones Shaded X, X, or AE, is 10 feet NAVD 1988. This includes properties abutting US 64, also known as the Causeway.

11.42.4. Establishment of Floodplain Development Permit.
A floodplain development permit shall be required in conformance with the provisions of this Part prior to the commencement of any development activities within the AE, AO, VE, Shaded X or X zone.

11.42.5. Compliance.
No structure or land shall hereafter be located, extended, converted, altered or developed in any way without full compliance with the terms of this Part and other applicable regulations.

11.42.6. Abrogation and Greater Restrictions.
This Part is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this Part and another provision conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

11.42.7. Interpretation.
In the interpretation and application of this Part, all provisions shall be considered as minimum requirements; liberally construed in favor of the Board of Commissioners; and deemed neither to limit nor repeal any other powers granted under state statutes.

11.42.8. Warning and Disclaimer of Liability.
The degree of flood protection required by this Part is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur; actual flood heights may be increased by manmade or natural causes. This Part does not imply that land outside the special flood hazard areas or uses permitted within such areas will be free from flooding or flood

damages. This Part shall not create liability on the part of the Town or by an officer or employee thereof for any flood damages that result from reliance on this Part or any administrative decision lawfully made thereunder.

11.42.9. Penalties for Violations.
Violation of the provisions of this Part or failure to comply with of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a Class 1 misdemeanor pursuant to NC G.S. § 143-215.58. Any person who violates this article or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than $500.00 or imprisoned for not more than 30 days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the Town from taking such other lawful action as it necessary to prevent or remedy any violation. Other lawful actions may include, but shall not be limited to, those provisions in Section 1.10, Violation of UDO Regulations.

SECTION 11.43 ADMINISTRATION.

11.43.1. Designation of Floodplain Administrator.
The Chief Building Inspector or his designee, hereinafter referred to as the "Floodplain Administrator", is hereby appointed to administer and implement the provisions of this Part. In instances where the Floodplain Administrator receives assistance from others to complete tasks to administer and implement this ordinance, the Floodplain Administrator shall be responsible for the coordination and community's overall compliance with the National Flood Insurance Program and the provisions of this ordinance.

11.43.2. Duties and Responsibilities of the Floodplain Administrator.
Duties of the floodplain administrator shall include, but not be limited to:

> ***11.43.2.1.*** Review all floodplain development applications and issue permits for all proposed development Shaded X, X, AE, AO, and VE flood zones to assure that all requirements of this Part have been satisfied.
>
> ***11.43.2.2.*** Review all proposed development to assure that all necessary local, state and federal permits have been received, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
>
> ***11.43.2.3.*** Notifying adjacent communities and the North Carolina Department of Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alterations or relocation of a watercourse and submitting evidence of such notification to FEMA.
>
> ***11.43.2.4.*** Assuring that maintenance is provided within the altered or relocated portion of such watercourse so that the flood-carrying capacity is maintained.

11.43.2.5. Obtaining the actual elevation (in relation to NAVD 1988) of the reference level (including the basement) and all attendant utilities of all new or substantially improved structures in accordance with subsection 11.43.5.1 of this section.

11.43.2.6. Obtaining the actual elevation (in relation to NAVD 1988) to which all new or substantially improved structures and utilities have been floodproofed in accordance with subsection 11.43.5.1 of this section.

11.43.2.7. Obtain actual elevation (in relation to NAVD 1988) of all public utilities in accordance with subsection 11.43.5.1 of this section.

11.43.2.8. When floodproofing is utilized for a particular structure, the floodplain administrator shall obtain certifications from a registered professional engineer or architect in accordance with subsection 11.43.5.2 of this section and subsection 11.44.2.2.

11.43.2.9. Where interpretation is needed as to the exact location of the boundaries of the special flood hazard areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) or Shaded X or X flood zones, the floodplain administrator shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this Part.

11.43.2.10. When the lowest floor and the lowest adjacent grade of a structure or the lowest ground elevation of a parcel or structure in a special flood hazard area is above the base flood elevation, advise the property owner of the option to apply for a letter of map amendment (LOMA) from FEMA. However, if the property is to be removed from the V Zone it must not be located seaward of the landward toe of the primary frontal dune. Maintain a copy of the letter of map amendment (LOMA) issued by FEMA in the floodplain development permit file.

11.43.2.11. Making on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the floodplain administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of this article and terms of the permit. In exercising this power, the floodplain administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the Town at any reasonable hour for the purposes of inspection or other enforcement action.

11.43.2.12. Issue stop work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this Part, the floodplain administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work to be stopped, the specific reasons(s) for the stoppage, and the conditions(s) under

which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

11.43.2.13. Revoke floodplain development permits as required. The floodplain administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of state or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of any applicable state or local law may be revoked.

11.43.2.14. Permanently maintain all records pertaining to the administration of this Part and making these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.

11.43.2.15. Providing the North Carolina Department of Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program with two copies of the maps delineating new corporate limits within six months from date of annexation or change in corporate boundaries.

11.43.2.16. Make periodic inspections throughout the jurisdiction of the Town. The floodplain administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.

11.43.2.17. Follow through with corrective procedures of subsection 11.43.6.

11.43.2.18. Review, provide input, and make recommendations for variance requests.

11.43.2.19. Maintain a current map repository to include, but not limited to, historical and effective FIS report, historical and effective FIRM and other official flood maps and studies adopted in accordance with subsection 11.42.2 of this Part, including any revisions thereto including letters of map change, issued by FEMA. Notify state and FEMA of mapping needs.

11.43.2.20. Coordinate revisions to FIS reports and FIRMS, including letters of map revision based on fill (LOMR-F) and letters of map revision (LOMR).

11.43.3. Floodplain Development Application Requirements.
Application for a floodplain development permit shall be made to the floodplain administrator on forms prior to any development activities. The following items shall

be presented to the floodplain administrator to apply for a floodplain development permit:

11.43.3.1. Two copies of a plot plan drawn to scale, along with an electronic version, which shall include, but shall not be limited to, the following specific details of the proposed floodplain development; at the discretion of the floodplain administrator, such plot plans shall be certified by a North Carolina registered land surveyor or professional engineer:

11.43.3.1.1. The nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility systems, grading/pavement areas, location of fill materials, storage areas, drainage facilities, and other development;

11.43.3.1.2. The boundary of any special flood hazard area or any Shaded X or X Zone as delineated on the FIRM or other flood map as determined in subsection 11.42.2 or a statement that the entire lot is within the special flood hazard area;

11.43.3.1.3. Flood zone(s), including any Shaded X or X zone, designation of the proposed development area as determined on the FIRM or other flood map as determined in subsection 11.42.2;

11.43.3.1.4. The base flood elevation (BFE) and/or the Regulatory Flood Protection Elevation (RFPE) where provided as set forth in subsection 11.42.2;

11.43.3.1.5. The old and new location of any watercourse that will be altered or relocated as a result of proposed development; and

11.43.3.1.6. The boundary and designation date of the CBRS area or OPA, if applicable.

11.43.3.2. Proposed elevation, and method thereof, of all development including but not limited to:

11.43.3.2.1. The elevation in relation to NAVD 1988 of the proposed reference level (including the basement) of all new and substantial improvements; and

11.43.3.2.2. Elevation in relation to NAVD 1988 to which any non-residential structure in zone AE, AO, Shaded X, or X Zone will be floodproofed; and

11.43.3.2.3. Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or floodproofed.

11.43.3.3. If floodproofing, a floodproofing certificate (FEMA Form 086-0-34) with supporting data, an operational plan, and an inspection and maintenance

plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures.

11.43.3.4. A foundation plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this Part are met. These details include but are not limited to:

> ***11.43.3.4.1.*** The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation, open foundation on columns/posts/piers/piles/shear walls).
>
> ***11.43.3.4.2.*** Openings to facilitate equalization of hydrostatic flood forces on walls in accordance with subsection 11.44.2.4 when solid foundation perimeter walls are used in zones AE or Shaded X or X Zone.
>
> ***11.43.3.4.3.*** The following, in coastal high hazard areas, in accordance with subsection 11.44.2.4.4 and subsection 11.44.3:
>
> > ***11.43.3.4.3.1.*** V-Zone certification with accompanying plans and specifications verifying the engineered structure and any breakaway wall designs (breakaway wall designs are only for accessory structures). In addition, prior to the Certificate of Compliance/Occupancy issuance, the floodplain administrator may require a registered professional engineer or architect to certify that the finished construction is compliant with the design, specifications and plans for VE Zone construction if determined necessary.
> >
> > ***11.43.3.4.3.2.*** Plans for open wood lattice or insect screening, if applicable.
> >
> > ***11.43.3.4.3.3.*** Plans for non-structural fill, if applicable. If non-structural fill is proposed, it must demonstrate through coastal engineering analysis that the proposed fill would not result in any increase in the base flood elevation or otherwise cause adverse impacts by wave ramping and deflection onto the subject structure or adjacent properties.

11.43.3.5. Usage details of any enclosed areas below the regulatory flood protection elevation.

11.43.3.6. Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage.

11.43.3.7. Certification that all other local, state and federal permits required prior to floodplain development permit issuance (wetlands, endangered

species, erosion and sedimentation control, Coastal Area Management Act (CAMA), riparian buffers, mining, etc.) have been received.

