



# MEMORANDUM

## Town of Nags Head

### Planning & Development Department

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To: Board of Commissioners  
Planning Board

From: Holly White, Principal Planner  
Michael Zehner, Director of Planning & Development

Date: February 4, 2020

Subject: Updated Flood Maps, Flood Prevention Ordinance, and Related Regulations

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### Overview and Background

As the boards are 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 will meet 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. The tentative schedule beyond the February 18 meeting is as follows:

- Early March 2020 - Community Information Meeting; information materials made available online
- 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)

### Updated 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 risks associated with rainfall flooding.

Major changes to the F.I.R.M. include:

1. The primary frontal dune has been established and used in modeling of storm surge;
2. Reduction of surge impacts, overland waves, and stillwater elevations;

3. Fewer VE zone properties;
4. Fewer AE zone properties;
5. Overall increase in X zone properties town wide, even on the oceanfront;
6. Removal of causeway properties from VE zone;
7. Base flood elevations reduced in AE zone; most new BFE's are 4' or 5', formerly 8'-10';
8. Base flood elevations modified; BFE's range from 10'-12'; formerly 11' through entire town; and
9. Addition of AO zones west of primary frontal dune

A memo to the Board of Commissioners dated February 15, 2018 and the associated presentation titled *Flood Map Workshop* (February 21, 2018) have been attached to provide a detailed background on the flood maps, previous community engagement steps, and considerations for adoption.

Below is a summary of changes in the current and updated maps for properties in the V and A Zone for Dare County and all the municipalities. This information was provided by the State. The draft FRIS (Flood Risk Information System) maps can be viewed 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.

	Buildings			
	V Zone		A Zone	
	Current	Updated	Current	Updated
DARE COUNTY	1,828	124	12,875	8,493
DUCK	397	255	882	96
KILL DEVIL HILLS	511	226	4,369	182
KITTY HAWK	500	278	1,898	979
MANTEO	13	0	1,149	418
NAGS HEAD	1,405	726	2,756	481
SOUTHERN SHORES	250	122	1,035	237

Kitty Hawk has 389 structures in Zone AH and there will be 893 structures in Zone AO (County-wide).

## Draft Flood Prevention Ordinance Amendments

The Town's existing Flood Damage Prevention Ordinance is largely consistent with the State Model Ordinance for coastal communities; however, the Town does currently utilize several higher standards that include:

- 1' Freeboard - V & AE
- 18" Free of Obstruction - VE
- Enclosures
  - No enclosures in V
  - Limited to 300 sq. ft. in AE
- Elevation Certificates
  - Require Two
    - After 1st floor established; and
    - Final
  - Only required to have final

The most significant change to the draft Flood Damage Prevention Ordinance is the development of a Local Elevation Standard ("LES"). Staff has worked with the planning staff from Dare County and the other municipalities to develop these standards in conjunction with the Outer Banks Home Builders Association. Attached is a matrix that provides an overview of all the changes as well as the approach taken by each community. The LES creates Regulatory Flood Protection Elevations ("RFPE") for Shaded X, X, AE, AO, and VE flood zones as described below from Section 11.42.3., *Establishment of Regulatory Flood Protection Elevation (RFPE)*, of the draft:

*11.42.3. Establishment of Regulatory Flood Protection Elevation (RFPE)*  
*Regulatory flood protection elevation means the "base flood elevation" plus the "freeboard". In "special flood hazard areas" where base flood elevations (BFE) have been determined, this elevation shall be the BFE plus one foot of freeboard or the "Local Elevation Standard" for those areas where base flood elevations have been determined on the FIRM; the base flood depth above the highest adjacent grade or "Local Elevation Standard" for those areas identified as AO zones of the FIRM, or the "Local Elevation Standard" for those areas identified as Shaded X or X zones on the FIRM. The Local Elevation Standard means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) in Shaded X and X zones or used in conjunction with the BFE and freeboard standard to mitigate flood hazards in the AE, AO, VE, as depicted on the FIRMs for Nags Head.*

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

*11.42.3.1.1. 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 located in flood zones Shaded X, X, or AE, the RFPE is 10 feet NAVD 1988.*

The LES would:

- Create an elevation requirement for properties east of NC 12 and NC 1243 of 12'. All properties in this area, regardless of mapped zone would be treated as VE zone properties for regulatory purposes. The existing language requiring 18" free of obstruction and no enclosure for VE zones would be carried forward.
- Create an elevation requirement for Shaded X, X, or AE flood zones of 10'.
- The substantial improvement/substantial damage definitions as established in Appendix A, Definitions, do not apply to Shaded X and X zones.
- 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.
- Laterals additions (increase in the footprint of the conditioned, temperature-controlled space) to existing structures greater than 10% of the total floor area on the level on which the addition is located shall have the reference level elevated to or above the RFPE.
- 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.

### **Draft UDO Amendments Related to Flood Damage Prevention**

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, and Article 8, District Development Standards, concerning the measurement of height. Relevant sections are provided below, with draft changes shown in orange.

#### Article 4, *Development Review Process*

##### **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.**

##### **4.12.2. Specific Site Plan Requirements Based on the Proposed Activity.**

Depending on the proposed development activity, additional information may be required for permitting. Site plan information submitted as part of the development review process for non-residential development will be sufficient to complete the permitting process (excluding full construction drawings). The follow items may be required if applicable:

###### **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

Article 8, District Development Standards

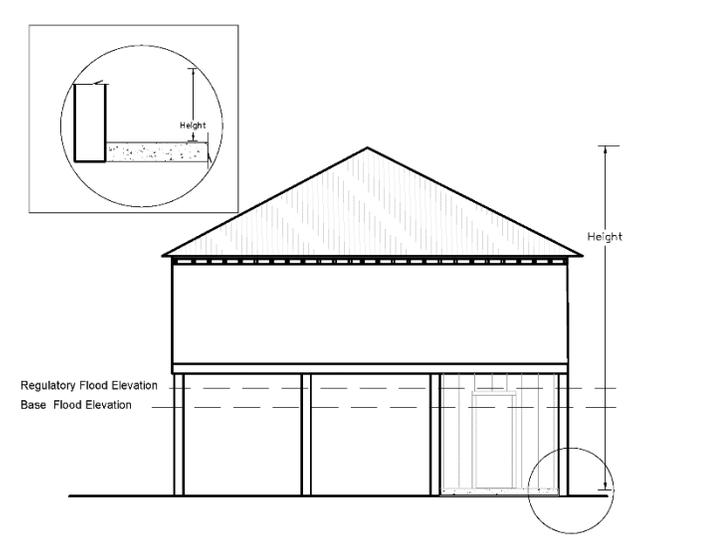
**8.6.4. Building Height.**

**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.



8.6.4.1.2. VE Flood Zone- Height

**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.



8.6.4.1.1. AE Flood Zone- Height

**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.

**8.6.4.2.** The maximum height of a structure may be increased to forty-two (42) feet if the structure utilizes an eight-twelfths roof pitch as specified in the Town of Nags Head Residential Design Guidelines.

## Fill Amendments

Fill provisions, as contained in Part I, *Stormwater, Fill, and Runoff Management*, of Article 11, *Environmental Regulations*, work in concert with regulations contained in the Flood Prevention Ordinance. As noted, consideration should be given to updating these provisions when consideration adoption of the Flood Prevention Ordinance amendments. A previous markup of the fill provisions applicable to residential or duplex development is attached; however, this markup did not take into account a significant consideration wherein the reduction of the V/VE zone along the east side of NC 12 and NC 1243 and increase of the X zone may allow for greater filling of oceanfront properties without being addressed.

In terms of fill provisions applicable to commercial projects, the current provision is as follows. Consideration to the expansion of the X zone and the current allowance of greater filling within the X zone will need to be considered, especially for properties located on the east side of NC 12 and NC 1243.

**11.4.3.6.** Fill shall not be permitted to exceed base flood elevation except in cases where it is placed directly beneath a slab that is designed to meet the regulatory flood protection elevation as defined in Appendix A Definitions. In these instances, fill may exceed the base flood elevation by up to 12 inches 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. In areas in which there is no base flood, fill shall not exceed the amount required for wastewater permits required by the Dare County Health Department, or two (2) feet above pre-development surface elevation, whichever is higher.

In no case shall fill be placed or a lot be graded such that off-site drainage patterns are altered to direct stormwater runoff onto another property unless part of an approved plan with appropriate agreements or easements.

### **Next Steps**

Staff will continue to refine this information and options for consideration at the February 18 meeting, updating the boards as necessary. Board members are welcome and encouraged to submit any questions or thoughts that might benefit the conversation. Following the joint meeting, consistent with the tentative schedule, Staff will incorporate any suggested changes in the draft Flood Damage Prevention Ordinance, a community informational meeting will be held in early March, and the text amendment will officially be presented to the Planning Board at their March 17, 2020 meeting.

Red- changes/new language as provided in the State Model Ordinance  
 Blue- suggested local ordinance language developed to support a local elevation standard  
 Orange- Nags Head specific edits  
 Black- existing flood damage prevention ordinance in UDO  
 Grey Highlight- optional model ordinance language

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## **PART III. FLOOD DAMAGE PREVENTION**

### **SECTION 11.41. ~~PURPOSE AND INTENT~~ 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.

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#### **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;
- 11.41.4.69.** Help maintain a stable tax base by providing for the sound use and development of flood-prone areas; and
- 11.41.4.710.** To ensure that potential homebuyers are notified that property is in a ~~s~~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 Hazard Areas and Shaded X and X 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 ~~special flood hazard~~ 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 ~~e~~Cooperating ~~t~~Technical ~~s~~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~~

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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.

**Commented [HW1]:** Model ordinance is more restrictive than current regulations. We currently do not do this.

and its accompanying Flood Insurance Rate Maps (FIRM), for Dare County dated September 20, 2006, which are adopted by reference and declared to be a part of this Article 11, Part III.

**11.42.3. Establishment of Regulatory Flood Protection Elevation (RFPE)**

Regulatory flood protection elevation means the "base flood elevation" plus the "freeboard". In "special flood hazard areas" where base flood elevations (BFE) have been determined, this elevation shall be the BFE plus one foot of freeboard or the "Local Elevation Standard" for those areas where base flood elevations have been determined on the FIRM; the base flood depth above the highest adjacent grade or "Local Elevation Standard" for those areas identified as AO zones of the FIRM, or the "Local Elevation Standard" for those areas identified as Shaded X or X zones on the FIRM. The Local Elevation Standard means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) in Shaded X and X zones or used in conjunction with the BFE and freeboard standard to mitigate flood hazards in the AE, AO, VE, as depicted on the FIRMs for Nags Head.

**Commented [HW2]:** Establishes the regulatory flood protection elevation for the local elevation standard.

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

**11.42.3.1.1.** 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 located in flood zones Shaded X, X, or AE, the RFPE is 10 feet NAVD 1988.

**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 ~~special flood hazard areas determined in accordance with subsection 11.42.2.~~ **the AE, AO, VE, Shaded X or X zone.**

~~11.42.4.~~ **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.

~~11.42.5.~~ **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.

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~~11.42.6.~~ **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 governing body~~; and deemed neither to limit nor repeal any other powers granted under state statutes.

~~11.42.7.~~ **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.~~ **11.42.9. Penalties for Violations.**

Violation of the provisions of this Part or failure to comply with 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 ~~of~~ all floodplain development applications and issue permits for all proposed development ~~within special flood hazard areas-Shaded X, X, AE, AO, and VE flood zones~~ to assure that all requirements of this Part have been satisfied.

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**11.43.2.2.** ~~Advising permittee that additional federal or state permits (wetlands, endangered species, erosion and sedimentation control, CAMA, riparian buffers, mining, etc.) may be required, and if specific federal or state permits are known, requiring that copies of such permits be provided and maintained on file with the floodplain development permit.~~ Review all proposed development ~~within Special Flood Hazard Areas~~ 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.** ~~Ensuring~~ Assuring that maintenance is provided within the altered or relocated portion of such watercourse so that the flood-carrying capacity is ~~not diminished~~ maintained.

**11.43.2.5.** Obtaining the actual elevation (in relation to ~~mean-sea-level 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 ~~mean-sea-level 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 ~~mean-sea-level 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 ~~state~~ 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

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of map amendment (LOMA) issued by FEMA in the floodplain development permit file.

(OPTIONAL)

**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 ~~all special flood hazard areas within~~ 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.

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**11.43.2.19.** Maintain a current map repository to include, but not limited to, ~~the 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 ~~furnished by him~~ prior to any development activities ~~located within special flood hazard areas~~. 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 ~~P~~plot plans ~~in duplicate~~ 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 ~~the 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. ; ~~and~~

~~**11.43.3.1.7.** Certification of the plot plan by a registered land surveyor or professional engineer. (OPTIONAL)~~

**Commented [HW3]:** Model indicates this is optional language. Incorporated into 11.43.4.1

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**11.43.3.2.** Proposed elevation, and method thereof, of all development ~~within a special flood hazard area~~ including but not limited to:

**11.43.3.2.1.** The elevation in relation to ~~mean sea level~~ NAVD 1988 of the proposed reference level (including the basement) of all new and substantially ~~improved structures~~ ~~improvements~~; and

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

**11.43.3.2.3.** Elevation in relation to ~~mean sea level~~ NAVD 1988 to which any proposed utility systems will be elevated or floodproofed.;

**11.43.3.3.** If floodproofing, a floodproofing certificate (FEMA Form ~~81-65 086-0-34~~) with supporting data, ~~and 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 AO 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 ~~for accessory structures~~. ~~In addition, prior to the Certificate of Compliance/Occupancy issuance, a registered professional engineer or architect shall certify the finished construction is compliant with the design, specifications and plans for VE Zone construction. (OPTIONAL);~~

**11.43.3.4.3.2.** Plans for open wood lattice or insect screening, if applicable.

**Commented [HW4]:** Staff recommends that AO Flood zones are treated as VE Flood Zones due to their vulnerability to storm surge and location east of Hwy 12 and 1243. AO Flood Zones would be treated the same as VE Flood Zones are now. This is a higher standard.

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**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.** ~~Copies of Certification that~~ all other local, state and federal permits required prior to floodplain development permit issuance (wetlands, endangered species, erosion and sedimentation control, CAMA, riparian buffers, mining, etc.) **have been received.**

**Commented [HW5]:** Model language more stringent than current

**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 of 10 feet*

#### **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 ~~special flood hazard area~~ **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.

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**11.43.4.6.** The flood openings requirements, if in zones AE, ~~or AO~~ **or 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).

**Commented [HW6]:** Higher standard

**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 ~~81-31 086-0-33~~) 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 ~~mean-sea level~~ 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.

**(STATE RECOMMENDED BUT OPTIONAL)**

**Commented [HW7]:** Optional language is for requiring 1<sup>st</sup> EC. The Town's language allows the FA to make the determination

**11.43.5.1.2.** An elevation certificate (FEMA ~~81-31 086-0-33~~) 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 ~~mean sea level~~ 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. **(STATE RECOMMENDED BUT OPTIONAL)**

**Commented [HW8]:** This is currently being required.

**11.43.5.1.3.** A final ~~as-built~~ **Finished Construction** elevation certificate (FEMA ~~81-31 086-0-33~~) 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

**Commented [HW9]:** This is currently being required.

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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" x 3". Digital photographs are acceptable. (OPTIONAL) (THE FEMA ELEVATION CERTIFICATE IS OPTIONAL FOR FLOODPLAIN MANAGEMENT ELEVATION DATA, BUT RECOMMENDED. THE USE OF THE FEMA ELEVATION CERTIFICATE IS REQUIRED FOR THE PURCHASE OF FLOOD INSURANCE AND MANDATORY FOR CRS PARTICIPATION, AND THIS LANGUAGE SHOULD BE INCLUDED IN ITS ENTIRETY.)**

*11.43.5.1.4. In Shaded X and X zones, 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. 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, ~~and~~ 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 ~~mean-sea-level~~ 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 ~~and plan, 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. **(OPTIONAL) (THE FEMA FLOODPROOFING CERTIFICATE IS OPTIONAL AT**

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**THE TIME OF PERMITTING THE STRUCTURE BUT RECOMMENDED TO ENSURE COMPLIANCE WITH THIS ORDINANCE AND PROPERLY PERMIT THE STRUCTURE.)**

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.

~~11.43.5.3.~~ 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.