11.43.3.8. Documentation for placement of recreational vehicles and/or temporary structures, when applicable, to ensure subsections 11.44.2.3 and 11.44.2.5 of this Part are met.

11.43.3.9. A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects on properties located both upstream and downstream; and a map (if not shown on the plot plan) showing the location of the proposed watercourse alteration and relocation.

11.43.3.10. In Shaded X and X zones, a survey prepared by a licensed North Carolina surveyor may be used to demonstrate the natural grades of the parcel relative to the RFPE.

11.43.4. Floodplain Development Permit Requirements.
The Floodplain Development Permit shall include, but not be limited to:

11.43.4.1. A complete description of all the development to be permitted under the floodplain development permit. (e.g. house, garage, pool, septic, bulkhead, cabana, pier, bridge, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.).

11.43.4.2. The flood zone determination for the proposed development per available data specified in subsection 11.42.2.

11.43.4.3. The regulatory flood protection elevation required for the reference level and all attendant utilities.

11.43.4.4. The regulatory flood protection elevation required for the protection of all public utilities.

11.43.4.5. All certification submittal requirements with timelines.

11.43.4.6. The flood openings requirements, if in zones AE, Shaded X, or X Zone.

11.43.4.7. Limitations of use of the enclosures below the lowest floor, not to exceed 300 square feet in area, (i.e. parking, building access and limited storage only).

11.43.4.8. A statement, if in zone VE, that there shall be no alteration of sand dunes which would increase potential flood damage.

11.43.4.9. A statement, if in zone VE, that there shall be no fill used for structural support.

11.43.4.10 A statement, that all materials below BFE/RFPE must be flood resistant materials.

11.43.5. Floodplain Development Certification Requirements.

11.43.5.1. Elevation Certificates for AE, AO, VE, Shaded X, and X Zones.

11.43.5.1.1. An elevation certificate (FEMA Form 086-0-33) may be required prior to the actual start of any new construction if determined necessary by the floodplain administrator. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of elevation of the reference level, in relation to NAVD 1988. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.

11.43.5.1.2. An elevation certificate (FEMA 086-0-33) is required after the reference level is established. Within 21 calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the floodplain administrator a certification of the elevation of the reference level, in relation to NAVD 1988. Any work done within the 21 calendar-day-period and prior to submission of the certification shall be at the permit holder's risk. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to submit the certification or failure to make the required corrections shall be cause to issue a stop-work order for the project.

11.43.5.1.3. A final Finished Construction elevation certificate (FEMA 086-0-33) is required after construction is completed and prior to certificate of compliance/occupancy issuance. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The floodplain administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to certificate of compliance/occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance to a certificate of compliance/occupancy. The Finished Construction Elevation Certificate certifier shall provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs must be taken with views confirming the building description and diagram number provided in Section A. To the

extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" × 3". Digital photographs are acceptable.

11.43.5.1.4. For Shaded X and X flood zones east of NC 12 and SR 1243, the submission of the under construction elevation certificate may be waived if a survey of the parcel was used to certify the natural grade of the parcel was to or above 12 feet at the time of permit application. For Shaded X and X flood zones west of NC 12 and SR 1243, the submission of the under construction elevation certificate may be waived if a survey of the parcel was used to certify the natural grade of the parcel was to or above 10 feet at the time of permit application. In all cases, a finished construction elevation certificate is required at the completion of the project.

11.43.5.2. Floodproofing Certificate. If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a floodproofing certificate (FEMA 086-0-33), with supporting data, an operational plan, and an inspection and maintenance plan is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the floodplain administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities in relation to NAVD 1988. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The floodplain administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a certificate of compliance/occupancy.

11.43.5.3. A final Finished Construction Floodproofing Certificate (FEMA Form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988. Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in

accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy.

11.43.5.4. If a watercourse is to be altered or relocated, a description of the extent of the watercourse alteration or relocation, a professional engineer's certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall be submitted by the permit applicant prior to issuance of a floodplain development permit.

11.43.5.5. Certification Exemptions. The following structures, if located within zones AE, AO, and Shaded X or X, are exempt from the elevation/floodproofing certification requirements specified in subsections 11.43.5.1.1 and 11.43.5.1.2 above:

> ***11.43.5.5.1.*** Recreational vehicles meeting requirements of subsection 11.44.2.3;
>
> ***11.43.5.5.2.*** Temporary structures meeting requirements of subsection 11.44.2.5; and
>
> ***11.43.5.5.3.*** Accessory structures less than 150 square feet meeting or Insert Cost of Structure ($5,000 recommended) or less and meeting requirements of requirements of subsection 11.44.2.6.

11.43.5.6. A V-Zone certification with accompanying design plans and specifications is required prior to issuance of a floodplain development permit within coastal high hazard areas. It shall be the duty of the permit applicant to submit to the floodplain administrator said certification to ensure the design standards of this Part are met. A registered professional engineer or architect shall develop or review the structural design, plans and specifications for construction and certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of this Part. This certification is not a substitute for an elevation certificate. In addition, prior to the Certificate of Compliance/Occupancy issuance, the floodplain administrator may require a registered professional engineer or architect to shall certify that the finished construction is compliant with the design, specifications and plans for VE Zone construction if determined necessary.

11.43.5.7. Determinations for existing buildings and structures. For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator, in coordination with the Building Official, shall:

11.43.5.7.1. Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made;

11.43.5.7.2. Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure;

11.43.5.7.3 Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and

11.43.5.7.4. Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this ordinance is required.

11.43.6. Corrective Procedures.

11.43.6.1. Violations to be corrected. When the floodplain administrator finds violations of applicable state and local laws, it shall be his duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.

11.43.6.2. Actions in event of failure to take corrective action. If the owner of a building or property shall fail to take prompt corrective action, the floodplain administrator shall give the owner written notice, by certified or registered mail, to his last known address or by personal service that:

11.43.6.2.1. The building or property is in violation of the flood damage prevention regulations;

11.43.6.2.2. A hearing will be held before the floodplain administrator at a designated place and time, not later than ten (10) working days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and

11.43.6.2.3. Following the hearing, the floodplain administrator may issue such order to alter, vacate or demolish the building; or to remove fill as appears appropriate.

11.43.6.3. Order to take corrective action. If, upon a hearing held pursuant to the notice prescribed above, the floodplain administrator shall find that the

building or development is in violation of this Part, he or she shall issue an order in writing to the owner, requiring the owner to remedy the violation within such period not less than sixty (60) days, nor more than one hundred and eighty (180) calendar days, as the floodplain administrator may prescribe; provided, however, that where the floodplain administrator finds that there is imminent danger to life or other property, he or she may issue an order that corrective action be taken in such lesser period as may be feasible.

11.43.6.4. Appeal. Any owner who has received an order to take corrective action may appeal the order to the board of adjustment by giving notice of appeal in writing to the floodplain administrator and the Town Clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the floodplain administrator shall be final. The Board of Adjustment shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

11.43.6.5. Failure to comply with order. If the owner of a building or property fails to comply with an order to take corrective action from which no appeal has been taken, or fails to comply with an order of the board of adjustment following an appeal, the owner shall be guilty of a misdemeanor and shall be punished in the discretion of the court.

11.43.7. Variance Procedures.

Variance procedures shall be applied in AE, AO, VE, and Shaded X and X flood zones in accordance with Section 3.10, Variances of this UDO and the following additional provisions:

11.43.7.1. The Board of Adjustment, as established by the Town, shall hear and decide requests for variances from the requirements of this Part.

11.43.7.2. Any person aggrieved by the decision of the Board of Adjustment may appeal such decision to superior court, as provided in NCGS Chapter 7A.

11.43.7.3. Variances may be issued for:

11.43.7.3.1. The repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

11.43.7.3.2. Functionally dependent facilities if determined to meet the definition as stated in Appendix A, provided provisions of subsections 11.43.7.10.2 and 11.43.7.10.3 have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety; or

11.43.7.3.3. Any other type of development provided it meets the requirements stated in this section.

11.43.7.4. In passing upon variances, the Board of Adjustment shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this Part and the:

11.43.7.4.1. Danger that materials may be swept onto other lands to the injury of others;

11.43.7.4.2. Danger to life and property due to flooding or erosion damage;

11.43.7.4.3. Susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

11.43.7.4.4. Importance of the services provided by the proposed facility to the community;

11.43.7.4.5. Necessity to the facility of a waterfront location as defined under Appendix A as a functionally dependent facility, where applicable;

11.43.7.4.6. Availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

11.43.7.4.7. Compatibility of the proposed use with existing and anticipated development;

11.43.7.4.8. Relationship of the proposed use to the Town's Comprehensive Plan and floodplain management program for that area;

11.43.7.4.9. Safety of access to the property in times of flood for ordinary and emergency vehicles;

11.43.7.4.10. Expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

11.43.7.4.11. Costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

11.43.7.5. A written report addressing each of the above factors shall be submitted with the application for a variance.

11.43.7.6. Upon consideration of the factors listed in subsection 11.43.7.4 of this Part and the purposes of this Part, the Board of Adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Part.

11.43.7.7. Any applicant to whom a variance is granted shall be given written notice specifying the difference between the RFPE and the elevation to which the structure is to built and that such construction below the RFPE increases risks to life and property, and that the issuance of a variance to construct a structure below the RFPE will result in increased premium rates for flood insurance up to $25.00 per $100.00 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their insurance.

11.43.7.8. The floodplain administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency and the State of North Carolina upon request.

11.43.7.9. Conditions for variances.

11.43.7.9.1. Variances shall not be issued when the variance will make the structure in violation of other federal, state or local laws, regulations or ordinances.

11.43.7.9.2. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

11.43.7.9.3. Variances shall only be issued prior to development permit approval.

11.43.7.9.4. Variances shall only be issued upon:

11.43.7.9.4.1. A showing of good and sufficient cause;

11.43.7.9.4.2. A determination that failure to grant the variance would result in exceptional hardship; and

11.43.7.9.4.3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances

11.43.7.10. A variance may be issued for solid waste disposal facilities or sites, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in special flood hazard areas provided that all of the following conditions are met:

11.43.7.10.1. The use serves a critical need in the community;

11.43.7.10.2. No feasible locations exist for the use outside the SFHA;

11.43.7.10.3. The reference level of any structure is elevated or floodproofed to at least the RFPE;

11.43.7.10.4. The use complies with all other applicable federal, state and local laws; and

11.43.7.10.5. The Town has notified the Secretary of the North Carolina Department of Public Safety of its intention to grant a variance at least 30 calendar days prior to granting the variance.

SECTION 11.44 PROVISIONS FOR FLOOD HAZARD REDUCTION.

11.44.1. General Standards.
The following provisions are required in Shaded X, X, AE, AO, and VE flood zones:

11.44.1.1. All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure.

11.44.1.2. All new construction or substantial improvements shall be constructed with materials and utility equipment resistant to flood damage in accordance with the FEMA Technical Bulletin 2, Flood Damage-Resistant Materials Requirements.

11.44.1.3. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages.

11.44.1.4. All new electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities shall be located at or above the RFPE or designed and/or installed so as to prevent water from entering or accumulating within the components during occurrence of base flood. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility, cable boxes, appliances (washers, dryers, refrigerators, freezers, freezers, etc.), hot water heaters, and electric outlets/switches.

11.44.1.4.1. Replacements that are part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.

11.44.1.4.2. Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements only comply with the

standards for new construction consistent with the code and requirements for the original structure.

11.44.1.5. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems.

11.44.1.6. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

11.44.1.7. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

11.44.1.8. Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

11.44.1.9. New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted except by variance as specified in subsection 11.43.7.10. A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in an SFHA only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to subsection 11.43.5 of this Part.

11.44.1.10. All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.

11.44.1.11. All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

11.44.1.12. All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.

11.44.1.13. All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendment of 1972, 33 U.S.C. 1334.

11.44.1.14. When a structure is partially located in a Special Flood Hazard Area or Shaded X or X flood zone, the entire structure shall meet the requirements for new construction and substantial improvements.

11.44.1.15. When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest RFPE shall apply.

11.44.2. Specific Standards.
In Shaded X, X, AE, AO, and VE flood zones as set forth in subsection 11.42.2 and 11.42.3, the following provisions, in addition to subsection 11.44.1 of this section are required:

11.44.2.1. Residential Construction. New construction or substantial improvement of any residential structure shall have the reference level, including the basement, elevated no lower than the regulatory flood protection elevation, as defined in Appendix A.

11.44.2.2. Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Appendix A. Structures located in AE, AO, Shaded X, and X zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the regulatory flood protection elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance Section 11.44.3. and 11.44.5. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the floodplain administrator as set forth in subsection 11.43.5, along with the operational and the inspection and maintenance plan.

11.44.2.3. Recreational Vehicles. Recreational vehicles placed on sites shall either:

11.44.2.3.1. Be on-site for fewer than 180 days; or

11.44.2.3.2. **Be** fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities, and has no permanently attached additions); or

11.44.2.3.3. Meet all the requirements for new construction, including anchoring and elevation requirements of subsection 11.42.3 and subsections 11.44.1 of this section.

11.44.2.4. Elevated Buildings. Fully enclosed areas of new construction and substantially improved structures, which are below the regulatory flood protection elevation in AE, AO, Shaded X, or X Zones:

11.44.2.4.1. Shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

11.44.2.4.2. Shall not be temperature-controlled or conditioned Non-temperature controlled dehumidifiers may be used in enclosed areas and shall not result in the enclosed area being determined to be conditioned space;

11.44.2.4.3. Shall be constructed entirely of flood-resistant materials, up to the regulatory flood protection elevation;

11.44.2.4.4. Shall not, in areas governed by the local elevation standard, exceed 300 "square feet in area" below the reference level with the exception of crawl space construction, and shall also include flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. For the purposes of this requirement, enclosures shall be measured to the outside of the wall framing (to calculate floor area) excluding the thickness of sheathing, siding, or trim applied to the outside of the framing. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:

> ***11.44.2.4.4.1.*** A minimum of two flood openings on different sides of each enclosed area subject to flooding;
>
> ***11.44.2.4.4.2.*** The total net area of all flood openings must be at least one square inch for each square foot of enclosed area subject to flooding or a minimum of one engineered square inch for each square foot of enclosed area for an engineered opening;
>
> ***11.44.2.4.4.3.*** If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
>
> ***11.44.2.4.4.4.*** The bottom of all required flood openings shall be no higher than one foot above the adjacent grade;

11.44.2.4.4.5. Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

11.44.2.4.4.6. Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

11.44.2.4.5. Shall allow, in coastal high hazard areas (zones VE), open wood latticework or insect screening, provided it is not part of the structural support of the building and is designed so as to breakaway, under abnormally high tides or wave action, without causing damage to the structural integrity of the building.

11.44.2.4.6. Property owners shall be required to execute and record a non-conversion agreement prior to issuance of a building permit declaring that the area below the lowest floor shall not be improved, finished or otherwise converted to habitable space; The Town of Nags Head will have the right to inspect the enclosed area .This agreement shall be recorded with the Dare County Register of Deeds and shall transfer with the property in perpetuity.

11.44.2.4.7*.* Release of restrictive covenant. If a property which is bound by a non-conversion agreement is modified to remove enclosed areas below BFE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation.

11.44.2.5. Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit, for a temporary structure, all applicants must submit to the floodplain administrator a plan for the removal of such structures in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the floodplain administrator for review and written approval:

11.44.2.5.1. A specified time period for which the temporary use will be permitted. The time specified should not exceed three months, renewable up to one year;

11.44.2.5.2. The name, address and phone number of the individual responsible for the removal of the temporary structure;

11.44.2.5.3. The time frame prior to the event at which a structure will be removed (i.e.: minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);

11.44.2.5.4. A copy of the contract or other suitable instrument with a trucking company to ensure the availability of removal equipment when needed; and

11.44.2.5.5. Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area to which the temporary structure will be moved.

11.44.2.6. Accessory Structure. Accessory structures (sheds, detached garages, etc.), shall meet the following criteria:

11.44.2.6.1. Accessory structures with floor area located below the regulatory flood protection elevation shall not be used for human habitation, (including working, sleeping, living, cooking or restroom areas).

11.44.2.6.2. Accessory structures shall not be temperature controlled.

11.44.2.6.3. Any portion of an accessory structure located below the regulatory flood protection elevation shall not exceed 300 "square feet in area."

11.44.2.6.4. Accessory structures shall be designed to have low flood damage potential.

11.44.2.6.5. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters.

11.44.2.6.6. Accessory structures shall be firmly anchored in accordance with subsection 11.44.1.1 of this section.

11.44.2.6.7. All service facilities such as electrical and heating equipment shall be installed in accordance with subsection 11.44.1.4 of this section.

11.44.2.6.8. Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below regulatory flood protection elevation in conformance with subsection 11.44.2.4.3 of this section.

11.44.2.6.9. An accessory structure with a footprint less than 150 square feet or that is a minimal investment of $5,000 or less and that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with subsection 11.43.5.

11.44.2.6.10. Other secondary structures located on the same parcel, in

addition to a principal use structure, which feature conditioned, temperature-controlled areas elevated above the regulatory flood protection elevation shall be constructed consistent with Section 11.44.1. General Standards and 11.44.2. Specific Standards. The certification requirements of 11.43.5.1. Elevation Certificates shall apply.

11.44.2.6.11. Accessory structures, regardless of the size or cost, shall not be placed below elevated buildings in Coastal High Hazard Areas (CHHA).

11.44.2.7. Additions/Improvements/Conversions.

11.44.2.7.1. Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

11.44.2.7.1.1. Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more nonconforming than the existing structure.

11.44.2.7.1.2. A substantial improvement, with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

11.44.2.7.2. Additions to pre-FIRM or post-FIRM structures with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.

11.44.2.7.3. Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

11.44.2.7.3.1. Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction consistent with the code and requirements for the original structure.

11.44.2.7.3.2. A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

11.44.2.7.4. Where an independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s)

shall be considered a separate building and only the addition must comply with the standards for new construction.

11.44.2.7.5. Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a 365 day period, the cumulative cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started must comply with the standards for new construction. For each building or structure, the 365 day period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this ordinance. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:

11.44.2.7.6. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assume safe living conditions.