~~11.43.5.4.~~ 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:

~~11.43.5.4.1.~~ 11.43.5.5.1 Recreational vehicles meeting requirements of subsection 11.44.2.3;

~~11.43.5.4.2.~~ 11.43.5.5.2 Temporary structures meeting requirements of subsection 11.44.2.5; and,

~~11.43.5.4.3.~~ 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.

~~11.43.5.5.~~ 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

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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. (OPTIONAL)

**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 ~~on the property he owns~~ 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 ~~him~~

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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 ordinance 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 make 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, he 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 apply 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.

**Commented [HW10]:** Model ord.  
Class 1 misdemeanor pursuant to NC G.S. § 143-215.58 and shall be punished at the discretion of the court.

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**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 judgment upon such applications 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;

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**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 ~~base flood elevation (BFE) RFPE~~ and the elevation to which the structure is to be built and that such construction below the ~~base flood elevation RFPE~~ increases risks to life and property, and that the issuance of a variance to construct a structure below the ~~base flood elevation 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 ~~may~~ **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.

~~11.43.7.9.3.~~ **11.43.7.9.4.** Variances shall only be issued upon:

~~11.43.7.9.3.1.~~ **11.43.7.9.4.1.** A showing of good and sufficient cause;

~~11.43.7.9.3.2.~~ **11.43.7.9.4.2.** A determination that failure to grant the variance would result in exceptional hardship; and

~~11.43.7.9.3.3.~~ **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

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extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances

~~11.43.7.9.4. Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation (BFE) and the elevation to which the structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced reference level elevation. Such notification shall be maintained with a record of all variance actions.~~

~~11.43.7.9.5. 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.~~

**11.43.7.10.** 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.

**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.

**Commented [HW12]:** Redundant language. Same as 11.43.7.7 and 11.43.7.8 above. Only in model as shown above.

Red- changes/new language as provided in the State Model Ordinance

Blue- suggested local ordinance language developed to support a local elevation standard

Orange- Nags Head specific edits

Black- existing flood damage prevention ordinance in UDO

Grey Highlight- optional model ordinance language

## **SECTION 11.44 PROVISIONS FOR FLOOD HAZARD REDUCTION.**

### **11.44.1. General Standards.**

~~In all special flood hazard areas,~~ 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 ~~E~~electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities **shall be located at or above the RFPE or designed and/or located installed** so as to prevent water from entering or accumulating within the components during **conditions occurrence of base flooding**. 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.

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~~11.44.1.8. Any alteration, repair, reconstruction or improvements to a structure which is in compliance with the provisions of this article shall meet the requirements of "new construction" as contained in this Part.~~

**Commented [HW13]:** Combined with 11.44.1.4 above

**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.

**Commented [HW14]:** While we don't have these, the state said we need to include this language.

**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.

**11.44.1.16.** Fill is prohibited in the SFHA, including construction of buildings on fill. This includes not approving Conditional Letters or Letters of Map Revision - Based on Fill (CLOMR-F or LOMR-

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F). (maximum 280 CRS points possible) (OPTIONAL) Note: This should be consistent with Article 5, Section G (11)(e) in coastal areas.

Commented [HW15]: Optional model language

#### 11.44.2. Specific Standards.

In ~~all special flood hazard areas~~ Shaded X, X, AE, AO, and VE flood zones ~~where base flood elevation data has been provided~~ 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, ~~and 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 plans.

**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.** ~~and 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**

**11.44.2.3.2.** 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

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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; (OPTIONAL, strongly encouraged)

~~11.44.2.4.2.~~ **11.44.2.4.3.** Shall be constructed entirely of flood-resistant materials, up to the regulatory flood protection elevation;

~~11.44.2.4.3.~~ **11.44.2.4.4.** Shall not, in areas governed by the local elevation standard, zones AE, 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:

~~11.44.2.4.3.1-~~ **11.44.2.4.4.1** A minimum of two flood openings on different sides of each enclosed area subject to flooding;

~~11.44.2.4.3.2.~~ **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;

~~11.44.2.4.3.3.~~ **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;

~~11.44.2.4.3.4.~~ **11.44.2.4.4.4.** The bottom of all required flood openings shall be no higher than one foot above the adjacent grade;

~~11.44.2.4.3.5.~~ **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

~~11.44.2.4.3.6-~~ **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.

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~~11.44.2.4.4.~~ **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 (30 CRS points); The Town of Nags Head will have the right to inspect the enclosed area (30 CRS points). ~~\_\_\_\_\_ (community name) will conduct annual inspections (30 CRS points).~~ This agreement shall be recorded with the Dare County Register of Deeds and shall transfer with the property in perpetuity. (OPTIONAL for a maximum total of 90 CRS points)

**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. (OPTIONAL)

**11.44.2.4.8.** All building enclosures, of any size, are prohibited below BFE, including those with breakaway walls. Screening and open lattice-work are not considered enclosures. (maximum 240 CRS points) (OPTIONAL)

Commented [HW16]: Not recommended if using language above

**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 ~~local~~ 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

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

**11.44.2.6. Accessory Structure.** ~~When an~~ Accessory structures (sheds, detached garages, etc.) ~~are to be placed in the floodplain Special Flood Hazard Area, shall meet the following criteria shall be met:~~

**11.44.2.6.1.** ~~Any portion of an a~~ Accessory structures ~~that has the~~ 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.** ~~Any portion of an accessory structure that has the floor located below the regulatory flood protection elevation~~ 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 ~~elevated~~ 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 Insert Cost of Structure (\$5,000 recommended) 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.

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**11.44.2.6.11.** Accessory structures, regardless of the size or cost, shall not be placed below elevated buildings in V and VE Zones, east of NC 12 and NC 1243.

**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 ~~insert number of years~~ ~~(One (1) year minimum is required)~~ year 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 ~~insert number of years~~ ~~(One (1) year minimum is~~

Commented [HW17]: Shown as optional language now in the model ordinance

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~~required~~ year 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. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. (The repetitive loss portion is OPTIONAL, but will be required for flood insurance policy holders to be eligible for Increased Cost of Compliance (ICC) benefits for repetitive losses.) 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.** Laterals additions (increase in the footprint of the conditioned, temperature-controlled space) to existing structures greater than 10% of the total floor area on the level on which the addition is located shall have the reference level 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.

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*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 a ~~Special Flood Hazard Area~~ 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.**

**Commented [HW18]:** Higher standard. Now would include Shaded X/X, AO, and VE flood zones.

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~~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

Commented [HW19]: Higher standard than model ordinance

**11.44.3.1.3.** Comply with all applicable 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. ~~Floodproofing shall not be utilized on any structures in coastal high hazard areas to satisfy the regulatory flood protection elevation requirements.~~

**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, ~~with the following exceptions:~~ 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: ~~Open wood latticework or insect screening may be permitted below the regulatory flood protection elevation for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action and in accordance with subsection 11.44.2.4.4.~~

Commented [HW20]: Higher standard- free of obstruction

**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

**11.44.3.3.3.** Insect screening; or

**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

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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.

Commented [HW21]: Higher Standard- adopted with the UDO.

**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.

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**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.

~~11.44.3.6,~~ **11.44.3.10.** A registered professional engineer 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

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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 ~~shall~~ certify the finished construction is compliant with the design, specifications and plans for VE Zone construction if determined necessary. (OPTIONAL)

~~11.44.3.7.~~ 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.

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.

11.44.3.11.4. Fill is prohibited in the SFHA (maximum 280 CRS points possible) (OPTIONAL) Note: this should be consistent with Article 5, Section A (17)

~~Fill shall not be used for structural support. Limited non-compacted and non-stabilized fill may be used around the perimeter of a building for landscaping/aesthetic purposes provided it is demonstrated through coastal engineering analysis that the proposed fill would not result in any increase in the base flood elevation and not cause any adverse impacts by wave ramping and deflection to the subject structure or adjacent properties.~~

~~11.44.3.8.~~ 11.44.3.12. There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.

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~~11.44.3.9.~~ **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.

~~**11.44.3.18.** 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, or the detached accessory building shall not be improved, or otherwise converted; \_\_\_\_\_ (community name) will have the right to inspect the enclosed area. This agreement shall be~~

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~~recorded with the \_\_\_\_\_ (county name) County Register of Deeds and shall transfer with the property in perpetuity. (OPTIONAL) (Not recommended by staff)~~

~~**11.44.3.19.** 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. (OPTIONAL) (Not recommended by staff)~~

**11.44.4. Standards for Coastal A Zones (Zone CAZ) LiMWA (maximum 650 CRS points).** Structures in CAZs shall be designed and constructed to meet V Zone requirements, including requirements for breakaway walls. However, the NFIP regulations also require flood openings in walls surrounding enclosures below elevated buildings in CAZs (see Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures). Breakaway walls used in CAZs must have flood openings that allow for the automatic entry and exit of floodwaters to minimize damage caused by hydrostatic loads. Openings also function during smaller storms or if anticipated wave loading does not occur with the base flood.

**Commented [HW22]:** There are no CAZ zones in Nags Head. Staff is asking if it is necessary to carry language forward.

**11.44.4.1.** 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. Floodproofing shall not be utilized on any structures in Coastal A Zones to satisfy the regulatory flood protection elevation requirements.

**11.44.4.2.** All new construction and substantial improvements 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 breakaway walls, open wood latticework or insect screening, 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. The following design specifications shall be met:

**11.44.4.2.1.** Material shall consist of open wood or plastic lattice having at least 40 percent of its area open, or

**11.44.4.2.2.** Insect screening; or

**11.44.4.2.3.** Breakaway walls shall meet the following design specifications:

**11.44.4.2.3.1.** Breakaway walls shall have flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the design criteria in Article 5, Section B(4)(d); and

**11.44.4.2.3.2.** Design safe loading resistance shall be not less than 10 nor more than 20 pounds per square foot; or

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**11.44.4.2.3.3.** Breakaway walls that exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by State or local codes) shall be certified by a registered professional engineer or architect that the breakaway wall will collapse from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.

**11.44.4.2.4.** Concrete pads, including patios, decks, parking pads, walkways, driveways, etc. must meet the provisions of subsection 11.44.3.6.

**11.44.4.2.5.** All new construction and substantial improvements shall meet the provisions of Article 5, Section G (3).

**11.44.4.2.6.** A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions of Article 4, Section B and Article 5, Section G (3) and (4), on the current version of the North Carolina V-Zone Certification form or a locally developed V-Zone Certification form.

**11.44.4.2.7.** Recreational vehicles may be permitted in Coastal A Zones provided that they meet the Recreational Vehicle criteria of Article 5, Section B(6)(a).

**11.44.4.2.8.** Fill/Grading must meet the provisions of Article 5, Section G (11)

**11.44.4.2.9.** Fill is prohibited in the SFHA (maximum 280 CRS points possible) (OPTIONAL)

**11.44.4.2.10.** Decks and patios must meet the provisions of Article 5 Section G (15) and (16).

**11.44.4.2.11.** In coastal high hazard areas, development activities other than buildings and structures must meet the provisions of Article 5, Section G (17)

**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 following requirements of Section 11.44.3. Properties East of NC 12 and SR 1243=

**11.44.5.1.** The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of Insert freeboard [four (4), (feet of freeboard selected for Regulatory Flood Protection Elevation

**Commented [HW23]:** AO flood zones will be treated the same as VE flood zones. This is a higher standard.

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definition)) feet, above the highest adjacent grade; or at least Insert feet [Four (4), (A minimum of two (2) feet is required and four (4) feet is recommended where a depth is not provided)) feet above the highest adjacent grade if no depth number is specified.

~~11.44.5.2. Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in Article 5, Section 1 (1) so that the structure, together with attendant utility and sanitary facilities, below that level shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required in accordance with Article 4, Section B (3) and Article 5, Section B (2).~~

~~11.44.5.3. Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.~~

**SECTION E. STANDARDS FOR RIVERINE FLOODPLAINS WITH BASE FLOOD ELEVATIONS BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS.**

Along rivers and streams where BFE data is provided by FEMA or is available from another source but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- (1) Standards of Article 5, Sections A and B; and
- (2) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point.

**SECTION F. FLOODWAYS AND NON-ENCROACHMENT AREAS.**

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Article 3, Section B. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Article 5, Sections A and B, shall apply to all development within such areas:

- (1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:
  - (a) It is demonstrated that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood discharge, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to

**Commented [HW24]:** There are no riverine floodplains in Nags Head. I have asked the State if we can leave off this section.

**Commented [HW25]:** There are no floodway or non-encroachment areas in Nags Head. I have asked the State if we can leave off this section.

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issuance of floodplain development permit; or

- (b) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained within six months of completion of the proposed encroachment.
- (2) If Article 5, Section F (1) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.
- (3) Manufactured homes may be permitted provided the following provisions are met:
  - (a) The anchoring and the elevation standards of Article 5, Section B (3); and
  - (b) The encroachment standards of Article 5, Section F (1).

#### **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 – 11.50 RESERVED.~~**

## APPENDIX A. DEFINITIONS

### SECTION 11.47 EFFECTIVE DATE.

This ordinance shall become effective insert upon adoption or a specific date.

### 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 governing body of Community Name, North Carolina, on the Day (number or text) day of Month, Year.

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

\_\_\_\_\_  
(signature)

### SECTION 11.49 – 11.50 RESERVED.

## APPENDIX A. DEFINITIONS

### APPENDIX A. DEFINITIONS

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## APPENDIX A. DEFINITIONS

### SECTION A.1 PURPOSE.

For the purposes of this UDO, certain words, concepts, and ideas are defined herein. Except as defined herein, all other words used in this Ordinance shall have their customary dictionary definition.

### SECTION A.2 INTERPRETATION.

**A.2.1.** As used in this UDO, words importing the masculine gender include the feminine and neuter.

**A.2.2.** Terms used in the singular include the plural and the plural includes the singular number.

**A.2.3.** Terms used in the past or present tense include the future as well as the past and present.

**A.2.4.** The term "person" shall include a corporation, firm, partnership, association, organization and any other group acting as a unit, as well as an individual.

**A.2.5.** The words "may" and "should" are permissive; an officially adopted course or method of action intended to be followed.

**A.2.6.** The words "shall" and "will" are always mandatory and not merely directive; expresses determination to implement/take action.

**A.2.7.** The word "used for" shall include the meaning "designed for."

**A.2.8.** The term "used" or "occupied" as applied to any land or building shall be construed to include the terms "intended, arranged, or designed to be used or occupied."

**A.2.9.** The term "lot" includes the terms "plot," "parcel," "site," and "tract."

**A.2.10.** The term "building" includes the term "structure."

**A.2.11.** The word "includes" shall not limit the term to specified examples but is intended to extend its meaning to all other instances or circumstances of like kind or character.

**A.2.12.** The terms "the Town" or "this Town" shall mean the Town of Nags Head, in the County of Dare, in the State of North Carolina, except as otherwise provided.

**A.2.13.** The term "County" shall mean the County of Dare, in the State of North Carolina, except as otherwise provided.

**A.2.14.** The terms "state" or "this state" shall be construed to mean the State of North Carolina, except as otherwise provided.

**A.2.15.** The word "UDO Administrator" shall mean the UDO Administrator or his/her designee.

**A.2.16.** The words "Planning Board" shall mean the "Town of Nags Head Planning Board."

## APPENDIX A. DEFINITIONS

**A.2.17.** The terms "Board of Commissioners" and "commissioners" shall mean the Mayor and Commissioners, or governing body, of the Town of Nags Head, North Carolina.

**A.2.18.** The words "Board of Adjustment" shall mean the "Town of Nags Head Board of Adjustment."

**A.2.19.** The words "map," and "zoning map" shall mean the "Official Zoning Map for the Town of Nags Head, North Carolina."

**A.2.20.** The terms "GS" and "NCGS" refers to the latest edition of the General Statutes of North Carolina, as amended.

**A.2.21.** The term "US 158" shall mean United States Highway 158 or US Highway 158, also referred to as South Croatan Highway.

**A.2.22.** The term "NC 12" shall mean North Carolina Highway 12, also referred to as South Virginia Dare Trail.

**A.2.23.** The term "SR 1243" shall mean North Carolina State Road 1243, also referred to as South Old Oregon Inlet Road.