11.44.2.7.7. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

11.44.2.7.8. Areas in existing structures shall not be converted for use as conditioned, temperature controlled space unless the reference level is located to or above the RFPE.

11.44.2.7.9. Additional Standards in Shaded X and X Flood Zones

11.44.2.7.9.1. The substantial improvement/substantial damage definitions as established in Appendix A, Definitions, do not apply to Shaded X and X zones.

11.44.2.7.9.2. In structures located west of NC 12 and SR 1243 where the reference level of existing conditioned, temperature controlled space is located below the RFPE, such space may be increased by 25% at the same level, without having to be elevated to or above the RFPE.

11.44.2.7.9.3. Remodeling or renovations of existing habitable area in structures with the reference level located below the current applicable RFPE that do not increase the footprint of the structure may be authorized at the existing reference level or higher.

11.44.2.7.9.4. Reconstruction of damaged portions of a structure may be authorized at the existing reference level or higher. However, if a structure is entirely demolished, for

whatever reason, the replacement structure shall be constructed to or above the RFPE.

11.44.2.7.9.5. Structures that are relocated on the same site or to another site shall be elevated to or above the applicable RFPE of the lot or to or above the RFPE of the new site.

11.44.2.7.9.6. Areas in existing structures shall not be converted for use as conditioned, temperature controlled space unless the reference level is located to or above the RFPE.

11.44.2.8. Tanks. When gas and liquid storage tanks are to be placed within the Shaded X, X, AE, AO, or VE flood zones, the following criteria shall be met:

11.44.2.8.1. **Underground tanks.** Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty;

11.44.2.8.2. **Above-ground tanks, elevated.** Above-ground tanks in flood hazard areas shall be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area;

11.44.2.8.3. **Above-ground tanks, not elevated.** Above-ground tanks that do not meet the elevation requirements of Section 11.44.2.2. of this ordinance shall not be permitted in V or VE Zones. Tanks may be permitted in other flood hazard areas provided the tanks are designed, constructed, installed, and anchored to resist all flood-related and other loads, including the effects of buoyancy, during conditions of the design flood and without release of contents in the floodwaters or infiltration by floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.

11.44.2.8.4. **Tank inlets and vents.** Tank inlets, fill openings, outlets and vents shall be:

11.44.2.8.4.1. At or above the Regulatory Flood Protection Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood; and

11.44.2.8.4.2. Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects

of buoyancy, during conditions of the design flood.

11.44.3. Coastal High Hazard Areas (Zones VE) and Properties East of NC 12 and SR 1243.

Coastal high hazard areas are special flood hazard areas established in subsection 11.42.2 and designated as zones VE.–Properties located to the east of NC 12 and SR 1243 are located in an active oceanfront environment that is vulnerable to storm surge, erosion, sea level rise, and other hazards. These areas have special flood hazards associated with high velocity waters from storm surges or seismic activity and, therefore, in addition to meeting all requirements of Part III Flood Damage Prevention, the following provisions shall apply:

11.44.3.1 All new construction and substantial improvements shall:

11.44.3.1.1. Be located landward of the reach of mean high tide;

11.44.3.1.2. Be located landward of the first line of stable natural vegetation; and

11.44.3.1.3. Comply with all applicable Coastal Area Management Act (CAMA) setback requirements.

11.44.3.2. All new construction and substantial improvements shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) is no lower than the regulatory flood protection elevation.

11.44.3.3. All new construction and substantial improvements, including properties with elevations above the regulatory flood protection elevation, shall have the space below the bottom of the lowest horizontal structural member of the lowest floor either be free of obstruction or constructed with open wood latticework or insect screening so as not to impede the flow of floodwaters, provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action without causing damage to the elevated portion of the building or supporting foundation system or otherwise jeopardizing the structural integrity of the building in accordance with subsection 11.43.3. The following design specifications shall be met:

11.44.3.3.1. Design plans shall be submitted in accordance with subsection 11.43.3.

11.44.3.3.2. Material shall consist of open wood or plastic lattice having at least 40 percent of its area open, or insect screening.

11.44.3.4. All new construction and substantial improvements shall be securely anchored to an open "pile or column foundation" to allow floodwaters and waves to pass beneath the structure. "All pilings and columns and the

structures attached thereto shall be anchored to resist flotation, collapse and lateral movement due to the effect of wind and water loads acting simultaneously on all building components."

11.44.3.4.1. Water loading values used shall be those associated with the base flood.

11.44.3.4.2. Wind loading values used shall be those required by the current edition of the North Carolina State Building Code.

11.44.3.5. All new construction, initiated after the adoption of this UDO, located east of NC 12 and SR 1243 shall limit the total enclosed habitable living space of individual structures to 5,000 square feet. Enclosed habitable living space for large residential dwellings shall also include any enclosed habitable space that may be present in any accessory structure or accessory dwelling that is located on the same lot as the principal structure.

11.44.3.6. For concrete pads, including patios, decks, parking pads, walkways, driveways, pool decks, etc. the following is required:

11.44.3.6.1. Shall be structurally independent of the primary structural foundation system of the structure and shall not adversely affect structures through redirection of floodwaters or debris; and

11.44.3.6.2. Shall be constructed to breakaway cleanly during design flood conditions, shall be frangible, and shall not produce debris capable of causing damage to any structure. (The installation of concrete in small segments (approximately 4 feet x 4 feet) that will easily break up during the base flood event, or score concrete in 4 feet x 4 feet maximum segments is acceptable to meet this standard); and

11.44.3.6.3. Reinforcing, including welded wire fabric, shall not be used in order to minimize the potential for concreted pads being a source of debris; and

11.44.3.6.4. Pad thickness shall not exceed 4 inches; or

11.44.3.6.5. Provide a Design Professional's certification stating the design and method of construction to be used meet the applicable criteria of this section.

11.44.3.7. For swimming pools and spas, the following is required:

11.44.3.7.1. Be designed to withstand all flood-related loads and load combinations.

11.44.3.7.2. Be elevated so that the lowest horizontal structural member is elevated above the RFPE; or

11.44.3.7.3. Be designed and constructed to break away during design flood conditions without producing debris capable of causing damage to any structure; or

11.44.3.7.4. Be sited to remain in the ground during design flood conditions without obstructing flow that results in damage to any structure.

11.44.3.7.5. Registered design professionals must certify to local officials that a pool or spa beneath or near a VE Zone building will not be subject to flotation or displacement that will damage building foundations or elevated portions of the building or any nearby buildings during a coastal flood.

11.44.3.7.6. Pool equipment shall be located above the RFPE whenever practicable. Pool equipment shall not be located beneath an elevated structure.

11.44.3.8. All elevators, vertical platform lifts, chair lifts, etc., the following is required:

11.44.3.8.1. Elevator enclosures must be designed to resist hydrodynamic and hydrostatic forces as well as erosion, scour, and waves.

11.44.3.8.2. Utility equipment in Coastal High Hazard Areas (VE Zones) must not be mounted on, pass through, or be located along breakaway walls.

11.44.3.8.3. The cab, machine/equipment room, hydraulic pump, hydraulic reservoir, counter weight and roller guides, hoist cable, limit switches, electric hoist motor, electrical junction box, circuit panel, and electrical control panel are all required to be above RFPE. When this equipment cannot be located above the RFPE, it must be constructed using flood damage-resistant components.

11.44.3.8.4. Elevator shafts/enclosures that extend below the RFPE shall be constructed of reinforced masonry block or reinforced concrete walls and located on the landward side of the building to provide increased protection from flood damage. Drainage must be provided for the elevator pit.

11.44.3.8.5. Flood damage-resistant materials can also be used inside and outside the elevator cab to reduce flood damage. Use only stainless steel doors and door frames below the BFE. Grouting in of door frames and sills is recommended.

11.44.3.8.6. If an elevator is designed to provide access to areas below the BFE, it shall be equipped with a float switch system that will

activate during a flood and send the elevator cab to a floor above the RFPE.

11.44.3.9. Accessory structures, regardless of size or cost, shall not be permitted below elevated structures.

11.44.3.10. A registered professional engineer, professional land surveyor, or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions contained in subsection 11.43.2, subsections 11.44.3.1 and 11.44.3.2, subsection 11.44.3.4 and subsection 11.44.3.6 of this Part on the current version of the North Carolina "National Flood Insurance Program V-Zone Certification" form or equivalent local version. In addition, prior to the Certificate of Compliance/Occupancy issuance, the floodplain administrator may require a registered professional engineer or architect to-certify the finished construction is compliant with the design, specifications and plans for VE Zone construction if determined necessary.

11.44.3.11. Fill/Grading

11.44.3.11.1. The placement of site-compatible, non-structural fill under or around an elevated building is limited to two (2) feet. Fill greater than two (2) feet must include an analysis prepared by a qualified registered design professional demonstrating no harmful diversion of floodwaters or wave runup and wave deflection that would increase damage to adjacent elevated buildings and structures. Excavated material moved or relocated onsite is considered fill.

11.44.3.11.2. The fill material must be similar and consistent with the natural soils in the area.

11.44.3.11.3. Minor grading and the placement of minor quantities of nonstructural fill, outside the areas referenced in 11.44.3.11.1., may be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.