### SECTION A.3 ACRONYMS

**AEC** Area of Environmental Concern.

**ALE** Alcohol Law Enforcement.

**BOA** Board of Adjustment.

**BOC** Board of Commissioners.

**BMP** Best Management Practice.

**CAMA** Coastal Area Management Act.

**CBRS** Coastal Barrier Resources System.

**CRS** Community Rating System.

**CLOMR** Conditional Letter of Map Revision.

**FCC** Federal Communications Commission or a designated representative.

**FEMA** Federal Emergency Management Agency.

**FIS** Flood Insurance Study.

**FIRM** Flood Insurance Rate Map.

**FLSNV** First Line of Stable Natural Vegetation.

## APPENDIX A. DEFINITIONS

**IESNA** Illumination Engineering Society of North America.

**LIMWA** Limit of Moderate Wave Action.

**LOMA** Letter of Map Amendment.

**LOMC** Letter of Map Change.

**LOMR** Letter of Map Revision.

**LOMR-F** Letter of Map Revision Based on Fill.

**NCDEQ** North Carolina Department of Environmental Quality.

**NCDHHS** North Carolina Department of Health and Human Services.

**NCDOT** North Carolina Department of Transportation.

**NCGS** North Carolina General Statutes.

**OPA** Otherwise Protected Area.

**ROW** Right-of-Way.

**SCM** Stormwater Control Measure.

**UDO** Unified Development Ordinance.

**USDA** United States Department of Agriculture.

### SECTION A.4 DEFINITIONS.

#### A

**Abandoned vehicle** means, as authorized and defined in NCGS 160A-303, a motor vehicle which is left:

- (1) Upon a public street or highway in violation of a law or ordinance prohibiting parking;
- (2) On a public street or highway for longer than seven days;
- (3) On property owned or operated by the Town for longer than 24 hours; or
- (4) On private property without the consent of the owner, occupant or lessee thereof, for longer than two hours.

**Abandonment** means the relinquishment of property, or cessation of the use of property, by the owner or lessee without any intention of transferring rights to the property to another owner or of resuming the use of the property.

**Commented [HW26]:** Need to decide how we will cite or if we will cite separately flood ordinance definitions- i.e. (for the purposes of Article 11, Part III, Flood Damage Prevention).

Not all definitions are currently cited this way.

Green highlighted definitions are definitions present in the model flood ordinance.

## APPENDIX A. DEFINITIONS

**Abutting** means having property or zoning district lines in common. Lots are also considered to be abutting if they are directly opposite each other and separated by a street or alley.

**Accelerated erosion** means any increase over the rate of natural erosion as a result of land-disturbing activity (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Act** means the North Carolina Sedimentation Pollution Control Act of 1973 and all rules and orders adopted pursuant to it (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Addition (to an existing building)** means an extension or increase in the floor area or height of a building or structure.

**Adequate erosion control measure, structure or device** means one which controls the soil material within the land area under responsible control of the person conducting the land-disturbing activity (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Administrative approval** means approval that the UDO Administrator or designee is authorized to grant after Administrative Review.

**Administrative review** means non-discretionary evaluation of an application by the UDO Administrator or designee. This process is not subject to a public hearing.

**Adult arcade** means any place to which the public is permitted or invited wherein coin-operated or slug-operated or electronically, electrically, or mechanically controlled still or motion picture machines, projectors, or other image-producing devices are maintained to show images to five or fewer persons per machine at any one time, and where the images so displayed are distinguished or characterized by the depicting or describing of specified sexual activities or specified anatomical areas.

**Adult bookstore** means as defined in NCGS 14-202.10(1) which is incorporated in this definition by reference.

**Adult cabaret** means a nightclub, bar, restaurant, or similar commercial establishment that for at least ten percent of its business hours in any 24-hour period features:

- (1) Persons who appear in a state of nudity or semi-nudity;
- (2) Live performances that are characterized by the exposure of specified anatomical areas or by specified sexual activities;
- (3) Films, motion pictures, video cassettes, slides, or other photographic reproductions that are characterized by the depiction or description of specified sexual activities or specified anatomical areas; or
- (4) Persons who engage in lewd, lascivious or erotic dancing or performances that are intended for the sexual interests or titillation of an audience or customers.

## APPENDIX A. DEFINITIONS

**Adult day service center** means a facility that provides day care on a regular basis for more than two hours per day for more than five adults, who are in need of supervision due to a physical or mental disability, and which does not provide overnight accommodations. Specifically, this definition excludes halfway houses and rehabilitation clinics.

**Adult escort** means a person who, for consideration, agrees or offers to act as a companion, guide, or date for another person for the purpose of participating in, engaging in, providing, or facilitating specified sexual activities.

**Adult escort agency** means a person or business that furnishes, offers to furnish, or advertises to furnish adult escorts as one of its business purposes for a fee, tip, or other consideration.

**Adult establishment** as defined in NCGS 14-202.10(2) which is incorporated in this definition by reference.

**Adult live entertainment** as defined in NCGS 14-202.10(3) which is incorporated in this definition by reference. (

**Adult live entertainment business** as defined in NCGS 14-202.10(4) which is incorporated in this definition by reference.

**Adult media center** means, but is not limited to, an adult bookstore, and an adult video store and means any place:

- (1) Which receives more than 50 percent of its gross income during any calendar month from the sale, rental, or both of books, periodicals, magazines, videotapes, CD-ROM, computer software, movies, and other products offered in photographic, print, electronic, magnetic, or digital or other imaging media which are distinguished or characterized by their emphasis on matter depicting, describing, or presenting specified anatomical areas as defined in NCGS 14-202.10(10), or specified sexual activities as defined in NCGS 14-202.10(11), or sexually oriented devices, as defined in NCGS 14-202.10(9), or any combination thereof; or
- (2) Having more than 25 percent of its merchandise inventory consisting of books, periodicals, magazines, videotapes, CD-ROM, computer software, movies, and other products offered in photographic, print, electronic, magnetic, or digital or other imaging media which are distinguished or characterized by their emphasis on matter depicting, describing, or presenting specified anatomical areas as defined in NCGS 14-202.10(10), or specified sexual activities as defined in NCGS 14-202.10(11), or sexually oriented devices, as defined in NCGS 14-202.10(9), or any combination thereof.

A commercial establishment may have other business purposes on the same building site that do not involve the offering for sale or rental of material depicting or describing specified sexual activities or specified anatomical areas and still be categorized as adult media center. Such other business purposes will not serve to exempt such commercial establishments from being categorized as an adult media center so long as one of its business purposes is the offering for sale or rental for consideration the specified materials which depict or describe specified sexual activities or specified anatomical areas.

## APPENDIX A. DEFINITIONS

**Adult mini-motion picture theater** as defined in NCGS 14-202.10(6), which is incorporated in this definition by reference.

**Adult motel** means a hotel, motel or similar commercial establishment that:

- (1) Offers accommodation to the public for any form of consideration and provides patrons with closed-circuit television transmissions, films, motion pictures, videocassettes, slides, or other photographic reproductions that are characterized by the depiction or description of specified sexual activities or specified anatomical areas; and has a sign visible from the public right-of-way that advertises the availability of this adult type of photographic reproductions; or
- (2) Offers a sleeping room for rent for a period of time that is less than 12 hours; or
- (3) Allows a tenant or occupant of a sleeping room to sub-rent the room for a period of time that is less than 12 hours.

**Adult motion picture theater** as defined in NCGS 14-202.10(5), which is incorporated in this definition by reference.

**Adult theater** means a theater, concert hall, auditorium, or similar commercial establishment that for at least ten percent of its business hours in any day, features persons who appear in a state of nudity or live performances that are characterized by the exposure of specified anatomical areas or by specified sexual activities.

**Adult video store** means a commercial establishment that, as one of its principal business purposes, offers for sale or rental for any form of consideration any one or more of the following: books, magazines, periodicals or other printed matter, or photographs, films, motion picture, videotapes or videocassettes, video reproductions, CD-ROMs, slides, or other visual representations which depict or describe specified sexual activities or specified anatomical areas; or any combination thereof.

**Aerial adventure park** means a place, typically a series of interconnected towers, platforms, and/or poles, consisting of a variety outdoor recreation elements including but not limited to rope climbing exercises, obstacle courses, and zip-lines.

**Affiliate** means a person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control of another person (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Alcohol and drug outpatient treatment facility** Outpatient facility which provides care for persons with drug and/or alcohol dependency problems and which may include outpatient follow-up care to the facility's patients.

**Alteration of a watercourse** means a dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or

## APPENDIX A. DEFINITIONS

any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

**Amusement arcade** means a building or any part of a building in which five or more pinball machines, video games or machines or other similar player operated amusement devices are maintained. The term adult arcade is specifically excluded from this definition.

**Antenna** means any communication equipment that transmits and/or receives electromagnetic radio signals used in the provision of all types of wireless communication services.

**Antenna array** means a single or group of antenna elements and associated mounting hardware, transmission lines, or other appurtenances which share a common attachment device such as a mounting frame or mounting support structure for the sole purpose of transmitting or receiving electromagnetic radio signals used in the provision of all types of wireless communication services.

**Appeal** means a request for a review of the UDO Administrator's interpretation and/or decision of any provision of this Unified Development Ordinance.

**Applicable codes** means the North Carolina State Building Code and any other uniform building, fire, electrical, plumbing, or mechanical codes adopted by a recognized national code organization together with State or local amendments to those codes enacted solely to address imminent threats of destruction or property or injury to persons.

**Application, wireless facilities** means a request that is submitted by an applicant to the Town for a permit to collocate wireless facilities or to approve the installation, modification, or replacement of a utility pole, Town utility pole, or wireless support structure.

**Area of shallow flooding** means a designated Zone AO or AH on a community's Flood Insurance Rate Map (FIRM) with base flood depths determined to be from one (1) to three (3) feet. These areas are located where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

**Area of Special Flood Hazard** see Special Flood Hazard Area (SFHA).

**Area of future-conditions flood hazard** means the land area that would be inundated by the 1-percent-annual-chance (100- year) flood based on future-conditions hydrology. (OPTIONAL).

**Commented [HW27]:** Already adopted as part of UDO, but this language is optional.

**Art gallery** means a room or structure in which original works of art or limited editions of original art are bought, sold, loaned, appraised, or exhibited to the general public.

**Art gallery, owner occupied** means a structure for the collection, display and/or distribution of objects of art and generally open to the public and operated by the art gallery owner residing at the structure and does not employ any person outside the immediate family.

**Artisan's workshop** means an establishment for the preparation, display, and sale of individually crafted artwork, jewelry, furniture, sculpture, pottery, leathercraft, hand-woven articles, and related items.

## APPENDIX A. DEFINITIONS

**Assisted living residence** means any group housing and services program for two or more unrelated adults, by whatever name it is called, that makes available, at a minimum, one meal a day and housekeeping services and provides personal care services directly or through a formal written agreement with one or more licensed home care or hospice agencies. Settings in which services are delivered may include self-contained apartment units or single or shared room units with private or area baths. There are three types of assisted living residences: adult care homes, adult care homes that serve only elderly persons, and multi-unit assisted housing with services. As used in this definition, “elderly person” means: (i) any person who has attained the age of 55 years or older and requires assistance with activities of daily living, housing, and services; or (ii) any adult who has a primary diagnosis of Alzheimer’s disease or other form of dementia who requires assistance with activities of daily living, housing, and services provided by a licensed Alzheimer’s and dementia care unit.

- (1) **Adult care home** means an assisted living residence in which the housing management provides 24-hour scheduled and unscheduled personal care services to two or more residents, either directly or for scheduled needs, through formal written agreement with licensed home care or hospice agencies. Some licensed adult care homes provide supervision to persons with cognitive impairments whose decisions, if made independently, may jeopardize the safety or well-being of themselves or others and therefore require supervision. Medication in an adult care home may be administered by designated trained staff. Adult care homes that provide care to two to six unrelated residents are commonly called family care homes. Adult care homes include halfway houses and drug rehab facilities.
- (2) **Multi-unit assisted housing with services** means an assisted living residence in which hands-on personal care services and nursing services which are arranged by housing management are provided by a licensed home care or hospice agency through an individualized written care plan. The housing management has a financial interest or financial affiliation or formal written agreement which makes personal care services accessible and available through at least one licensed home care or hospice agency. The resident has a choice of any provider, and the housing management may not combine charges for housing and personal care services. All residents, or other compensatory agents, must be capable, through informed consent, of entering into a contract and must not be in need of 24-hour supervision. Assistance with self-administration of medications may be provided by appropriately trained staff when delegated by a licensed nurse according to the home care agency’s established plan of care.

**Auction house** means a building and/or land used for the temporary storage and sale on premise of new and/or used goods by means of request or invitation for bids.

**Automated Ice Vending** means an ice production machine or facility that may operate without full-time service personnel, designed to store and/or manufacture ice for the purpose of ice dispensing. These units are activated by the insertion of money, credit cards, check cards, token, or similar means. Ice is bagged automatically or dispensed in bulk to the consumer.

## APPENDIX A. DEFINITIONS

**Automobile dealership** means a retail business primarily housed in a structure and characterized by a mixture of related uses upon a commercial site; however, the principal use of the site shall be the marketing of new or used automobiles, whether by sale, rent, lease or other commercial or financial means. Secondary supporting uses may also exist upon the same site, such as maintenance, repair and service areas, parts storage areas and financial service areas.

**Average foot-candles** means the average of a number of points of foot-candle calculations or foot-candle measurements in a given area.

### B

**Base flood** means the flood having a one percent chance of being equaled or exceeded in any given year.

**Base flood elevation (BFE)** means a determination of the water surface elevations of the base flood as published in the flood insurance study and in accordance with the Town's flood damage prevention ordinance (Article 11, Part III). When the BFE has not been provided in a "special flood hazard area," it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the "freeboard," establishes the "regulatory flood protection elevation." (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Base station** means a station at a specific site authorized to communicate with mobile stations, generally consisting of radio receivers, antennas, coaxial cables, power supplies, and other associated electronics.

**Basement** means any area of the building which has its floor subgrade (below ground level) on all sides (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Battery charging station** means an electrical component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles, which meet or exceed federal, state, and/or local requirements.

**Battery exchange station** means a fully automated facility that will enable an electric vehicle with a swappable battery to enter a drive lane and exchange the depleted battery with a fully charged battery through a fully automated process, which meets or exceeds federal, state, and/or local requirements.

**Beach recreation equipment rentals and sales** means a business involved in the rental and sale of non-motorized beach equipment such as kayaks, bicycles, surfboards, boogie boards, canopies, chairs and umbrellas for off premise use.

**Bed and breakfast** means a single-family dwelling that consists of the rental of more than two bedrooms on a daily or weekly basis. The rooms shall not be equipped to allow the preparation of meals, although meals may be provided to overnight guests in a common area by the proprietor of the

## APPENDIX A. DEFINITIONS

establishment. The bed and breakfast operation shall be owner occupied and conducted by persons who are full time residents of the single-family dwelling.

**Bedroom** means a room designated as a sleeping or bedroom on the plans by the Dare County Health Department.

**Being conducted** means a land-disturbing activity has been initiated and permanent stabilization of the site has not been completed (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Best management practices or BMPs**, also known as Stormwater Control Measures (SCM) or stormwater management practices, are techniques implemented as a way of treating or limiting pollutants and other damaging effects of stormwater runoff in order to meet legislative and North Carolina Administrative Code requirements. This term means a permanent stormwater device that is designed, constructed, and maintained to remove pollutants from stormwater runoff by promoting settling or infiltration; or to mimic the natural hydrologic cycle by promoting infiltration, evapotranspiration, post-filtration discharge, reuse of stormwater, or a combination thereof. Common stormwater control measures include but are not limited to infiltration systems, permeable pavements, stormwater wetlands, wet ponds, bioretention cells and vegetative treatment swales.

**Birth center** means an accredited facility designed and intended for uncomplicated childbirth procedures with patients staying less than 24 hours.

**Block** means that portion of any street lying between its intersection with other streets.

**Boarding house** means a single-family dwelling containing at least two rooms, which are intended to be rented or otherwise occupied by individuals outside of the permitted family members occupying the dwelling unit, where communal facilities (such as a kitchen) are available in such dwelling unit for use by the tenants.

**Boat rental establishment** means a business involved in the rental of boats, jet skis, windsurfers, and other personal watercraft for use in the sound waters only. The term includes both powered and non-powered watercraft. The term shall not include amusement rides for use in manmade ponds or pools.

**Borrow fill** means fill material which is required for onsite construction and which is obtained from other locations. (For the purposes of Article 11, Environmental Regulations, Part II, Soil Erosion and Sedimentation Control)

**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).

**Buffer yard** means a yard which contains materials used to provide sight and sound screening from adjoining properties and rights-of-way. The required height and width of the buffer yard and materials used in its construction vary according to use.

**Commented [HW28]:** Currently, the town does not allow breakaway walls. However, should we still consider defining it?

## APPENDIX A. DEFINITIONS

**Buffer yard, mature or mature buffer** means an established vegetated area already in existence at the time of development or redevelopment which contains trees, shrubs, or combination thereof creating a densely vegetated landscape, which has the effect of providing an opaque visual barrier along a property's boundaries and within the property's yard setback.

**Buffer zone** means the strip of land adjacent to a lake or natural watercourse (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Building** means any structure enclosed and isolated by exterior walls constructed or used for residence, business, industry or other purposes.

**Building, accessory** means a subordinate building consisting of walls and a roof, the use of which is clearly incidental to that of a principal building on the same lot.

**Building materials** means any material such as lumber, brick, block, stone, plaster, concrete, asphalt, roofing shingles, gutters and other substances accumulated as the result of repairs or additions to existing buildings or structures, construction of new buildings or structures or the demolition of existing buildings or structures.

**Building permit** means the permit required for new construction, additions, remodeling, rehabilitation, or other improvements to an existing structure pursuant to Article 4, Development Review Process of this UDO and NCGS 160-417.

**Building, principal** means a building in which is considered the primary or predominant use of the lot on which it is located.

**Building setback line** means the required minimum distance between any building and the adjacent right-of-way or property line.

**Building site** means the area necessary within a lot of disturbed land and vegetation required for placement of principal structures (exclusive of decks) and accessory structures, its accessways and utilities, including areas disturbed for parking lots, power lines, driveways, septic tank drainfields, cemeteries and hiking trails.

**Built-upon area (BUA)** means that portion of a development project that is covered by impervious materials or partially impervious surfaces and used to calculate stormwater runoff potential, including buildings; pavement and compacted gravel areas such as roads or parking lots, and paths and recreation facilities such as athletic courts and concrete pool decks. Built-upon area does not include the surface area of pools, wooden slatted decks, or un-compacted, washed gravel, or pervious or partially pervious paving material to the extent that the paving material absorbs water or allows water to infiltrate through the paving material. Built-upon area is distinct from "lot coverage" as defined herein.

**Business or construction trailer** means any trailer which, as its primary use, is used as a permanent, semi-permanent or temporary office or other place of business, or type of business, and from which a business may be operated.

**Commented [HW29]:** Model ordinance indicates to see definition of structure.

Model ordinance defines structure as- means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

That definition is used in UDO as definition for structure.

Discuss how to resolve.

## APPENDIX A. DEFINITIONS

**Business trash** means any waste accumulation of dust, paper, sawdust, cardboard, excelsior, rags or other accumulations other than garbage or household trash which are usually attendant to the operation of stores, offices and similar businesses.

## APPENDIX A. DEFINITIONS

### C

**Capital costs** means costs spent for developing public or community service facilities; such costs are limited to capital outlay items listed in the "Uniform Local Government Accounting Systems" procedural manual prepared by the state local government commission. Capital costs include payment of principal and interest on any debt or other financial obligation incurred by the Town with respect to a public facility.

**Capital improvements plan** means the plan adopted by the Town, projecting the capital needs and expenditures by the Town.

**Car wash** means the use of a site for washing and cleaning of vehicles and other light duty equipment.

**Cemetery** means land used or intended to be used for the burial of the human dead and dedicated for cemetery purposes, and specifically excluding crematories, mausoleums and mortuaries.

**Channel** means a portion of the electromagnetic frequency spectrum that is capable of carrying one standard video signal, in either analog or digital form. Consistent with future changes in technology and/or applicable law, the parties may mutually agree to a different definition in an individual franchise agreement.

**Chemical storage facility** means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Child care facility** includes child care centers, family child care homes, and any other child care arrangement not excluded by NCGS 110-86 (2) that provides child care, regardless of the time of day, wherever operated, and whether or not operated for profit.

- (1) **Child care center** means any place where, at any one time, there are three or more preschool-age children or nine or more school-age children receiving child care.
- (2) **Family child care home** means a child care arrangement located in a residence where, at any one time, more than two (2) children, but less than nine (9) children, receive child care.

**Cluster housing** means a development in which more than one dwelling unit is placed on a lot. For the purposes of this UDO, cluster housing shall only pertain to dwelling units that are threatened by shoreline erosion and are being relocated onto a lot containing another dwelling unit.

**Coastal Area Management Act (CAMA)** means North Carolina's Coastal Area Management Act. This act, along with the Dredge and Fill Law and the Federal Coastal Zone Management Act, is managed through NC Department of Environmental Quality's (NCDEQ's) Division of Coastal Management (DCM).

**Coastal A Zone (CAZ)** means an area within a special flood hazard area, landward of a V zone or landward of an open coast without mapped V zones; in a Coastal A Zone, the principal source of flooding must be astronomical tides, storm surges, seiches, or tsunamis, not riverine flooding. During the base

## APPENDIX A. DEFINITIONS

flood conditions, the potential for wave heights shall be greater than or equal to 1.5 feet. Coastal A Zones are not normally designated on FIRMs (see Limit of Moderate Wave Action (LiMWA)).

**Coastal Barrier Resources System (CBRS)** consists of undeveloped portions of coastal and adjoining areas established by the Coastal Barrier Resources Act (CoBRA) of 1982, the Coastal Barrier Improvement Act (CBIA) of 1990 and subsequent revisions, and includes areas owned by federal or state governments or private conservation organizations identified as otherwise protected areas (OPA).

**Coastal counties** means the following counties: Beaufort, Bertie, Brunswick, Camden, Carteret, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, and Washington (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**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.

**Commented [HW30]:** Update to reflect local definition if needed. areas east of 12 and 1243 or AO?

**Coffee shop** means an establishment primarily engaged in the serving of coffee beverages and other non-alcoholic beverages and food items and classified and regulated by the Dare County Health Department as a coffee shop with a customer service area not exceeding 385 square feet. Permitted accessory uses include but are not limited to retail sales of packaged coffee and retail merchandise. There shall be no drive-in or drive-through beverage service.

**Collection** means the act of removing solid waste to the transfer stations or the facility.

**Co-location or co-located** means the installation of new antenna arrays on previously approved structures, including towers, buildings, utility poles, and water tanks.

**Collector street** means a street which serves or is designed to serve as a trafficway for a neighborhood or as a feeder to a major street from local access streets.

**Commercial crop production** means the production of crops or produce for sale, to wholesale or retail establishments.

**Commercial marina** means any publicly or privately owned dock, basin or wet storage facility constructed to accommodate mooring for more than four boats or providing, but not limited to, any of the following services for a fee: Permanent or temporary transient docking spaces, dry storage, fueling facilities, haul-out facilities and repair service. Site plans which have been approved by the board of commissioners for outdoor recreational uses are not considered a commercial marina.

**Commercial transitional protective yard** means a buffered protective yard on a commercial (C-1, C-2, C-3, and C-4) lot. A commercial transitional protective yard is a required open space other than a court unoccupied and unobstructed by any structure or portion of a structure; provided, however, that fences, poles, posts may be permitted in any commercial transitional protective yard, subject to height limitations and requirements limiting obstruction of visibility or any other requirement of this UDO

## APPENDIX A. DEFINITIONS

**Commercial with accessory residential** means a principal commercial use with accessory single-family residences either attached or detached. This use could include single-family residential, duplex, or multiple detached single-family residential dwelling units configured in a cottage court arrangement.

**Communication facility** means the set of equipment and network components, including wires and cables and associated facilities used by a communications service provider to provide communications service.

**Communication tower, major** means any tower over 70 feet in height, measured from ground level to the highest point intended for transmitting or receiving radio, television or telephone or wireless communications.

**Communication tower, minor** means any tower 70 feet or less in height, measured from ground level to the highest point intended for transmitting or receiving radio, television or telephone or wireless communications.

**Communications service** means cable service as defined in 47 U.S.C. § 522(6), information service as defined in 47 U.S.C. § 153(24), telecommunications service as defined in 47 U.S.C. § 153(53); or wireless services.

**Communications service provider** means a cable operator as defined in 47 U.S.C. § 522(5); a provider of information service, as defined in 47 U.S.C. § 153(24); a telecommunications carrier, as defined in 47 U.S.C. § 153(51); or a wireless provider.

**Community garden** means a use in which land is managed by a group of individuals to grow food or ornamental crops such as flowers, for donation or for use by those cultivating the land. Community Gardens may be divided into separate plots for cultivation by one or more individuals or may be farmed collectively by members of the group and may include common areas maintained and used by group members.

**Competent evidence** refers to the NC General Statutes requirement that the rules of evidence as applied in the trial division of the General Court of Justice ordinarily be followed but adds the important exception that “when evidence is not reasonably available under such rules to show relevant facts, they may be shown by the most reliable and substantial evidence available.” The Board just limits itself to the type of evidence that ought to be admissible before local administrative agencies generally. The term “competent” is essentially a synonym for “admissible before a local board.”

**Completion of construction or development** means that no further land-disturbing activity is required on a phase of a project except that which is necessary for establishing a permanent ground cover (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Computation of time** means the time within which an act is to be done shall be computed by excluding the first and including the last day; and if the last day is Saturday, Sunday or a legal holiday, that shall be excluded.

## APPENDIX A. DEFINITIONS

**Concealed building mounted antenna (flush)** means a building mounted antenna or antenna array which is concealed by, but not limited to, being located beneath the roof line, being screened behind an opaque facade, or blended into the building structure with faux windows, dormers or other architectural features that appear as part of the existing or proposed structure so that the antenna or antenna array is not visible by ordinary observation from the ground at the perimeter of the property boundary in any direction (360 degrees).

**Condominium** means ownership in common with others of a parcel of land and certain parts of a building thereon which would normally be used by all the occupants, together with individual ownership in fee of a particular unit in such building.

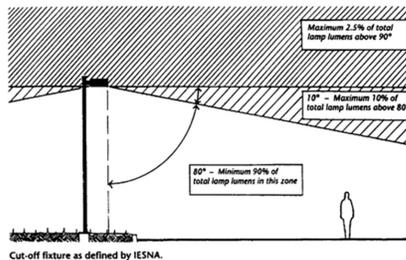
**Cottage court** means a residential type development with three or more detached single-family dwellings, on-site management office, and/or another complementary business use on one lot.

**Crawl space construction** means the enclosed under-floor space between the bottom of the floor joists and the earth under any building (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Crowd gathering activities in indoor public assemblies** means all events or activities within places of indoor public assembly designed for multiple activities and intended to attract large numbers of people. Such events and activities may include conferences, conventions, private parties, catered meals, and general retail in the form of craft fairs, food fairs and indoor flea markets.

**Customer service area** means the area within a restaurant or restaurant drive-in, open to the general public and designated for the purchase and/or consumption of food, drink, or other similar items. Customer service area shall include indoor and/or outdoor seating areas, indoor and/or outdoor lounge and bar areas, decks, porches, and patios but shall not include stairs, stair landings, handicapped ramps, restrooms, kitchen and food preparation areas, private offices, loading areas, hallways, exit access and exit discharge areas, and any other areas not open to the general public. Customer service area shall not include outdoor seating areas, or outdoor decks, porches or patios where such areas are not designated for the purchase of food, drink, or similar items and instead are used primarily as waiting areas for customers who are waiting to be seated in indoor customer service areas. Additionally, customer service area shall not include any outdoor areas used by the customers of restaurants located in shopping centers.

**Cutoff fixture** means a flat lens, full cutoff fixture that by its design, directs a minimum of 90 percent of total lamp lumens within 80 degrees of the vertical plane of the light fixture and a maximum of ten percent of the total lamp lumens above 80 degrees from the vertical plane, and no more than 2.5 percent of total lamp lumens above 90 degrees. Full cutoff fixtures must be installed in a horizontal position as designed.



## APPENDIX A. DEFINITIONS

### D

**Dare County Health Department** means the Dare County Department of Health and Human Services.

**Dedication** means a gift to the general public or a municipality, by the owner, of the right to use land for stated purposes. Since a transfer of property is involved, a dedication must be made by written instrument.

**Department** means the NC Department of Environmental Quality (NCDEQ) (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Design flood** see Regulatory Flood Protection Elevation

**Design storm or design depth** means a rainfall event, expressed in depth, measured in inches, for the purposes of Article 11, Part I, Stormwater, Fill & Runoff Management and independent of storm duration, utilized for the calculation of storage volume required for BMPs. Design storm depth varies by fill depth, flood zone, and use as specified in Article 11, Part I.

**Designated public events site** means a parcel or contiguous group of parcels of acreage greater than five, owned by the public and designated by the board of commissioners for the purpose of creating a variety of opportunities for recreation, leisure, social or cultural experiences and special events in accordance with the regulations of this Code. Public event sites may include temporary and fixed structures, as approved by the building inspector, and can host multiple uses with an events site and management plan and permit approved by the Town Manager.

**Developer** means that person who is improving a parcel of land within the Town and who may or may not be the owner of the property.

**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.

**Development activity** means any activity defined as Development which will necessitate a Floodplain Development Permit. This term includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

**Dialysis center** means a building or structure or portion thereof in which persons with impaired kidney function have toxins removed from their blood on a periodic basis through the use of dialysis machines. Application of the term shall be limited to facilities staffed routinely by nurses and/or technicians and not by a doctor.

## APPENDIX A. DEFINITIONS

**Digital Flood Insurance Rate Map (DFIRM)** means the digital official map of a community, issued by the Federal Emergency Management Agency (FEMA), on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

**Director** means the director of the Division of Energy, Mineral, and Land Resources of the NC Department of Environmental Quality (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Discharge point** means that point at which runoff leaves a tract of land (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Dish antenna** means any accessory structure capable of receiving radio or television signals from a transmitter or a transmitter relay which is located in planetary orbit or land based.

**Disposal** means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters (for the purposes of Article 11, Part III, Flood Damage Prevention).

**District** means the Dare Soil and Water Conservation District created pursuant to NCGS Ch. 139.

**Dock, private** means an estuarine pier or dock which may be permitted as an accessory use to the principal use, and shall be for the exclusive use of the landowner and shall not provide any services of a commercial marina.

**Docking facility** means any publicly or privately-owned dock, basin or wet storage facility constructed to accommodate mooring for four or less boats as an accessory to a principal commercial use.

**Dormitory** means a commercial facility used for monthly rental housing of unrelated residents in a communal non-transient living arrangement. The facility shall consist of separate sleeping, bathing, and common living areas.

**Drainage area** means the entire tributary area contributing surface runoff to a point of interest.

**Drainfield** shall also mean nitrification field or wastewater disposal area.

**Drive aisle** means the area of driveway necessary for vehicles to access parking stalls and for emergency vehicle access to structures.

**Driveway** means an improved accessway for vehicular traffic with the purpose of providing access to parking or maneuvering space from a public street or highway into an abutting property.

**Driveway apron** means that portion of a driveway which connects to the adjacent street or highway, usually within the right-of-way for that street.

## APPENDIX A. DEFINITIONS

**Dry hydrant** means an arrangement of pipe permanently connected to a water source other than a piped, pressurized water supply system that provides a ready means of water supply for fire-fighting purposes and that utilizes the drafting (suction) capability of the fire department pump.

**Dry well** means a structure or series of structures located to collect and discharge stormwater through a subterranean chamber which allows collected water to dissipate and infiltrate into the ground.

**Dwelling, accessory** means a secondary dwelling unit established in conjunction with, and clearly subordinate to, a principal dwelling unit, whether part of the same structure as the principal dwelling unit or as a detached structure on the same lot.

**Dwelling, duplex** means any dwelling place designed for, or occupied by, two families, each of which has direct access to the outside.

**Dwelling, large residential** means a single-family dwelling or two-family dwelling (duplex) that has 3,500 or more square feet of enclosed habitable living space.

**Dwelling, multifamily** means a building or portion thereof used or designed as a residence for three or more families living independently of each other and with each independent unit containing its own kitchen. Multifamily dwelling shall include a townhouse and any similar building, irrespective of the form of legal title.

**Dwelling, single-family** means a detached building designed for or occupied exclusively by one family.

**Dwelling unit** means one room, or rooms connected together, constituting a separate, independent housekeeping establishment for owner occupancy, or rental or lease, and physically separated from any other rooms or dwelling units which may be in the same structure, and containing independent cooking and sleeping facilities for a single-family.

### E

**Easement** means a grant by the property owner for use, by the public, a corporation or person, of a strip of land for specified purposes.