11.44.3.11.4. Nonstructural fill with finished slopes that are steeper than five (5) units horizontal to one (1) unit vertical shall be permitted only if an analysis prepared by a qualified registered design professional demonstrates no harmful diversion of floodwaters or wave runup and wave deflection that would increase damage to adjacent elevated buildings and structures.

11.44.3.12. There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.

11.44.3.13*.* Recreational vehicles may be permitted in coastal high hazard areas provided that they meet the recreational vehicle criteria of subsection

11.44.2.3 of this section and the temporary structure provisions of subsection 11.44.2.5 of this section.

11.44.3.14. A deck that is structurally attached to a building or structure shall have the bottom of the lowest horizontal structural member at or above the Regulatory Flood Protection Elevation and any supporting members that extend below the Regulatory Flood Protection Elevation shall comply with the foundation requirements that apply to the building or structure, which shall be designed to accommodate any increased loads resulting from the attached deck. The increased loads must be considered in the design of the primary structure and included in the V-Zone Certification required under Section 11.43.5.6.

11.44.3.15. A deck or patio that is located below the Regulatory Flood Protection Elevation shall be structurally independent from buildings or structures and their foundation systems, and shall be designed and constructed either to remain intact and in place during design flood conditions or to break apart into small pieces to minimize debris during flooding that is capable of causing structural damage to the building or structure or to adjacent buildings and structures.

11.44.3.16. In coastal high hazard areas, development activities other than buildings and structures shall be permitted only if also authorized by the appropriate state or local authority; if located outside the footprint of, and not structurally attached to, buildings and structures; and if analyses prepared by qualified registered design professionals demonstrate no harmful diversion of floodwaters or wave runup and wave deflection that would increase damage to adjacent buildings and structures. Such other development activities include but are not limited to:

11.44.3.16.1. Bulkheads, seawalls, retaining walls, revetments, and similar erosion control structures;

11.44.3.16.2. Solid fences and privacy walls, and fences prone to trapping debris, unless designed and constructed to fail under flood conditions less than the design flood or otherwise function to avoid obstruction of floodwaters.

11.44.3.16.3. Docks, piers, and similar structures.

11.44.3.17. No more than four (4) electrical outlets and no more than four (4) electrical switches may be permitted below RFPE unless required by building code.

11.44.5. Standards for Areas Of Shallow Flooding (Zone AO). Located within the Special Flood Hazard Areas established in Article 3, Section B, are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and

indeterminate. In addition to Sections 11.44.1. and 11.44.2., all new construction and substantial improvements shall meet the requirements of Section 11.44.3. Coastal High Hazard Areas (Zones VE) and Properties East of NC 12 and SR 1243.

SECTION 11.45 REMEDIES.

Any violation of this Article 11, Part III shall be subject to the remedies as stated in Section 1.10, Violation of UDO Regulations of this UDO.

SECTION 11.46 LEGAL STATUS PROVISIONS.

11.46.1. Effect on Rights and Liabilities Under the Existing Flood Damage Prevention Ordinance.

This Article 11, Part III in part comes forward by re-enactment of some of the provisions of the flood damage prevention ordinance enacted February 3, 1975 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this Article 11, Part III shall not affect any action, suit or proceeding instituted or pending. All provisions of the flood damage prevention ordinance of the Town of Nags Head enacted on February 3, 1975, as amended, which are not reenacted herein are repealed.

11.46.2. Effect Upon Outstanding Floodplain Development Permits.
Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a floodplain development permit has been granted by the floodplain administrator or his or her authorized agents before the time of passage of this Article 11, Part III; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this Article 11, Part III.

11.46.3. Severability.
If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

SECTION 11.47 EFFECTIVE DATE.
This ordinance shall become effective June 19, 2020.

SECTION 11.48 ADOPTION CERTIFICATION.
I hereby certify that this is a true and correct copy of the Flood Damage Prevention Ordinance as adopted by the Board of Commissioners of the Town of Nags Head, North Carolina, on the Day (number or text) day of Month, 2020.

WITNESS my hand and the official seal of insert Name, Title, this the Day (number or text) day of Month, 2020.

_____
(signature)

SECTION 11.49 – 11.50 RESERVED.

PART II. That **Appendix A. Definitions** be amended with the addition of the following new terms and definitions in appropriate alphabetical order:

Breakaway wall means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system (for the purposes of Article 11, Part III, Flood Damage Prevention).

Enclosure/Enclosed Area means that portion of an elevated building below the lowest elevated floor that is either partially or fully shut in by rigid/solid walls and is located either partially or fully below the RFPE.

Local Elevation Standard means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) to mitigate flood hazards in the Shaded X, X, AE, AO, VE, as depicted on the FIRMs for Nags Head. These areas may be vulnerable to flooding from storm surge, wind-driven tides, and excessive rainfall. Many of these areas have repetitively flooded and continue to remain at risk to flooding.

Map Repository means the location of the official flood hazard data to be applied for floodplain management. It is a central location in which flood data is stored and managed; in North Carolina, FEMA has recognized that the application of digital flood hazard data products carries the same authority as hard copy products. Therefore, the NCEM's Floodplain Mapping Program websites house current and historical flood hazard data. For effective flood hazard data, the NC FRIS website (http://FRIS.NC.GOV/FRIS) is the map repository, and for historical flood hazard data the FloodNC website (http://FLOODNC.GOV/NCFLOOD) is the map repository.

Secondary Structure means a structure that features habitable conditioned space above the RFPE located on the same parcel as a primary use structure. A secondary structure is not an accessory structure as defined in this section. A secondary structure is subject to the same standards as a primary use structure.

Shaded X Zone means areas of moderate flood hazard shown on the FIRM and are the areas between the limits of the base flood and the 0.2% annual chance for flood. Also commonly referred to as the 500-year flood.

X Zone means the areas of minimal flood hazard shown on the FIRM which are areas outside of the Special Flood Hazards Areas and higher than the elevation of the 0.2% annual flood chance. Also referred to as Unshaded X zone.

PART III. That **Appendix A. Definitions** be amended by deleting the existing definitions for the following terms and replacing with the definitions as provided:

Building means any structure enclosed and isolated by exterior walls constructed or used for residence, business, industry or other purposes. For the purposes of Article 11, Part III, Flood Damage Prevention, see the definition for Structure.

Coastal high hazard area means a Special Flood Hazard Area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on a FIRM, or other adopted flood map as determined in Article 11, Part III, Flood Damage Prevention, as Zone VE, or any property east of NC 12 and SR 1243.

Development means any land disturbing activity that increases the amount of built-upon area or that otherwise decreases the infiltration of precipitation into the soil or any man-made change to improved or unimproved real estate including buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, not including existing residential or commercial development already in place.

Existing building and existing structure means any building and/or structure for which the “start of construction” commenced before the community entered the NFIP, dated November 10, 1972.

Fill is the depositing of soil, rock or other earthen materials by artificial means, but not including poured slab, asphalt, porous pavement, Turfstone™, or other manmade materials or surfaces designed in association with construction. Excavated material moved or relocated onsite is considered fill.

Flood Insurance Rate Map (FIRM) means an official map of a community issued by the Federal Emergency Management Agency on which both the special flood hazard areas and the risk premium zones applicable to the community are delineated (also see DFRIM).

Floodway encroachment analysis means an engineering analysis of the impact that a proposed encroachment into a floodway or non-encroachment area is expected to have on the floodway boundaries and flood levels during the occurrence of the base flood discharge. The evaluation shall be prepared by a qualified North Carolina licensed engineer using standard engineering methods and hydraulic models meeting the minimum requirement of the National Flood Insurance Program.

Freeboard means the height added to the BFE to account 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, blockage of bridge or culvert openings, storm surge or precipitation exceeding the base flood and the hydrological effects of urbanization on the watershed. The base flood elevation plus the freeboard establishes the "regulatory flood protection elevation."

Height means the vertical distance measured from the tallest part of a building to the ground at the base of the building. Typically, height is measured from the tallest portion of the roof to the top of the concrete slab. In cases where a concrete slab is not present, height is measured from the tallest part of the roof to the average finished grade using the corners at the base of the building.

- In Shaded X, X, or AE special flood hazard area west of NC 12 and SR 1243, as defined in 11.42.3.1.2, height will be measured from the regulatory flood protection elevation or finished grade, whichever is higher. In cases where there is a ground floor enclosure below the regulatory flood protection elevation, height shall be measured from finished grade.

- In coastal high hazard areas and VE zones east of NC 12 and SR 1243 as defined in 11.42.3.1.1., height shall be measured from regulatory flood protection elevation (lowest horizontal structural member). In cases where the finished grade elevation is above the regulatory flood protection elevation, height shall be measured at approximately eighteen (18) inches above the highest, undisturbed, finished grade directly beneath the structure (free-of-obstruction).

Post-FIRM means construction or other development for which the start of construction occurred on or after December 31, 1974, the effective date of the initial Flood Insurance Rate Map.

Pre-FIRM means construction or other development for which the start of construction occurred before December 31, 1974, the effective date of the initial Flood Insurance Rate Map.

Recreational vehicle (RV) means a vehicle which is built on a single chassis; 400 square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by a light-duty truck; designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use; and is fully licensed and ready for highway use.

Reference level is:

(1) The reference level is the bottom of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower, with only flood resistant materials located below the reference level west of NC 12 and SR 1243.

(2) The reference level is the bottom of the lowest horizontal structural member of the lowest floor for structures in Coastal High Hazard Areas (CHHA) east of NC 12 and SR 1243.

Regulatory flood protection elevation means the Local Elevation Standard (LES). *The Local Elevation Standard is a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) to mitigate flood hazards in the Shaded X, X, AE, AO, VE, as depicted on the FIRMs for Nags Head. These areas*

may be vulnerable to flooding from storm surge, wind-driven tides, and excessive rainfall. Many of these areas have repetitively flooded and continue to remain at risk to flooding.

Coastal High Hazard Areas (CHHA) - Properties located to the east of NC 12 and SR 1243 are located in an active oceanfront environment that is vulnerable to storm surge, erosion, sea level rise, and other hazards. These areas have special flood hazards associated with high velocity waters from storm surges or seismic activity and, therefore, the RFPE is 12 feet NAVD 1988.

Properties west of NC 12 and SR 1243 - The RFPE for properties located west of NC 12 and SR 1243 and in flood zones Shaded X, X, or AE, is 10 feet NAVD 1988. This includes properties abutting US 64, also known as the Causeway.

Substantial improvement means any combination of repairs, reconstruction, rehabilitation, addition or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

(1) Any correction of existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to ensure safe living conditions; or

(2) Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure and the alteration is approved by variance issued pursuant to 11.43.7. Variance Procedures.

Technical bulletin and technical fact sheet mean a FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations. It should be noted that Technical Bulletins and Technical Fact Sheets provide guidance on the minimum requirements of the NFIP regulations. State or community requirements that exceed those of the NFIP take precedence. Design professionals should contact the community officials to determine whether more restrictive State or local regulations apply to the building or site in question. All applicable standards of the State or local building code must also be met for any building in a flood hazard area.

PART IV. That **Article 4. Development Review Process, Section 4.11 Permit Types** be deleted and replaced with the following:

4.11.3. Floodplain Development Permit.
Floodplain Development Permits are can be issued in combination with a zoning, land disturbance, and/or building permit or as a stand-alone permit for any development within the Special Flood Hazard Area (SFHA) Shaded X, X, AE, AO, and VE flood zones.

PART V. That **Section 4.12.2.1., For All Types of Development Activity**, be deleted and replaced with the following:

4.12.2.1 For All Types of Development Activity.

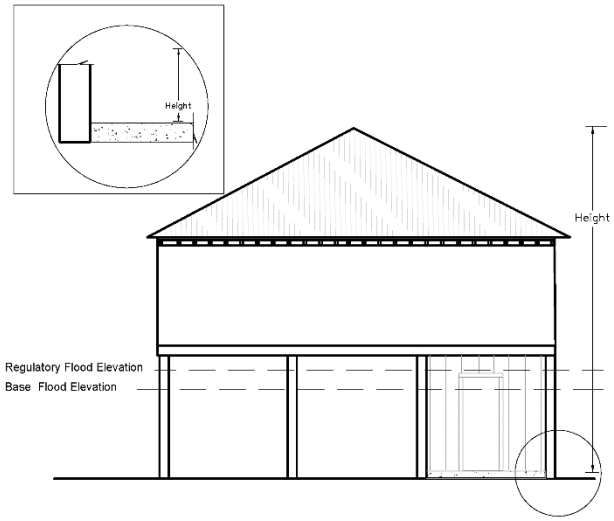
- Site plan/survey
  - Property information- address, ownership, lot number/map book/page reference
  - Existing and proposed development including but not limited to streets, topographic and natural features, and drainage
- Coastal Area Management Act (CAMA) Permit.
- Wastewater approval from Dare County Health Department or NC Department of Environmental Quality.
- Erosion control approval is issued with general development for projects disturbing more than 5,000 square feet (see Article 11, Part II).
- Flood (if in a Special Flood Hazard Area, Shaded X, or X Zone, see Article 11, Part III).
- Stormwater management (for projects which propose filling greater than one foot or for all new commercial construction, see Article 11, Part I).
- Architecture (for residential structures greater than 3,500 square feet, see UDO Section 7.4., Dwelling, Large Residential).
- Utility connections (see Town Code Chapter 44).
- Any other State or Federal Permits

PART VI. That **Section 8.6.4. Building Height and the subsections thereof** be deleted and replaced with the following:

8.6.4. Building Height.

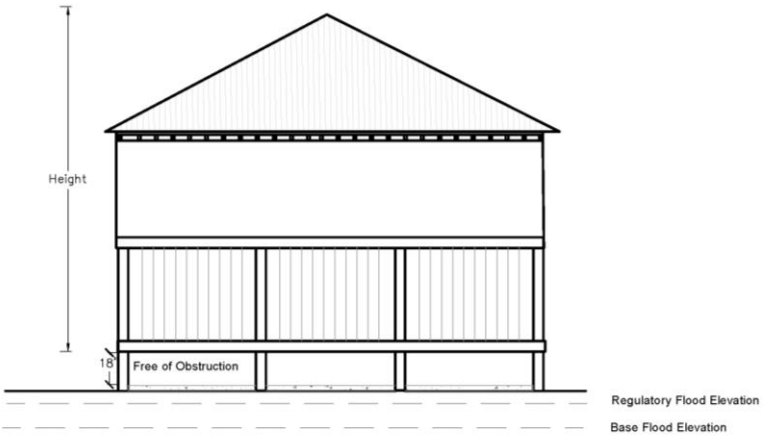
8.6.4.1. Measurement of height. Height means the vertical distance measured from the tallest part of a building to the ground at the base of the building. Typically, height is measured from the tallest portion of the roof to the top of the concrete slab. In cases where a concrete slab is not present, height is measured from the tallest part of the roof to the average finished grade using the corners at the base of the building.

8.6.4.1.1. In Shaded X, X, or AE special flood hazard area west of NC 12 and SR 1243, as defined in 11.42.3.1.2., height will be measured from the regulatory flood protection elevation or finished grade, whichever is higher. In cases where there is a ground floor enclosure below the regulatory flood protection elevation, height shall be measured from finished grade.



8.6.4.1.1. West of NC 12 and SR 1243: Flood Zone- Height

8.6.4.1.2. In coastal high hazard areas and VE zones east of NC 12 and SR 1243 in as defined in 11.42.3.1.1., height shall be measured from regulatory flood protection elevation (lowest horizontal structural member). In cases where the finished grade elevation is above the regulatory flood protection elevation, height shall be measured at approximately eighteen (18) inches above the highest, undisturbed, finished grade directly beneath the structure (free-of-obstruction).



8.6.4.1.2. East of NC 12 and SR 1243: Flood Zone- Height

PART VII. That **Section 11.5.3. Standard for Depth or Elevation of Fill and the subsections thereof** be deleted and replaced with the following:

11.5.3. Standard for Depth or Elevation of Fill.
Any residential or duplex development or redevelopment which utilizes fill shall be limited to the following standards:

11.5.3.1. Properties East of NC 12 and SR 1243.

11.5.3.1.1. Fill shall be subject to the provisions of Section 11.44.3.11.

11.5.3.1.2. Areas of fill exceeding the height of existing grade shall not exceed ten (10) percent of the lot area (see Article 8, District Development Standards), excluding the footprint of the active drainfield and septic system as approved by the Dare County Health Department in accordance with the septic permit. Lot area is defined as that portion of the lot landward of the first line of stable vegetation as defined by CAMA.

11.5.3.1.3. No bulkheads are allowed.

11.5.3.2. Properties West of NC 12 and SR 1243.

11.5.3.2.1. In areas where the most recent Flood Insurance Rate Map (FIRM) provides a base flood elevation for a subject property, fill shall not be permitted to exceed the base flood elevation except in cases where it is placed directly beneath a slab that is designed to meet the base flood elevation depicted on the FIRM. In these instances, fill may exceed the base flood elevation by up to twelve inches (12”) to support a turn-down or thickened edge slab or beneath a slab that is supported by a ring-wall style foundation. Fill placed above the base flood elevation shall not extend beyond the outside edge of the slab.

11.5.3.2.1. In areas where the most recent Flood Insurance Rate Map (FIRM) provides no base flood elevation, fill shall not exceed the amount required for wastewater permits required by the Dare County Health Department, or two feet (2’) above pre-development surface elevation, whichever is greater.

ARTICLE III. Severability.

All Town ordinances or parts of ordinances in conflict with this ordinance amendment are hereby repealed. Should a court of competent jurisdiction declare this ordinance amendment or any part thereof to be invalid, such decision shall not affect the remaining provisions of this ordinance amendment nor the Unified Development Ordinance or Town Code of the Town of Nags Head, North Carolina which shall remain in full force and effect.