**Easement, access** means an easement created for the purpose of providing vehicular or pedestrian access to property.

**Earth station** - see Dish Antenna.

**Educational facility, pre-school** means a facility for the organized instruction of children not yet attending primary or secondary school.

**Electric vehicle** means any vehicle that operates, either partially or exclusively, on electrical energy from the grid, or an off-board source, that is stored on-board for energy purposes. Electric vehicle includes: (1) a battery powered electric vehicle; and (2) a plug-in hybrid electric vehicle.

## APPENDIX A. DEFINITIONS

**Electric vehicle charging station** means a public or private parking space located together with a battery charging station which permits the transfer of electric energy (by conductive or inductive means) to a battery or other storage device in an electric vehicle. An electric vehicle charging station is permitted as an accessory use to any principal use.

**Electric vehicle parking space** means any marked parking space that identifies the use to be exclusively for an electric vehicle.

**Electroluminescent** means direct conversion of electric energy to light by a solid phosphor, or other materials, subjected to an electrical current.

**Elevated building** means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns (for the purpose of Article 11, Part III, Flood Damage Prevention).

**Elevation** means:

- (1) A vertical distance above or below mean sea level;
- (2) A fully dimensioned drawing to the front, rear, or side of a structure showing features and their relationship to grade, sea-level, or other reference point.

**Eligible facilities request** means a request for modification of an existing wireless tower or a base station that involves collocation of new transmission equipment or replacement of transmission equipment but does not include a substantial modification.

**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.

**Encroachment** means the advance or infringement of uses, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain (for the purpose of Article 11, Part III, Flood Damage Prevention).

**Encroachment** means the location of a structure within a required yard that is not permissible under the requirements of this UDO. Article 8, District Development Standards, contains the minimum yard requirements for the Town's primary and special zoning districts.

**Energy dissipater** means a structure or a shaped channel section with mechanical armoring placed at the outlet of pipes or conduits to receive and break down the energy from high velocity flow (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Engineer** means a professional engineer registered in the state to act as duly authorized representative of the developer or the Town.

**Environmental awareness area** is an area designated and maintained for the purpose of conservation and environmental education. This may include non-profit wildlife, ecological preserves, watershed

## APPENDIX A. DEFINITIONS

construction areas, interpretive signage, trails, research stations and appurtenant office, restroom and mechanical facilities (and is distinct from the definition of "area of environmental concern" or "AEC," which is a CAMA designation).

**Erosion** means the wearing away of land surface by the action of wind, water, gravity or any combination thereof (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Erosion escarpment** means the normal vertical drop in the beach profile caused from high tide and/or storm tide erosion.

**Erosion, natural** means the wearing away of the earth's surface by water, wind or other natural agents under natural environmental conditions undisturbed by man (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Estuarine frontal dunes** means the dunes which are the first mounds of sand located landward of the estuarine waters of the Roanoke Sound and having a minimum elevation equal to or greater than the mean flood level plus six feet (nine feet plus six feet). For the purpose of this article, estuarine frontal dunes occur in the area southerly of the northwest boundary of Parcel 13, Tax Map 185, as shown on Tax Maps 185 and 186. The estuarine frontal dunes extend southward and terminate at the southwest boundary of the SED-80 district.

**Equipment compound** means an area surrounding or near the base of wireless support structure within which a wireless facility is located.

**Existing building and existing structure** means any building and/or structure for which the "start of construction" commenced before the ~~date the Town's first floodplain management ordinance was adopted- community entered the NFIP,~~ dated \_\_\_\_.

Commented [HW31]: Verify date

**Existing manufactured home park or manufactured home subdivision** means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) was completed before January 16, 1978 (for the purposes of Article 11, Part III, Flood Damage Prevention).

Commented [HW32]: Verify that this is the date the community entered the program.

**Ex parte** is a Latin legal term meaning "from (by or for) [the/a] party." An ex parte decision is one decided by a judge without requiring all of the parties to the controversy to be present.

### F

**Fall zone** means the area in which a wireless support structure may be expected to fall in the event of a structural failure, as measured by engineering standards.

**Family** means any group of people operating as a single housekeeping unit occupying a dwelling unit.

**Family care home** means a home with support and supervisory personnel that provides room and board, personal care and habilitation services in a family environment for not more than six resident

## APPENDIX A. DEFINITIONS

persons with disabilities. "Person with disabilities" means a person with a temporary or permanent physical, emotional, or mental disability, including but not limited to mental retardation, cerebral palsy, epilepsy, autism, hearing and sight impairments, emotional disturbances and orthopedic impairments but not including mentally ill persons who are dangerous to others as defined in NCGS Section 122C-3(11)b.

**Family foster home** means the private residence of one or more individuals who permanently reside as members of the household and who provide continuing full-time foster care for a child or children who are placed there by a child placing agency or who provide continuing full-time foster care for two or more children who are unrelated to the adult members of the household by blood, marriage, guardianship, or adoption.

**Farm stand** means a temporary open-air stand or place for the seasonal selling of agricultural produce. A produce stand is portable and capable of being dismantled or removed from the sales site.

**Farmers Market, Municipally-Operated** means a municipally operated, seasonal market that is open to the public and held on Town property where individuals offer for sale locally produced and/or acquired items such as seasonal fresh produce, fruits, flowers, dairy, meats, prepared foods, seafood, beverages, farm products, arts and crafts, and wares, which are dispensed from booths located on-site. Other secondary activities could include, but are not limited to, art shows, live music, educational and learning activities, kids programming, and other municipally organized events and activities.

**Fence** means any artificially constructed barrier of any material or combination of materials erected to enclose or screen areas of land.

**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.

**Fill depth** is the difference between the post-development surface elevation and the pre-development surface elevation.

**Fine craft and folk art production** means a variety of crafts and arts rooted in community and cultural traditions that generally expresses and encompasses a range of utilitarian and decorative media including cloth, wood, paper, clay, metal and more. The term does not include Artisan's Workshop as defined herein.

**Flag pole** means a pole with a pulley and a cord on which a flag or flag sign is raised and flown.

**Flood or flooding** means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (a) The overflow of inland or tidal waters; or
- (b) The unusual and rapid accumulation of runoff or surface waters from any source.

**Commented [S33]:** Should we update definition to include-  
Excavated material moved or relocated onsite is considered fill.

## APPENDIX A. DEFINITIONS

**Flood Boundary or Floodway Map (FBFM)** means an official map of a community, issued by the FEMA, on which the Special Flood Hazard Areas and the floodways are delineated. This official map is a supplement to and shall be used in conjunction with the Flood Insurance Rate Map (FIRM).

**Flood Hazard Boundary Map (FHBM)** means an official map of a community, issued by the FEMA, where the boundaries of the Special Flood Hazard Areas have been defined as Zone A.

**Flood insurance** means the insurance coverage provided under the National Flood Insurance Program.

**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).

**Flood Insurance Study (FIS)** means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the Federal Emergency Management Agency. The flood insurance study report includes Flood Insurance Rate Maps (FIRM's) and Flood Boundary and Floodway Maps (FBFMs), if published.

**Floodlight** means a light fixture usually capable of being pointed in any direction that is designed to project a light beam to an object or surface area to a luminance considerably greater than its surroundings.

**Flood-prone area.** See Floodplain.

**Floodplain** means any land susceptible to being inundated by water from any source.

**Floodplain administrator** is the individual appointed to administer and enforce the floodplain management regulations.

**Floodplain development permit** means any type of permit that is required in conformance with the provisions of this UDO, prior to the commencement of any development activity.

**Floodplain management** means the operation of an overall program of corrective and preventative measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

**Floodplain management regulations** means Article 11, Part III of this UDO and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state or local regulations, in any combinations thereof, which provide standards for preventing and reducing flood loss and damage.

## APPENDIX A. DEFINITIONS

**Floodproofing** means any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

**Flood-resistant material** means any building product [material, component or system] capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbars are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood resistant. Please refer to Technical Bulletin 2, Flood Damage-Resistant Materials Requirements, and available from the FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.

**Floodway** means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

**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.

**Flood zone** means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

**Flyboard** means a type of jetpack which supplies propulsion to drive the flyboard through water, the rider typically stands on a board connected by a long hose to a watercraft.

**Food bank** means a building or portion of a building from which foodstuffs are distributed to indigent individuals or families.

**Food truck** means a licensed vehicle or trailer equipped with facilities for cooking and selling food which satisfies local and state regulations for health and sanitation standards.

**Footcandle** means the unit of measure of illuminance on a surface. Footcandles are the ratio of the quantity of light in lumens divided by the surface area in square feet on which the lumens are falling. One lumen per square foot is one footcandle.

**Forest canopy** means (collectively) the light-intercepting layer formed by all of the tree tops and ultimate leaf bearing branches in a forest; the uppermost layer of vegetation in a forest. In the Nags Head Woods, the forest canopy may be kept to near constant height by the pruning effect of salt mist nearer the ocean or it may become irregular in height where salt impact is less.

## APPENDIX A. DEFINITIONS

**Forest sub-canopy** means a light-intercepting understory layer formed by shade-tolerant saplings, shrubs and small trees beneath the canopy of a forest. The Nags Head Woods sub-canopy species include dogwood, muscle wood, hop hornbeam and holly.

**Free of obstruction** means a space below the lowest floor of an elevated structure, located in a coastal high hazard area or VE-zone, that must be open and designed to be free and clear to allow floodwaters to flow freely beneath the structure. The space below the lowest floor that is unobstructed shall be a minimum vertical distance of 18 inches measured from the bottom of the lowest horizontal structural member of the lowest floor to the highest finished grade directly beneath the structure. Breakaway walls cannot be utilized to meet the free of obstruction requirement.

**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."

**Frontal dune** means, in areas where there is a primary dune, that dune shall be deemed to be the frontal dune. Where there is no primary dune, the frontal dune is deemed to be the first mound of sand located landward of the ocean beach having sufficient vegetation, height, continuity and configuration to offer protective value. Manmade mounds seaward of the natural line of frontal dunes and dunes created after June 1, 1979, shall not be considered to be frontal or primary dunes, except where no frontal or primary dune exists.

**Fully shielded** means a light fixture that is constructed or sufficiently shielded by an opaque housing, in such a manner that all light emitted is below the horizontal plane as determined by photometric test or certified by the manufacturer.

**Functionally dependent facility** means a facility which cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales or service facilities (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Furniture showroom** means a retail establishment that utilizes large, open floor areas to display furniture or mattresses.

**Furniture store** means an establishment that sells goods and/or movable objects, intended to support various human activities such as seating, eating, and sleeping, for furnishing or improving housing units that make a room or other area ready for occupancy.

### G

**General contractor's office** means a building or portion of a building occupied as an office by a "general contractor" as defined in NCGS 87-1.

**Commented [HW34]:** Not in model- Higher standard.

Need to determine if free of obstruction will be required for AO zones or areas east of Hwy 12 and 1243.

## APPENDIX A. DEFINITIONS

**Glare** means the sensation produced by luminance within the visual field that is significantly greater than the luminance to which the eyes are adapted, causing annoyance, discomfort, or loss of visual performance. It results from high luminance or insufficiently shielded light sources in the field of view or from reflecting areas of high luminance. There are two types:

- (1) Disability glare affects visual performance and reduces the ability to see or identify objects. It is often accompanied by discomfort.
- (2) Discomfort glare produces discomfort but does not necessarily interfere with visual performance or visibility.

**Grade** means the average elevation of the land around a building as measured at the four corners of the structure or at four points around the building distributed evenly, or as the natural elevation of land within a property measured in feet above sea level.

**Grading** means any cut or fill, or combination thereof, or re-compaction of soil, rock or other earthen materials.

**Granny pods/temporary health care structure** means a transportable residential structure, providing an environment facilitating a caregiver's provision of care for a mentally or physically impaired person, that (i) is primarily assembled at a location other than its site of installation; (ii) is limited to one occupant who shall be the mentally or physically impaired person, (iii) has no more than 300 gross square feet; and (iv) complies with applicable provisions of the State Building Code and NCGS 143-139.1. (NEW)

**Grantee** means a person who is granted a franchise or that person's lawful successors, transferees or assigns.

**Grantor** means the Town of Nags Head.

**Gravel** means a clean or washed, loose aggregation of well-rounded spherical stones, commonly referred to as pea gravel or river rock, that are up to three inches in diameter where 50 percent is larger than ¼-inch with less than five percent fines. Gravel is not crushed stone or rock.

**Gross floor area** means that area in square feet measured from the outside walls of a structure.

**Ground cover** means any natural vegetative growth or other material which renders the soil surface stable against accelerated erosion (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Groundwater recharge area** means a catchment basin or watershed underlain by layers of alternating permeable and impermeable strata such that excess rainfall not lost by evapotranspiration or runoff is retained and stored in subterranean porous layers of soil. Nags Head Woods acts as a groundwater recharge area since porous sandy soils permit little runoff of excess precipitation. For the purposes of this UDO, components of this system include ponds, wetland swales, bay forests, dunes and marsh.

## APPENDIX A. DEFINITIONS

**Group demonstration** means any assembly or concert of action between or among any two or more persons for the purpose of protesting or demonstrating for or against any matter, or of making known any position or promotion of such persons or matter, or of or on behalf of any organization, group, corporation or class of persons, or for the purpose of attracting attention to such assembly.

**Group development** means a group of buildings on a single site which are occupied and used for professional offices, retail, personal services, indoor recreation facilities, and/or restaurant uses.

## APPENDIX A. DEFINITIONS

### H

**Habitable floors** means any floor usable for living purposes, which includes working, sleeping, eating, cooking, or recreation or a combination thereof, except for a floor used only for storage purposes.

**Habitable building area** means a finished space in an enclosed portion of the building used for any purpose other than storage.

**Haunted house** means an indoor entertainment facility utilizing sets, props, and displays for a family-oriented environment.

**Hazardous waste management facility** means, as defined in NCGS 130, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste (for the purposes of Article 11, Part III, Flood Damage Prevention).

**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 ~~any~~ Shaded X, X, or AE special flood hazard area, 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, ~~or~~ VE zones, AO zones, and Shaded X or X special flood hazard areas east of Hwy 12 or 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.

**Height, wind energy facility** means the distance measured from grade at the center of the tower to the highest point of the turbine rotor or tip of the turbine blade when it reaches its highest elevation.

**Heliport** means an area providing for the takeoff and landing of helicopters and fuel facilities (whether fixed or mobile) or appurtenant areas for parking, maintenance, and repair of helicopters.

**High hazard flood area** means the area subject to high velocity waters (including, but not limited to, hurricane wave wash) in a storm having a one percent chance of being equaled or exceeded in any given year, as identified as zone V1-30 on the flood insurance rate maps of the Federal Insurance Administration, US Department of Housing and Urban Development. In the absence of these rate maps, other available base flood elevation data prepared by a federal, state or other source may be used, provided that such data source is approved by the Town.

**Commented [S35]:** Should we put RFPE of 12'----In areas east of NC 12 and 1243, height would be measured from RFPE of 12'

## APPENDIX A. DEFINITIONS

**High quality water (HQW) zones** means for the coastal counties areas within 575 feet of high quality waters and for the remainder of the state are areas within one mile and drain to HQW's (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**High quality waters** means those classified as such in 15A NCAC 2B.0101(e)(5) - General Procedures, which is incorporated in this section by reference to include further amendments pursuant to NCGS 150B-14(c) (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Highest adjacent grade (HAG)** means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

**Historic structure** means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing by the US Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or
- (3) Individually listed on a local inventory of historic landmarks in communities with a "certified local government (CLG) program"; or
- (4) Certified as contributing to the historical significance of a historic district designated by a community with a "certified local government program."

Certified local government (CLG) programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the state historical preservation officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

**Home center** means a retail outlet carrying products for home improvements, remodeling maintenance, decorating, home care, recreational leisure and related needs, including hardware, appliances, lumber and other building materials, but only in such amounts as will meet the need for self-pickup individuals, do-it-yourself customers, and not amounting to a lumber yard or building material storage yard from which deliveries are made to commercial customers.

**Home occupation, class 1** means a professional services occupation commonly carried on within the dwelling by a member(s) of the household who occupy the dwelling. A home occupation shall be secondary to the use of the dwelling for living purposes.

**Home occupation, class 2** means a professional service occupation that is limited to services without any on-site/wholesale sales of commodities owned and/or operated by member(s) of the household who occupy the dwelling. These services may include real estate sales, law practice, accounting services, handmade goods, including baked goods (as long as they are sold off-site), and other similar

## APPENDIX A. DEFINITIONS

professional occupations. A home occupation shall be secondary to the use of the dwelling for living purposes.

**Home occupation, class 3** means an occupation carried on within the dwelling owned and/or operated by member(s) of the household who occupy the dwelling that may involve the creation, display, or sale of artistic wares, crafts, pieces of art, sculptures, or other creations, and handmade goods (including baked goods). A home occupation shall be secondary to the use of the dwelling for living purposes.

**Hospital** means an institution providing physical services primarily for human inpatient medical or surgical care for the sick or injured. A hospital may include related facilities such as laboratories, outpatient services, training facilities, central service facilities, mental health and staff offices. A hospital shall include an on-site heliport.

**Hotel** means a structure containing hotel units, hotel suites, and or efficiency units with 24-hour, on-site management and intended for transient guests on a rental basis.

**Hotel efficiency unit** means a lodging unit having living and cooking facilities and also meeting the following requirements:

- (1) Efficiency units shall be limited to one bedroom.
- (2) The kitchen area shall comprise no more than ten percent of the entire unit.

**Hotel suite** means lodging unit having living and cooking facilities within a hotel and also meeting the following requirements:

- (1) Units shall be limited to two bedrooms.
- (2) The kitchen area shall comprise no more than ten percent of the entire unit.

**Hotel unit** means a lodging unit which does not contain independent cooking facilities and is designed and intended for transient guests on a rental basis. This definition shall include rental units customarily found in motels, hotels, inns and motor lodges.

**Housekeeping unit** means any household whose members are an interactive group of persons jointly occupying a dwelling unit, including joint access to and use of all common areas including living, kitchen, and eating areas within the dwelling unit, and sharing household activities and responsibilities such as meals, chores, expenses and maintenance, and whose makeup is determined by the members of the unit rather than by the landlord, property manager, or other third party.

### I

**Impacts of stormwater** means impacts associated with inadequate storage, conveyance, or ponding of stormwater runoff, including erosion, intermittent flooding, or chronic flooding.

**Impervious surface** means any surface which, because of its material composition or compacted nature, impedes or prevents natural infiltration of stormwater into the soil.

## APPENDIX A. DEFINITIONS

**Improvements** are all changes or additions made on or to the land, excluding buildings and structures and including, but not limited to:

- (1) Street and roads and related curbing;
- (2) Sidewalks;
- (3) Storm drains and mains;
- (4) Water lines, water mains and fire hydrants;
- (5) Sewer lines and sewer mains;
- (6) Any sewerage treatment facility of any kind except one-family or two-family residence septic tanks;
- (7) Surface and subsurface electric and telephone and cable television lines and conduits;
- (8) Recreational facilities, except recreational facilities intended for use by an individual for his own private purposes which include, but are not limited to:
  - (a) Playgrounds;
  - (b) Parks;
  - (c) Marinas;
  - (d) Beaches and swimming pools;
  - (e) Golf courses;
- (9) Street lighting and related electric wires;
- (10) Natural gas lines;
- (11) Parking lots.

**Incipient inlet** means an ocean-to-sound inlet which has been formed, or an inlet in the first stages of formation, or an inlet which has opened and is now closed, as a result of a severe storm event.

**Incipient inlet high hazard area** means that land area on both sides of an inlet, an incipient inlet, or former inlet which has closed.

**Indoor entertainment** means performances, entertainment, or presentations consisting of or using electric or electronic amplified sound by live entertainers, or by prerecorded media, presented before audiences or customers. Sexually oriented business activities and adult live entertainment are specifically excluded from this indoor entertainment definition.

## APPENDIX A. DEFINITIONS

**Indoor entertainment facilities** means facilities as a part of, or included in the design or plan of, a building or structure to accommodate indoor entertainment as a principal or accessory use. Indoor entertainment facilities must be constructed to meet noise buffering requirements of the zoning district where located.

**Indoor fitness center** means a building which is occupied and used exclusively for physical health fitness programs and to provide facilities for group and individual exercise including aerobics, weightlifting, martial arts, stretching and meditation.

**Indoor place of amusement and entertainment** means any place of amusement and entertainment which operates indoors within a building which is completely walled on all sides and has a complete roof; except, a tent or temporary structure or building.

**Indoor public assembly facility** means a facility designated for multiple activities. The allowed activities may include conferences, conventions, concerts, private parties, catered meals, and general retail in the form of craft fairs, food fairs and indoor flea markets.

**Indoor recreation activities** means family indoor recreation uses either as a principal or accessory use.

**Inn** - see Hotel.

**ISO footcandle diagram** means lines plotted on a set of coordinates to show all points on a surface where equal levels of illuminance occur.

### J

**Jetpack** means a device, usually worn on the back, which is propelled by jets of escaping gases or liquids to allow a single user to propel themselves in the air.

**Junk** means old or scrap metals, rope, rags, batteries, paper, trash, rubber or debris. Junked, dismantled or wrecked motor vehicles or parts thereof and iron, steel and other old or scrap ferrous or nonferrous material are also junk. The term junk shall also include old or salvaged building materials, appliances, dismantled or wrecked boats, machinery and machinery parts, or parts thereof, and any item which is either in a wholly or partially rusted, wrecked, dismantled or inoperative condition.

**Junked motor vehicle** means, as authorized and defined in NCGS 160A-303.2, a vehicle that does not display a current license plate upon that vehicle and that:

- (1) Is partially dismantled or wrecked;
- (2) Cannot be self-propelled or moved in the manner in which it originally was intended to move; or
- (3) Is more than five years old and appears to be worth less than \$100.00.

**Junkyard** means an open storage area such as an automobile wrecking yard, building material salvage yard, scrap metal processing yard or any lot, land or structure or part thereof where an area of 600

## APPENDIX A. DEFINITIONS

square feet or larger is used for storing, keeping, buying, processing or selling junk. In addition, any open storage area on which three vehicles without proper, current license plates are located shall be considered a junkyard.

### K

None

### L

**Lake or natural watercourse** means any stream, river, brook, swamp, sound, bay, creek, run, branch, canal, waterway or estuary and any reservoir, lake or pond, natural or impounded, in which sediment may be moved or carried in suspension, and which could be damaged by accumulation of sediment. (For the purposes of Article 11, Environmental Regulations, Part II, Soil Erosion and Sedimentation Control)

**Lamp** means a bulb, tube, or light emitting diode (LED) that is a light source.

**Land development regulations** means any ordinance enacted pursuant to Part 3E of Article 19 of Chapter 160A of the North Carolina General Statutes (NCGS).

**Land disturbing activity** means any use of the land by any person in residential, industrial, educational, institutional or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography and that may cause or contribute to sedimentation, excluding disturbance allowable for site investigations (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Landowner** means any owner of a legal or equitable interest in real property, including heirs, devisees, successors, assigns, and personal representatives of such owner. The landowner may allow a person holding a valid option to purchase to act as his agent or representative for purposes of submitting a proposed site-specific development plan in the manner allowed by Article 3, Legislative/Quasi-Judicial Procedures of this UDO.

**Letter of Map Change (LOMC)** means an official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

- (1) **Letter of Map Amendment (LOMA)** means an official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on technical data showing that a property had been inadvertently mapped as being in the floodplain but is actually on natural high ground above the base flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
- (2) **Letter of Map Revision (LOMR)** means a revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.

## APPENDIX A. DEFINITIONS

(3) **Letter of Map Revision Based on Fill (LOMR-F)** means a determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.

(4) **Conditional Letter of Map Revision (CLOMR)** means a formal review and comment as to whether a proposed project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

**Light duty truck** means any motor vehicle rated at 8,500 pounds Gross Vehicular Weight Rating or less which has a vehicular curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:

- (1) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle, or
- (2) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or
- (3) Available with special features enabling off-street or off-highway operation and use.

**Limit of Moderate Wave Action (LiMWA)** means the boundary line given by FEMA on coastal map studies marking the extents of Coastal A Zones (CAZ).

**Light fixture** means any electrically powered illuminating device, reflective surface, lamp or any similar device, permanently installed or portable, used for illumination or advertisement, including illuminated signs.

**Loading and unloading area** means any space or area used by any moving vehicle for the purpose of receiving, shipping and transporting goods, wares, commodities and persons.

**Local Elevation Standard** means a locally adopted elevation level used as the Regulatory Flood Protection Elevation (RFPE) in Shaded X and X zones or used in conjunction with the BFE and freeboard standard to mitigate flood hazards in the AE, AO, VE, as depicted on the FIRMs for Nags Head.

**Local damage assessment team** means a damage assessment team, required by the state division of emergency management, whose function is to assess losses to property immediately after a storm. The assessment is used to determine if the area can qualify for federal or state disaster assistance.

**Local government** means any county, incorporated village, town or city, or any combination of counties, incorporated villages, towns and cities, acting through a joint program pursuant to the provisions of the Act (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

## APPENDIX A. DEFINITIONS

**Lot** means a portion of a subdivision or any other parcel of land which is subject to this UDO, intended as a unit for transfer of ownership, for development or for both. The term "lot" includes the terms "plot," "parcel" or "tract."

**Lot area** means the total horizontal area included within lot lines.

**Lot balancing** is the act of grading a site utilizing existing on-site material for purposes such as providing a level building pad or vehicular areas. Lot balancing does not include the importation of fill.

**Lot, corner** means a lot abutting upon two streets at their intersection, provided that the interior angle at the intersection of two such streets is less than 135 degrees.

**Lot coverage** means that portion of the lot area, expressed as a percentage, that is covered or occupied by impervious surfaces or structures. For the purposes of determining lot coverage, the following features shall be considered impervious – any principal or accessory use or structure located above the ground including decks, parking areas, vehicular use areas, roadways, access ways, and sidewalks or walkways that prevent the infiltration of rainwater. Lot coverage is utilized to determine zoning compliance and is distinct from the amount of built upon area used in stormwater management calculations.

**Lot depth** means the average distance from the front lot line to the rear lot line measured in a general direction with the side lot lines of a lot.

**Lot lines** means the lines bounding a lot:

- (1) **Lot line, front** means the line separating a lot from the right-of-way of the street which is designated by the owner as the front street, except that where there is an access easement, that easement line shall be the front lot line, rather than the street itself.
- (2) **Lot line, rear** means the lot boundary opposite and most distant from the front lot line. In the case of a pointed or irregular lot, it shall be an imaginary line parallel to and farthest from the front lot line, not less than 30 feet long and wholly within the lot.
- (3) **Lot line, side** means a side lot line is any lot boundary line not a front lot line or rear lot line.

**Lot of record** means a lot which is part of a subdivision or a lot or parcel described by metes and bounds which has been legally created and recorded in the office of the Dare County Register of Deeds.

**Lot width** means the width of a lot at the required building setback line measured at right angles to its depth. However, within the SED-80 district, the required lot width shall be measured at the actual building line.

**Low impact development** is a stormwater management design framework aimed at minimizing the negative impacts of stormwater runoff by mimicking pre-development hydrology.

**Low impact development solutions to reduce stormwater runoff, or the Town BMP manual** means the local reference guide designed to provide information for low impact development practices and which

## APPENDIX A. DEFINITIONS

can be utilized to assist with compliance for residential projects using two feet or less of fill under Article 11, Part I, Stormwater, Fill & Runoff Management. All references herein to the Town BMP manual or "Low Impact Development Solutions to Reduce Stormwater Runoff," are to the latest edition or revision.

**Lowest adjacent grade (LAG)** means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

**Lowest floor** means the lowest floor of the lowest enclosed area (including the basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Article 11, Part III, Flood Damage Prevention.

**Lowest horizontal structural member** means the lowest beam, joist, or other horizontal member that supports the building.

**Lumen** means the unit of measure of the quantity of light emitted by a light source, irrespective of direction.

**Luminescent** means any surface that is illuminated through the use of phosphorescent or luminescent paint or material.

### M

**Maids' quarters** means an attached or detached individual dwelling unit identified as being an historic structure and listed individually in the National Register of Historic Places, a listing by the US Department of the Interior, or has preliminary been determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.

**Maintained footcandles** means footcandles (minimum, maximum, or average) that are calculated with an adjustment for a maintenance factor that includes dirt buildup, lamp lumen depreciation, ballast factor, etc. The system is in effect over designed initially and then over time allowed to reach a maintained footcandle level.

**Major damaged structure** means a structure that can be made habitable with extensive repairs. Damage may include foundation, roof structure, and major structural components. The indicator for this category is if the cost to repair is greater than ten percent and less than 50 percent of the replacement cost at the time of damage.

**Manufactured home (includes double-wide and triple-wide homes)** means a preassembled dwelling unit built on a chassis, with body width exceeding eight feet and body length exceeding 32 feet, designed to be used as a dwelling, with or without a permanent foundation, when connected to the required utilities. The term includes units that do and do not meet HUD model standards for manufactured homes. A travel trailer is not to be considered as a manufactured home.

**Commented [HW36]:** Model ordinance defines manufactured home as-

means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

## APPENDIX A. DEFINITIONS

**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.

**Market value** means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent appraisal prepared by a certified professional appraiser; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.

**Marshlands** means those lands, bordering on bodies of water, which are periodically subject to overflow by such bodies of water, and which lands are usually soft and wet and covered with or support the growth of "marsh grass," even though at times they may be solid, dry and firm.

**Massage and bodywork therapy** means systems of activity applied to the soft tissues of the human body for therapeutic, educational, or relaxation purposes. The application may include:

- (1) Pressure, friction, stroking, rocking, kneading, percussion, or passive or active stretching within the normal anatomical range of movement.
- (2) Complementary methods, including the external application of water, heat, cold, lubricants, and other topical preparations.
- (3) The use of mechanical devices that mimic or enhance actions that may possibly be done by the hands.

**Massage and bodywork therapist** means a person licensed by the NC Massage and Bodywork Therapy Board and conducting massage and bodywork therapy.

**Massage and bodywork therapy establishment means** any duly licensed site or premises in which massage and bodywork therapy is practiced. This term does not include any of the following:

- (1) On-site massage performed at the location of the customer.
- (2) Stand-alone devices, such as chairs, that are operated by the customer.
- (3) Establishments located within the confines of a hospital, nursing home, or other similar establishment or facility licensed or otherwise regulated by the NC Department of Health and Human Services.
- (4) Massage and bodywork therapy provided by a sole practitioner.
- (5) A student clinic operated by a Board-approved school or a massage and bodywork therapy program offered by community colleges in North Carolina that are accredited by the Southern Association of Colleges and Schools or massage and bodywork therapy programs

## APPENDIX A. DEFINITIONS

offered by a degree or diploma granting college or university accredited by any accrediting agency that is recognized by the United States Department of Education and licensed by the North Carolina Community College System or The University of North Carolina Board of Governors or exempt from such licensure pursuant to NCGS 116-15(c).

- (6) Chiropractic physician offices that provide massage and bodywork therapy only by massage and bodywork therapists currently licensed in North Carolina.

**Maximum footcandle** means the maximum footcandle point calculation or measurement in a given area.

**Mean high water (MHW)** means 1.18 feet above the National Geodetic Vertical Datum, 1988.

**Medical clinic** means a building or structure or portion thereof where medical services are provided by three or more doctors or practitioners for outpatients only.

**Medical office** means a building or structure or portion thereof where persons receive outpatient medical examinations, treatments, and procedures from licensed practitioners. This definition shall include doctor's and dentist's offices, and the offices of any other licensed and/or certified health care providers.

**Mentally or physically impaired person** means a person who is a resident of this State and who requires assistance with two or more activities of daily living (bathing, dressing, personal hygiene, ambulation or locomotion, transferring, toileting, and eating) as certified in writing by a physician licensed to practice in this State.

**Metaphysical wellness services** means hypnosis, past life regression, energy healing practices, phrenology, astrology, and intuitive readings such as psychic, palm, tarot and oracle cards for which there is no professional licensing recognized by the State of North Carolina.

**Micro wireless facility** means a small wireless facility that is no larger in dimension than twenty-four (24) inches in length, fifteen (15) inches in width, and twelve (12) inches in height and that has an exterior antenna, if any, no longer than eleven (11) inches.

**Microbrewery** means a facility for the production and packaging of malt beverages of low alcoholic content for distribution, retail, or wholesale, on or off premise.

**Migrating dune** means an area of unstabilized sand subject to movement under the influence of winds. Migrating dunes occur in the Nags Head Woods along the eastern boundary of the dune ridge maritime forest and along the oceanfront.