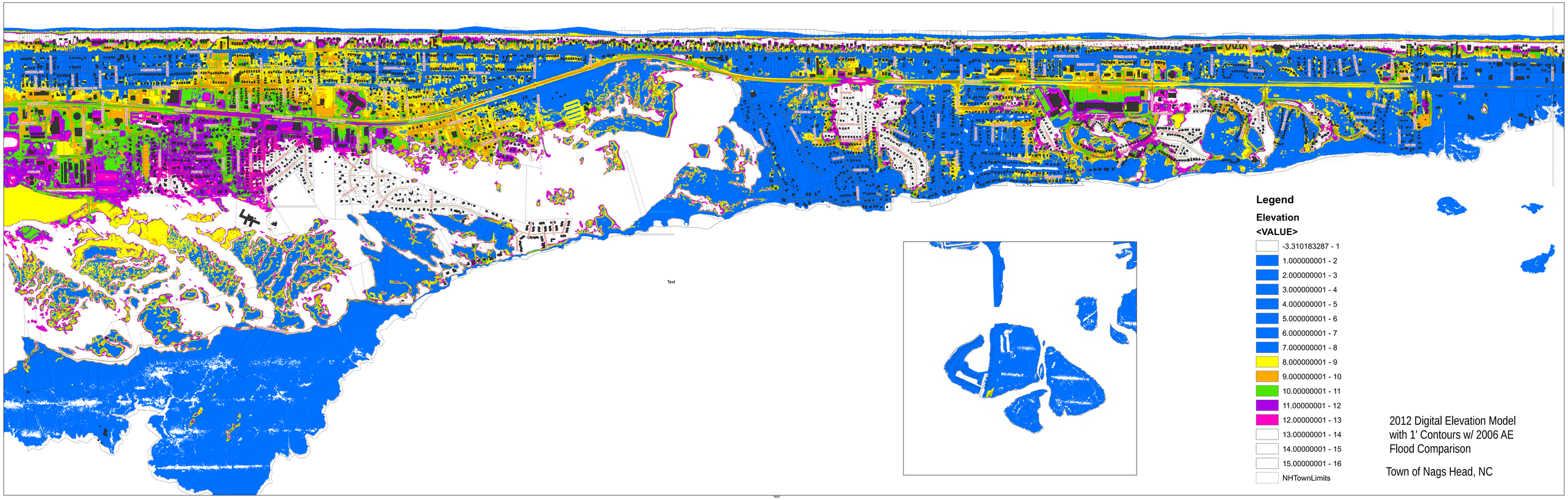
ARTICLE IV. Effective Date.

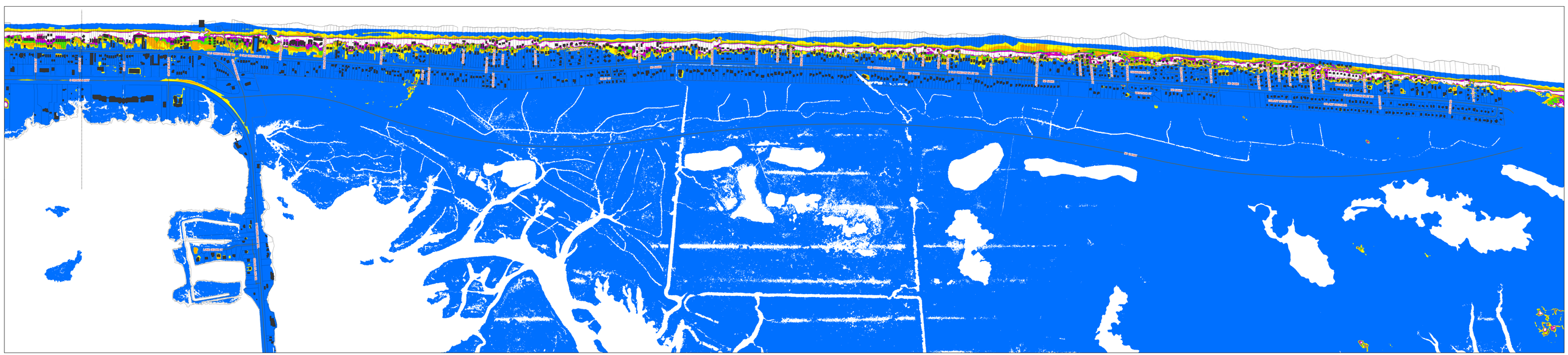
This ordinance amendment shall be in full force and effect upon the date of adoption by the Board of Commissioners.

_____
Benjamin Cahoon, Mayor
Town of Nags Head

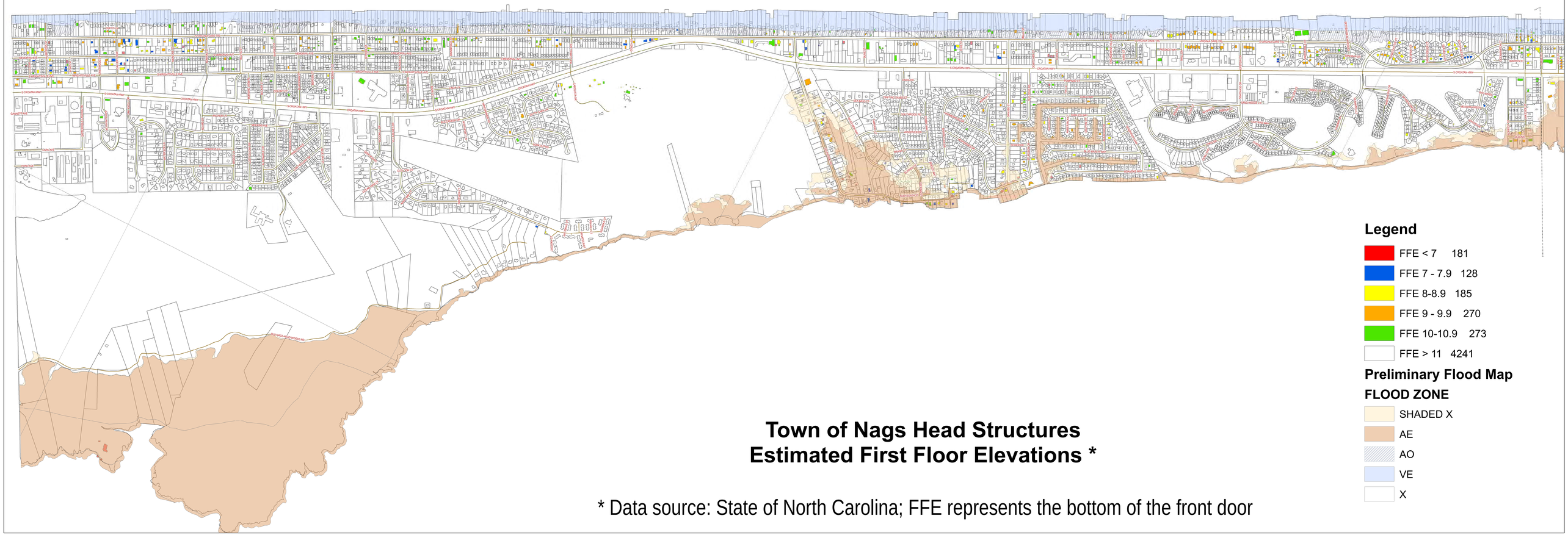
ATTEST: _____
Carolyn F. Morris, Town Clerk

APPROVED AS TO FORM:
Town Attorney
Date adopted: _____
Motion to adopt by Commissioner _____
Motion seconded by Commissioner _____
Vote: ____ AYES ____ NAYS





Town of Nags Head Elevation Map



Town of Nags Head Structures
Estimated First Floor Elevations *

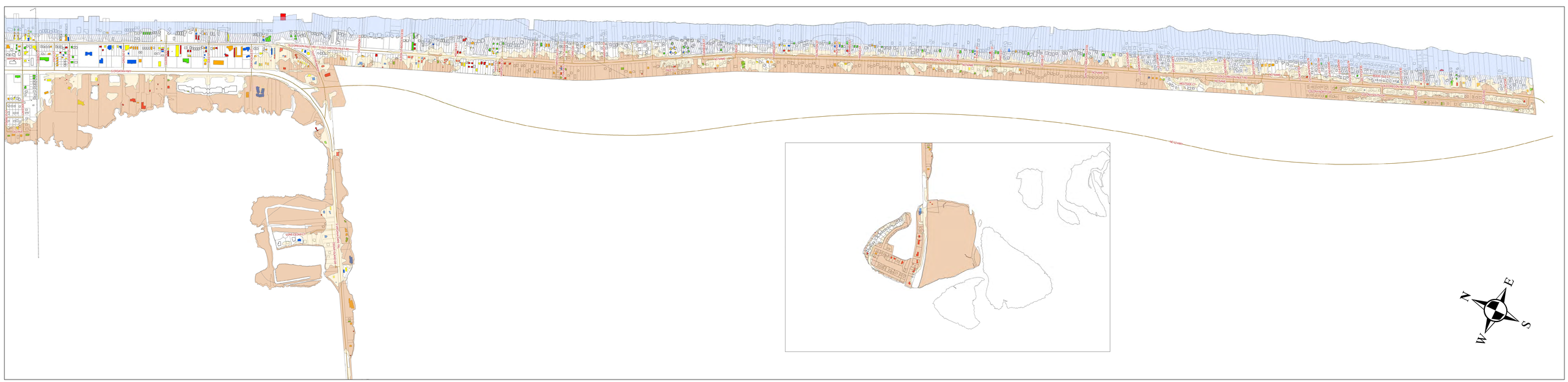
* Data source: State of North Carolina; FFE represents the bottom of the front door