**Mini-storage** means a building or group of buildings in a controlled access and fenced compound that contains varying sizes of individual compartmentalized and controlled access stalls or lockers for the storage of customers' belongings.

**Minimum footcandle** means the minimum footcandle point calculation or measurement in a given area.

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**Minor damaged structure** means a structure that can be made habitable in a short period of time with minimal repairs. Damage may include doors, windows, floors, furnaces, water heaters, and other minor structural damage. An indicator for this category is if the cost to repair is ten percent or less of the replacement cost at the time of damage.

**Mixed-use development** means a single building containing more than one type of land use or single development of more than one building, and use, under common ownership, where the different types of land uses are in close proximity, planned as a unified complementary whole, and functionally integrated to the use of shared vehicular and pedestrian access and parking areas. Mixed use is defined by a combination of professional offices, personal services, indoor recreation facilities, retail, and/or restaurant uses in combination with residential development.

**Modular unit** means a factory-fabricated transportable building designed to be used by itself or to be incorporated with similar units at a building site into a modular structure. The term is intended to apply to major assemblies and does not include prefabricated panels, trusses, plumbing trees, and other prefabricated sub-elements which are to be incorporated into a structure at the site.

**Monopole** means a slender self-supporting communications tower consisting of a single pole.

**Motel** - see Hotel.

**Motor lodge** - see Hotel.

**Motor vehicle or vehicle** means all machines designed or intended to travel over land by self-propulsion or while attached to any self-propelled vehicle.

**Multiple principal uses** means multiple, unrelated, primary or predominate uses located within one building.

**Multi-level deck platform** means any deck structure, with a support structure independent of a principal or accessory structure, containing two or more elevation-separated deck platforms. This definition does not include decking customarily found in conjunction with residential dwellings when located within the CAMA Ocean Hazard Area and required to be structurally detached pursuant to 15A NCAC 07H 0.300, when such decking is in contact with the principal or accessory structure on two or more levels. (*Editor's Note: Adopted as amendment to UDO under Ordinance No. 19-09-011 on September 16, 2019, effective on October 7, 2019*)

### N

**Nags Head (Town of) Soil Erosion and Sedimentation Control Ordinance** means Article 11, Part II of this UDO. Article 11, Part II shall also include the Act and all rules and orders adopted pursuant to the Act or this UDO (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Navigational light** means a light used to guide or direct ships, boats or other types of watercraft and which may have a flashing or intermittent pattern of illumination.

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**Net buildable land** means that portion of any lot that does not include estuarine marsh, fresh water marsh, ponds, wetland swales or streams (as determined or defined by CAMA or the US Army Corps of Engineers).

**New construction** means any new development, construction, or installation that results in real property improvement or that requires any building permit, certification, or other action permitting real property improvement. The term includes the installation of factory-built or modular housing. The term does not include fences, poles, pipelines, transmission lines, advertising signs, or similar structures and improvements that do not generate the need for additional or expanded community facilities upon completion of the additions or improvements. The term excludes the renovation and repair of existing structures and accessory uses and their structures, unless such renovations and repairs and accessory uses shall cause an increase in the off-street parking requirements or a change in occupancy as occupancy is defined by the state building code. The term also excludes additions, unless such addition causes an increase in the off-street parking requirements or a change in occupancy as occupancy is defined by the state building code.

**New construction** means structures for which the "start of construction" commenced on or after February 3, 1975, and includes any subsequent improvements to such structures (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Nonconforming lot** means a legally created lot which does not have required frontage on a Town-approved street or fails to meet minimum dimensional requirements for the district in which it is located.

**Nonconforming sign** means a legally erected sign which is not in compliance with the regulations imposed by this UDO.

**Nonconforming site** means an existing site which was legally developed that no longer conforms to one or more of the regulations applicable to the district in which the site is located. A site may be nonconforming due to excessive lot coverage, inadequate or nonconforming parking facilities, nonconforming outdoor lighting, inadequate buffering or other regulations, excluding signs, which are not in compliance with the provisions of this UDO. A nonconforming site may be in conjunction with nonconforming structures or nonconforming uses.

**Nonconforming structure** means a legally created structure that fails to meet the minimum dimensional requirements for the district in which it is located.

**Nonconforming use** means the use of a structure or land which does not conform with the regulations of the district in which such structure or land is situated but was previously lawful.

**Non-conversion agreement** means a document stating that the owner will not convert or alter what has been constructed and approved. Violation of the agreement is considered a violation of the ordinance and, therefore, subject to the same enforcement procedures and penalties. The agreement must be filed with the recorded deed for the property. The agreement must show the clerk's or recorder's stamps and/or notations that the filing has been completed. **(OPTIONAL)**

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**Non-encroachment area (NEA)** means the channel of a river or other watercourse, including the area above a bridge or culvert when applicable, and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

**Non-profit/community outreach center** means a building that is owned and operated by a non-profit entity that is exempt under section 501(c)(3) or section 501(c)(7) of the Internal Revenue Code and is occupied and used exclusively as a community center providing social and/or recreational programs but which does not provide:

- (1) Overnight accommodations; or
- (2) Any business offices, and

Specifically, this definition excludes halfway houses and rehabilitation clinics.

**Non-profit/outreach center with aquatic fitness facility** means a building that is occupied and used exclusively as an aquatic fitness center providing social and/or recreational programs, wellness center, health fitness programs, child and youth services, and/or public divine worship activities, but which does not provide overnight accommodations; and is owned and operated by a non-profit entity that is exempt under section 501(c)(3) or 501(c)(7) of the Internal Revenue Code. This definition specifically excludes halfway houses.

**Non-profit wildlife and ecological preserve** means a natural wildlife and ecological protected area with facilities intended to support the preservation of the natural environment and provide educational programming to the public.

**North Carolina DEQ Stormwater Design Manual** is the stormwater design manual approved by North Carolina. All references herein to the NC Stormwater Design manual are to the latest published edition or revision.

**Nude model studio** means any place where a person who appears in a state of nudity or displays specified anatomical areas is provided to be observed, sketched, drawn, painted, sculptured, photographed, or similarly depicted by other persons who pay money or any form of consideration. There is excepted from this definition any studio which is part of a school for artists who are regularly enrolled in a course of instruction in the arts, and in which the use of nude models involves less than ten percent of the course hours.

**Nudity or a state of nudity** means the appearance of a human bare buttock, anus, male genitals, female genitals, or female breast without a fully opaque complete covering of the breast below a point immediately above the top of the areola, or human male genitals in a discernibly turgid state even if completely and opaquely covered.

**Nursing home** means a facility, however named, which is advertised, announced, or maintained for the express or implied purpose of providing nursing or convalescent care for three or more persons unrelated to the licensee. A nursing home is a home for chronic or convalescent patients, who, on

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admission, are not as a rule, acutely ill and who do not usually require special facilities such as an operating room, X-ray facilities, laboratory facilities, and obstetrical facilities. A nursing home provides care for persons who have remedial ailments or other ailments, for which medical and nursing care are indicated; who, however, are not sick enough to require general hospital care. Nursing care is their primary need, but they will require continuing medical supervision.

**Nuisance vehicle** means a vehicle on public or private property that is determined and declared to be a health or safety hazard, a public nuisance, and unlawful, and including a vehicle found to be:

- (1) A breeding ground or harbor for mosquitoes, other insects, rats or other pests;
- (2) A point of uncontrolled growth of weeds or other noxious vegetation;
- (3) A point of collection of pools or ponds of water;
- (4) A point of concentration of quantities of gasoline, oil or other flammable or explosive materials as evidenced by odor;
- (5) One which has areas of confinement, such as trunks, hoods, etc., which cannot be operated from inside the area of confinement;
- (6) One so situated or located that there is a danger of it falling or turning over;
- (7) One which is a point of collection of garbage, food waste, animal waste, or any other rotten or putrescible matter of any kind;
- (8) One which has sharp parts thereof which are jagged or contain sharp edges of metal or glass; or
- (9) Any other vehicle specifically declared a health and safety hazard and a public nuisance by the police department or Town Manager.

### O

**Oath** shall be construed to include an affirmation in all cases in which, by law, an affirmation may be substituted for an oath, and in such cases the terms "swear" and "sworn" shall be equivalent to the terms "affirm" and "affirmed."

**Ocean beach** means the area of land consisting of unconsolidated soil material that extends from the mean low water line landward to a point where either the growth of vegetation occurs; or a distinct change in slope or elevation alters the configuration of the land form, whichever is farther landward.

**Ocean erodible area** means the area in which there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The oceanward boundary of this area is the mean low water line. The landward extent of this area is the distance landward from the first line of stable and natural vegetation as defined in 15A NCAC 07H .0305(a)(5) to the recession line established by multiplying the long-term annual erosion rate times 90; provided that, where there has been no long-term erosion or

## APPENDIX A. DEFINITIONS

the rate is less than two feet per year, this distance shall be set at 120 feet landward from the first line of stable natural vegetation. For the purposes of this UDO, the erosion rates are the long-term average based on available historical data. The current long-term average erosion rate data for each segment of the North Carolina coast is depicted on maps entitled "2011 Long-Term Average Annual Shoreline Rate Update" and approved by the Coastal Resources Commission on May 5, 2011 (except as such rates may be varied in individual contested cases or in declaratory or interpretive rulings). In all cases, the rate of shoreline change shall be no less than two feet of erosion per year. The maps are available from the UDO Administrator.

**Ocean hazard area** means the area consisting of the ocean erodible area and the high hazard flood area.

**Oceanfront setback** means a line which is measured in a landward direction from the vegetation line for the purposes of establishing the minimum required setback distance for oceanfront development as prescribed by the Coastal Area Management Act. The oceanfront setback is determined using the total floor area of a structure and the erosion rate of the property in question, as determined by the North Carolina Division of Coastal Management.

**Octave** means the interval of frequency between two sounds whose frequency ratio is two.

**Official time standard** shall mean standard time or daylight-saving time as may be in current use in the Town, whenever certain hours are named in this UDO.

**Officials, departments, boards, commissions, etc.**, as referenced in this UDO by title only, shall be deemed to refer to officials, departments, etc. of the Town of Nags Head, North Carolina.

**Open space** means an unoccupied natural, grassed or landscaped space open to the sky.

**Open storage** means unroofed storage area.

**Open vertical fixture** means a lighting fixture that is an unshielded, high intensity discharge fixture with an open bottom refractor.

**Operations and maintenance agreement** means the owner's document that is filed with the Town at the time of the certificate of compliance which provides SCM maintenance instructions and inspection schedule.

**Otherwise Protected Area (OPA)** see Coastal Barrier Resources System (CBRS).

**Outdoor aquatic facility** means a facility where water sports are performed outdoors in a swimming pool and/or wading pool. The term does not include private swimming pools.

**Outdoor place of amusement and entertainment** means any place of amusement and entertainment which operates out of doors or outside a building or structure which is completely walled on all sides or not having a complete roof. Any shed or building within the terms of this UDO not completely walled in on all sides, and any tent or temporary structure or building, shall be deemed to be an outdoor place of amusement and entertainment.

## APPENDIX A. DEFINITIONS

**Outdoor performances and events** such as fairs, festivals, musical concerts, sporting events, contests, promotional events or other types of performances or events on public or private lands that:

- (1) Represent a use or uses of land, buildings, and structures not intended to be of a permanent duration;
- (2) Are intended to or likely to attract substantial crowds, participants and/or spectators;
- (3) Are advertised and/or open to the general public; and
- (4) Are unlike the customary or usual activities generally associated with the principal use of the property where the performance or event is to be located.

**Outdoor stand** means an approved area where the sale of produce, hot dogs, coffee, ice cream or Italian ice, and fudge occurs from a cart or structure.

**Oversized vehicle** means any motor vehicle, boat or trailer, which exceeds either ten feet in width or 20 feet in length, exclusive of fixtures or accessories

**Owner** as applied to any property, shall include any part owner, joint owner, tenant in common, joint tenant or tenant by the entirety, of the whole or a part of such property.

### P

**Parade** means any parade, march, ceremony, show, exhibition or procession of any kind in or upon the public streets, sidewalks, alleys, parks or other public grounds or places in the Town.

**Parent** means an affiliate that directly, or indirectly through one or more intermediaries, controls another person (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control). (

**Park** means any public land available for recreational, education, cultural or aesthetic use.

**Parking, off-street** means a designated vehicular storage space located outside of any dedicated public right-of-way and contained within a property boundary.

**Parking, on-street** means a vehicular storage space as permitted by the Town within a public right-of-way.

**Parking space or stall** means a designated vehicular storage space within a public or private parking area.

**Participating customers** means all single-family, two-family and multi-family residential customers presently being served by the Town public services department and solid waste division.

**Pedicab** means a non-motorized for-hire vehicle, propelled by human power, for which public patronage is solicited and for which the charges are based upon the number of miles operated or zone covered.

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**Pennants** means small usually multicolored, plastic or fabric flags held together by a string or cord, and generally used to attract attention to a business or site.

**Permeable pavement** means paving materials that absorb water or allow water to infiltrate through the paving material. Permeable pavement materials include pervious concrete, porous asphalt, permeable interlocking concrete pavers, concrete grid pavers, Turfstone TM, gravel meeting the definition of this section, and other proven technologies available as covered in the NC Best Management Practices Manual and as approved by the Town Engineer for appropriateness to the site and existing conditions. Compacted gravel shall not be considered permeable pavement.

**Person** means any individual, association, partnership, or corporation and includes any officer, employee, department, agency or instrumentality of the United States, the state or any political subdivision thereof.

**Person conducting land-disturbing activity** means any person who may be held responsible for a violation unless expressly provided otherwise by this UDO, the Act or any order adopted pursuant to this UDO or the Act. (For the purposes of Article 11, Environmental Regulations, Part II, Soil Erosion and Sedimentation Control)

**Person responsible for land disturbance violation** means:

- (1) The developer or other person who has or holds himself out as having financial or operational control over the land-disturbing activity; or
- (2) The landowner or person in possession or control of the land when he has, directly or indirectly, allowed the land-disturbing activity or has benefited from it, or failed to comply with any duty imposed by any provision of this UDO, the Act, or any order adopted pursuant to this chapter or the Act (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Personal property** includes every species of property except real property.

**Phase of grading** means one of two types of grading, rough or fine (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Picket line** means one or more persons formed together for the purpose of making known any position or promotion of such persons, or of or on behalf of any organization, group, corporation or class of persons.

**Pier** means a wharf, deck, quay, or other structure allowing access to water for private recreational and/or commercial boating, swimming, diving, fishing and transportation. The term pier includes docks.

**Pier, commercial fishing** means a privately, jointly, or publicly owned structure used for recreational or commercial activity where a user fee is required or the use of the pier involves goods which are introduced into commerce.

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**Pier, private** means a privately-owned structure used specifically for recreational and/or fishing-related activities that is for the exclusive use of the owner.

**Place of amusement and entertainment** means any site, location, lot, building or structure of any description whatsoever, whether indoors or outdoors, at which entertainment or amusement is provided to or for the general public or private membership, whether free or for charge or donation. The term shall include, but not be limited to, the following:

- (1) Pool and billiard halls;
- (2) Dance halls;
- (3) Carnivals;
- (4) Circuses;
- (5) Itinerant shows or exhibitions of any kind;
- (6) Coffee houses;
- (7) Cocktail lounges;
- (8) Nightclubs;
- (9) Beer halls;
- (10) Amusement parks and pavilions;
- (11) Bowling alleys;
- (12) Golf courses, miniature and carpet golf courses;
- (13) Adult entertainment houses and membership clubs.

**Plan** means an erosion and sedimentation control plan (for the purposes of Article 11, Environmental Regulations, Part II, Soil Erosion and Sedimentation Control).

**Plat, final** means a drawing, in final form, showing a proposed subdivision, containing all information or detail required by law and by this UDO and which complies with NCGS 39-32.1, 39-32.2 and 47-30, to be presented to the Planning Board for approval, and which, if approved, may be duly filed or recorded by the applicant in the office of the Dare County Register of Deeds.

**Plat, preliminary** means a drawing clearly marked "preliminary plat" showing the features of a proposed subdivision as specified in Article 10, Part V, Subdivision Regulations, submitted to the Planning Board for the purpose of consideration prior to submission of the plat in final form, and in sufficient detail to clearly illustrate the layout of the proposed subdivision.

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**Pond** means a small body of standing water with rooted plants growing across it (or at least capable of supporting plants all the way across). In Nags Head Woods, ponds often exhibit moderate seasonal variations in water depth.