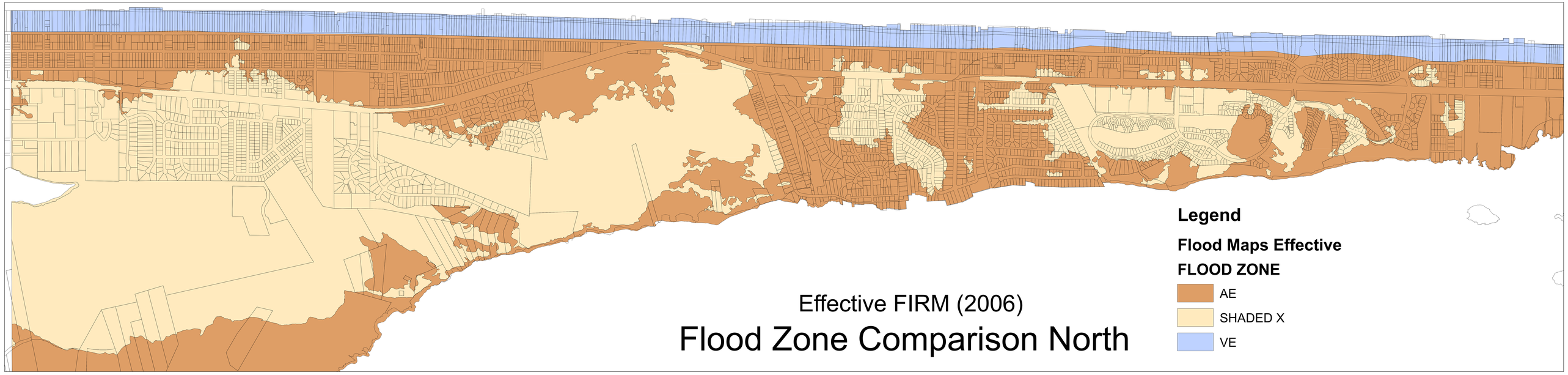
Legend

- FFE < 7 181
- FFE 7 - 7.9 128
- FFE 8-8.9 185
- FFE 9 - 9.9 270
- FFE 10-10.9 273
- FFE > 11 4241

Preliminary Flood Map FLOOD ZONE

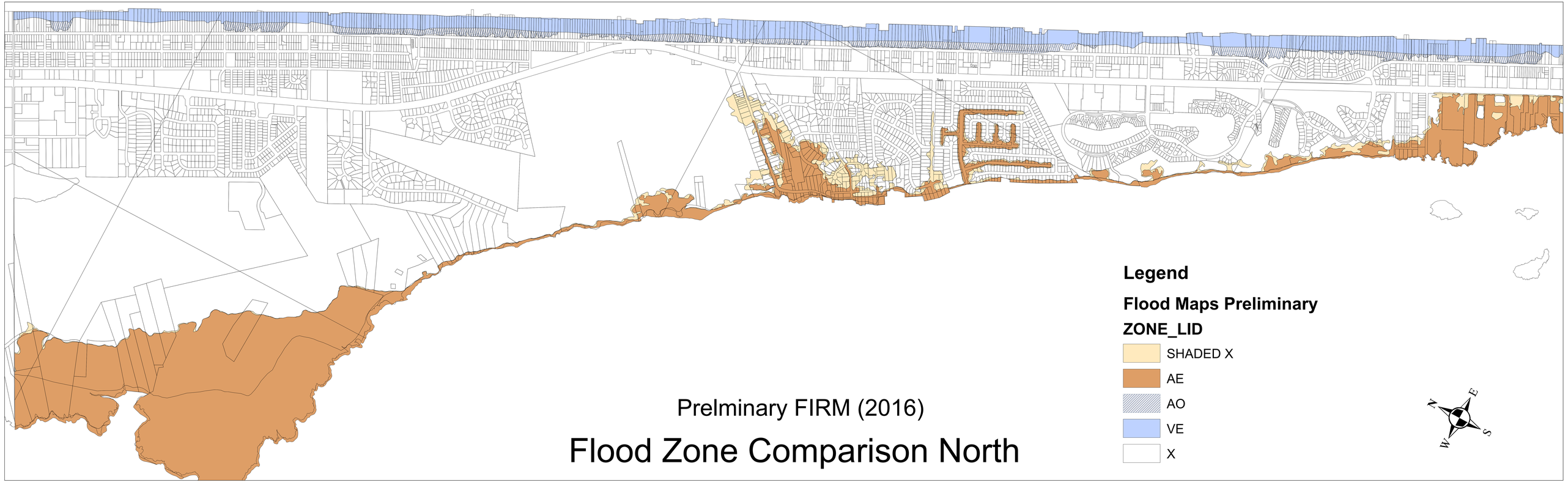
- SHADED X
- AE
- AO
- VE
- X





Effective FIRM (2006)

Flood Zone Comparison North

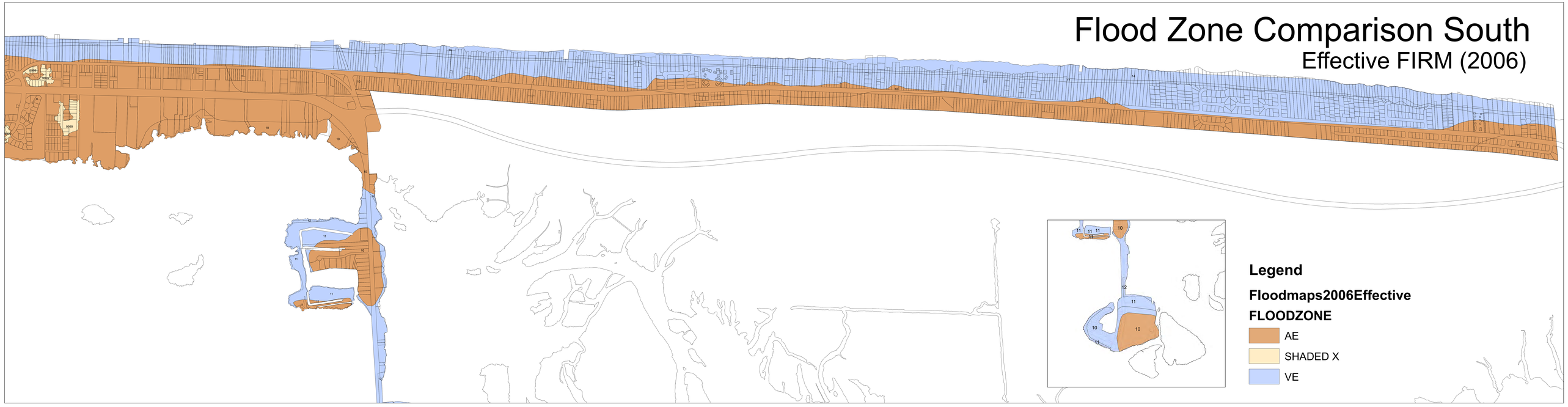
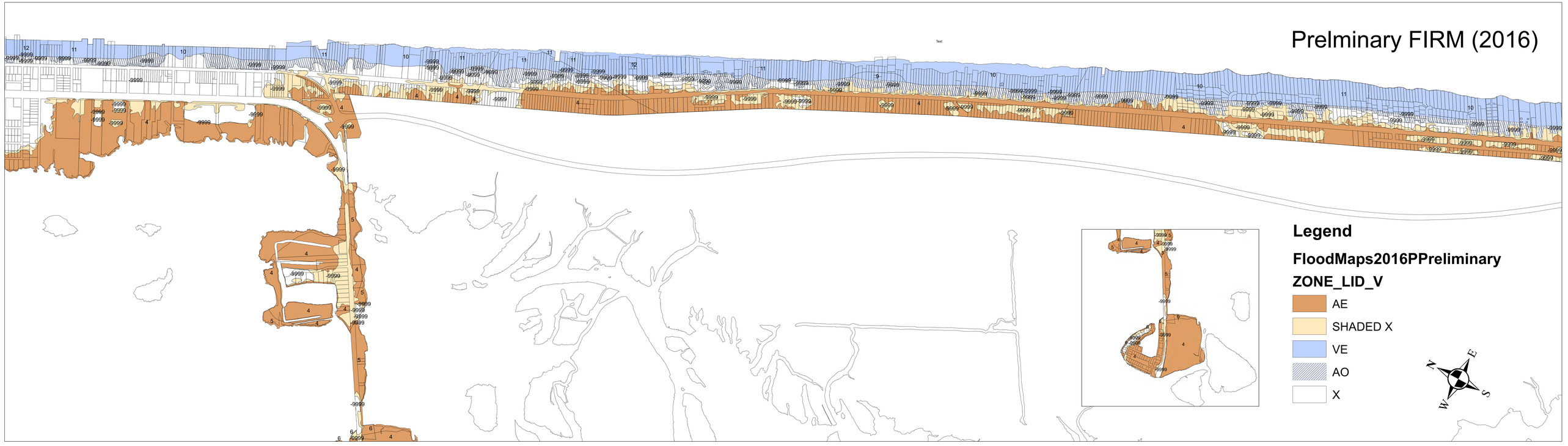


Prelminary FIRM (2016)

Flood Zone Comparison North

Flood Zone Comparison South

Effective FIRM (2006)



Prelminary FIRM (2016)