**Post-development surface elevation** means the finished or final land surface grades recorded at the completion of construction activities.

**Pre-development surface elevation** means the land surface grades existing prior to any land disturbing or grading activities.

**Post-FIRM** means construction or other development for which the start of construction occurred on or after insert date of community's first FIRM (OPTIONAL), the effective date of the initial Flood Insurance Rate Map.

Commented [HW37]: Verify Date

**Pre-FIRM** means construction or other development for which the start of construction occurred before insert date of community's first FIRM (OPTIONAL), the effective date of the initial Flood Insurance Rate Map.

Commented [HW38]: Verify Date

**Preliminary sketch** means a sketch of a proposed subdivision, showing the information specified in Section 4.22, Initial Conference; Preliminary Sketch, which is to enable the subdivider to reach a general understanding as to the form of the layout and objectives of this UDO.

**Primary dune** means the first mound of sand located landward of the ocean beach having an elevation equal to the mean flood level (in a storm having a one percent chance of being equaled or exceeded in any given year) for the area plus six feet. The primary dune extends landward to the lowest elevation in the depression landward of that same mound of sand (commonly referred to as the "dune trough").

**Primary frontal dune (PFD)** means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and over-topping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Principally above ground** means that at least 51 percent of the actual cash value of the structure is above ground (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Private club (non-profit)** means a noncommercial club, owned and operated by a non-profit legal entity composed of and with membership restricted to residents and owners of lots or dwellings in the residential development containing the private club.

**Property** means all real property subject to UDO regulations and restrictions and zoning boundaries by the Town.

**Public safety and/or nuisance** means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free

## APPENDIX A. DEFINITIONS

passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal or basin (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Public trust beach area** means the area adjacent to the Atlantic Ocean that is subject to public trust rights. This area is in constant flux due to the action of wind, waves, tides, and storms and includes the wet sand area of the beach that is subject to regular flooding by tides, i.e., state owned property seaward of the mean high water mark, and the dry sand area of the beach that is subject to occasional flooding by tides, including wind tides other than those resulting from a hurricane or tropical storm. Natural indicators of the landward extent of the public trust beach area include, but are not limited to, the first line of stable, natural vegetation; the toe of the frontal dune; and the storm trash line.

**Public water supply well field** means a well or series of wells operated by a governmental entity to provide water for its citizens.

### Q

**Quasi-judicial decision** means those decisions that require the finding of facts and the application of standards that involve judgment and discretion. Examples include conditional use permits and variances.

### R

**Real estate rental management facility** means a building containing those uses, including but not limited to, administrative offices and warehouse/storage areas for the convenience, maintenance, housekeeping and service of rental homes and properties.

**Real property** includes lands, tenements and hereditaments.

**Recessed or flush-mounted** means a fixture that is mounted above the ceiling with the opening, lens, or cover of the fixture recessed or level with the ceiling surface, and all light emitted is below the horizontal plane.

**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.

**Redevelopment** means any development activity that physically alters an existing developed site.

**Reference level** is:

(1) The top of the lowest floor for structures reference level is the bottom of the lowest floor or the bottom of the lowest attendant utility including ductwork, whichever is lower, with only

**Commented [HW39]:** Model ordinance note-

(Alternative acceptable language for Reference Level) "Reference Level" is the bottom of the lowest horizontal structural member of the lowest floor for structures within all Special Flood Hazard Areas.

## APPENDIX A. DEFINITIONS

**Flood resistant materials located below the reference level** within special flood hazard areas designated as Zone A, AE or ,AH, AO, A99, or

(2) The reference level is the bottom of the lowest horizontal structural member of the lowest floor for structures within special flood hazard areas designated as Zone VE.

(3) For structures within Zones Shaded X or X, 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.

**Reflective** means any light that is reflected light back towards its source in intensity many times greater than would be reflected by a white painted surface. Reflectorized materials may include, but are not limited to reflective sheeting, glass beads and glass or plastic reflectors and shall also include reflective elements that sparkle in the sunlight or that contain luminous paint that glows in the dark.

**Regulatory flood protection elevation** means the "base flood elevation" plus the "freeboard". In "special flood hazard areas" where base flood elevations (BFE) have been determined, this elevation shall be the BFE plus one foot of freeboard. ~~In "special flood hazard areas" where no BFE has been established, this elevation shall be at least two feet above the highest adjacent grade.~~ OR the "Local Elevation Standard" for those areas where base flood elevations have been determined on the FIRM; the base flood depth above the highest adjacent grade or "Local Elevation Standard" for those areas identified as AO zones of the FIRM, or the "Local Elevation Standard" for those areas identified as Shaded X or X zones on the FIRM.

In Nags Head the RFPE is as defined:

In VE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 1 foot of freeboard.

In AE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 3 feet of freeboard OR an elevation to or above 8 feet NAVD 1988, whichever is greater.

In AO zones, the RFPE is the designated base flood depth on the effective FIRM above the highest natural adjacent grade plus 3 feet of freeboard OR an elevation to or above 8 feet NAVD 1988, whichever is greatest.

In Shaded X and X zones, the RFPE is 8 feet NAVD 1988 OR the natural grade elevation if the natural grade is greater than 8 feet NAVD 1988.

In Shaded X and X zones, the RFPE is 2' above natural grade if the ground elevation is 8' NAVD 1988 or less, or 8' NAVD 1988 whichever is greater.

LES-

- Shaded X or X and AE- 10' – limit enclosures 300' or less
- All flood zones east of 12 and 1243- 12', 18" free of obstruction, no enclosures

**Commented [HW40]:** Staff to discuss-

Model ordinance language-  
Regulatory Flood Protection Elevation" means the "Base Flood Elevation" plus the "Freeboard". In "Special Flood Hazard Areas" where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus Insert freeboard [four (4) feet (Four feet is the state recommended freeboard)] feet freeboard). In "Special Flood Hazard Areas" where no BFE has been established, this elevation shall be at least Insert feet [Four (4) feet is a state-recommended elevation, two (2) feet is a state-recommended minimum] feet above the highest adjacent grade.

**Commented [HW41]:** DUCK-

For the Town of Duck, the RFPE is as follows:

- (1) In VE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 2 feet of freeboard.
- (2) In AE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 3 feet of freeboard OR an elevation to above 10 feet NAVD 1988, whichever is greater.
- (3) In AO zones, the RFPE is the designated base flood depth on the effective FIRM above the highest natural adjacent grade OR an elevation to or above 10 feet NAVD 1988, whichever is greatest.
- (4) In Shaded X and X zones, the RFPE is 10 feet NAVD 1988 OR the natural grade elevation if the natural grade is greater than 10 feet NAVD 1988.

For unincorporated Dare County the RFPE is as follows:

In VE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 1 foot of freeboard.

In AE zones, the RFPE is the Base Flood Elevation as designated on the effective FIRM plus 3 feet of freeboard OR an elevation to or above 8 feet NAVD 1988, whichever is greater.

In AO zones, the RFPE is the designated base flood depth on the effective FIRM above the highest natural adjacent grade plus 3 feet of freeboard OR an elevation to or above 8 feet NAVD 1988, whichever is greatest.

In Shaded X and X zones, the RFPE is 8 feet NAVD 1988 OR the natural grade elevation if the natural grade is greater than 8 feet NAVD 1988.

**Commented [HW42]:** Staff to determine

**Commented [HW43]:** Staff to determine

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**Commented [HW45]:** Staff to determine

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## APPENDIX A. DEFINITIONS

**Reinforced turf** means a turf or grassed surface which is reinforced through an underlying grid, honeycomb or other reinforcement structure which holds up under light automobile traffic and parking use while providing a porous, vegetated medium that allows stormwater to infiltrate.

**Religious complex** means a church (a building primarily used for public divine worship) or a church and any related structures including a parsonage, fellowship halls, educational buildings, youth centers, recreational facilities (which include playgrounds), day care centers, parochial schools or similar structures or areas located on a single site.

**Remedy a violation** means to bring the structure or other development into compliance with state and local floodplain management regulations or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of this article, or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Reservation** means a reservation of land which does not involve any transfer of property rights. It simply involves a retention of property rights by the subdivider.

**Residential group development** means the use of a site for occupancy by groups of people not defined as a family, on a weekly or longer basis. Typical uses include fraternity or sorority houses, dormitories, residence halls, boarding/lodging houses, convents, and monasteries.

**Restaurant** means an establishment engaged in the service of food and/or beverages to patrons seated inside a building. A restaurant site may contain more than one principal restaurant building, or one principal restaurant building in combination with another principal drive-in restaurant, drive-through restaurant, or takeout restaurant building.

**Restaurant, drive-in** means an establishment whose principal business is the serving of prepared food, desserts and/or beverages to a customer, either within a motor vehicle parked upon the premises or at other facilities on the premises outside the restaurant building.

**Restaurant, drive-through** means an establishment where drive lane facilities are provided for the serving of prepared food, frozen desserts or beverages directly to a customer in a motor vehicle by a means which eliminates the need for the customer to exit the motor vehicle.

**Restaurant, neighborhood** means a restaurant situated and designed to serve a small client base fronting on NC 12 comprised of less than 1,000 square feet of indoor customer service area.

**Restaurant, sit-down** means an establishment that sells food and beverages in a ready-to-consume state primarily to persons who are seated within the building or outside on the premises.

**Restaurant, takeout** means an establishment engaged in the preparation of food and/or beverages which are delivered or picked up and consumed by patrons off premises.

## APPENDIX A. DEFINITIONS

**Retail, general** means establishments that provide goods directly to the consumer where such goods are available for immediate purchase and removal from the premises by the purchaser.

**Ridgeline forest** means a type of maritime forest in which the pruning effect of salt mist is moderated by distance from the ocean source. The forest canopy is dominated by various evergreen oaks (live, laurel, water) and an understory sub-canopy of dogwood, muscle wood, hop hornbeam and holly. In the Nags Head Woods, the dune ridge maritime forest typically occupies the highest dunes along a major north-south oriented dune ridge near the eastern boundary of the district.

**Right-of-way** means each of the following which have been, or are hereafter, dedicated to the public and maintained by any public authority or by others and located within the Town, including without limitation, the surface and space within, above and below any real property in which the Town has an interest in law or equity, whether held in fee, or other estate or interest, or as a trustee for the public, including, but not limited to, any public street, boulevard, road, highway, freeway, lane, alley, court, sidewalk, parkway, swale, river, tunnel, viaduct, bridge, park, or any other place, area, easements, rights-of-way and similar public property and areas, or real property owned by or under the control of the Town.

**Riverine** means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

**Roanoke Sound dune ridge** means the western ridges of the westernmost north-to-south oriented dune. This dune ridge forms a natural barrier between the high ground of the dune ridge and the lower terrain to the west. For the purpose of this section, the Roanoke Sound dune ridge is located in the area northward of the northwest boundary of Parcel 13, Tax Map 186, as shown on Tax Map 185 and 186, and generally west of the Nags Head Woods Road, and extends northward to the Town's northern limits.

**Roof line** means the top plate or roof panel of a building or structure.

### S

**Salt marsh** means a flat bed of salt-resistant grasses, sedges and/or rushes that is periodically flooded by salt or brackish water. In Nags Head Woods, salt marsh extends in an irregular band along the foot of the westernmost forested dunes westerly to the edge of the estuary. Characteristic plants include cattails, giant cordgrass and black needle rush.

**Salvage yard** means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to, vehicles, appliances and related machinery (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Sand dunes** means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

**School** means any state-accredited public or non-profit educational institution including primary and secondary schools, both public and private.

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**Search ring** means the area within which a wireless support facility or wireless facility must be located in order to meet service objectives of the wireless service provider using the wireless facility or wireless support structure.

**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.

**Sediment** means solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity or ice from its site of origin (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Sedimentation** means the process by which sediment resulting from accelerated erosion has been or is being transported off the site of the land-disturbing activity or into a lake or natural watercourse (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Semi-nude** means a state of dress in which clothing covers no more than the human bare buttock, anus, male genitals, female genitals, or female breast without a fully opaque complete covering of the breast below a point immediately above the top of the areola, or human male genitals in a discernibly turgid state even if completely and opaquely covered.

**Sexual encounter center** means a business or commercial enterprise that, as one of its business purposes, offers for any form of consideration:

- (1) Physical contact by customers in the form of wrestling or tumbling between persons of the opposite sex; or
- (2) Activities between male and female persons, or persons of the same sex when one or more of the persons is in a state of nudity or semi-nudity.

**Sexually oriented business** means a business which offers its customers or patrons any device, activity or demonstration depicting specified sexual activities, or which is intended to appeal to sexual interests, titillation or arousal of the customer or patron. A sexually oriented business shall include an adult establishment as defined in NCGS 14-202.10(2) and, in addition, without limitation: adult arcade, adult bookstore, adult video store, adult cabaret, adult media center, adult live entertainment business, adult motel, adult motion picture theater, adult mini-motion picture theater, adult theater, adult movie studio for the purpose making pornographic films, adult escort agency, nude model studio, and sexual encounter center.

**Sexually oriented business activities** means those activities usually provided for, promoted, or offered by a sexually oriented business, whether or not, as the principal business purpose or as a sideline or

## APPENDIX A. DEFINITIONS

accessory business purpose, and whether or not in connection with or on the same premises with a business which is not a sexually oriented business.

**Sexually oriented devices** as defined in NCGS 14-202.10(9) which is incorporated in this definition by reference.

**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.

**Shared driveway** means a driveway shared by two (2) adjacent property owners that is privately-owned and maintained.

**Shear wall** means walls used for structural support but not structurally joined or enclosed at the end (except by breakaway walls). Shear walls are parallel or nearly parallel to the flow of the water.

**Shooting Range, Police** means an area designed for the safe discharge and use of firearms for the purpose of law enforcement training.

**Shopping Center** means a single, commercial structure which includes or is designed to include two or more establishments with a combined floor area of at least 10,000 square feet planned for a single or contiguous lot.

**Short-term rental** means the rental of residential property for vacation, leisure, recreation, or other purposes for fewer than thirty (30) days by a person who has a permanent residence to which he/she intends to return.

**Short-term rental, partial house** means a resident occupied single-family dwelling that consists of the rental of up to two guest rooms for vacation, leisure, recreation, or other purposes for fewer than thirty (30) days. The partial house short-term rental should be subordinate and incidental to the principal residential use of the dwelling.

**Short-term rental, whole house** means the rental of an entire single-family dwelling to a group operating as one housekeeping unit for vacation, leisure, recreation, or other purposes for fewer than thirty (30) days.

**Shrubs** means woody plants with several permanent stems instead of a single trunk.

**Sidewalks** shall include any portion of a street, between the curb line and the adjacent property line intended for the use of pedestrians.

**Sign** means any surface, fabric or device bearing lettered, pictorial or sculptured matter designed to convey information visually and exposed to public view, or any structures, including billboard or poster panel, designed to carry visual information. Municipal public works of art are not considered signage.

## APPENDIX A. DEFINITIONS

**Sign area** means the area of signs composed, in whole or in part, of freestanding letters, devices or sculptured matter not mounted on a measurable surface shall be construed to be the area of the least square, rectangle or circle that will enclose the letters, devices and/or sculptured matter. The area of a double-faced sign shall be the area of one face of the sign, provided that the two faces are of the same size and are parallel to one another with no more than 24 inches between each sign face.

**Sign, bulletin board** means a sign used to announce meetings or programs to be held on the premises of a church, school, auditorium, library, museum, community recreation center or similar noncommercial places of public assembly.

**Sign, commercial** means a sign which directs attention to a business, profession or industry located upon the premises where the sign is displayed, to type of products sold, manufactured or assembled, and/or to service or entertainment offered on said premises; but not a sign pertaining to the preceding if such activity is only minor and incidental to the principal use of the premises. Prior to the issuance of a certificate of completion a commercial sign may be erected on a premises provided a site plan has been approved by the Town and the required building permit(s) has been issued.

**Sign, commercial flag** means a sign made of fabric or other flexible material and displayed as a flag on a flag pole having a commercial message. Flag signs shall not exceed 24 square feet in area and 14 feet in height and shall be allowed only on freestanding flag poles.

**Sign, digital** means any sign featuring electronic display or moving images created by incandescent, LCD, plasma, LED or projected images for any purposes other than traffic control devices. This definition is intended to include any sign containing incandescent lights or exposed light bulbs used as a message or reader board, or to project images. This definition does not include LED technology used only for the purpose of illuminating a structural sign face.

**Sign, noncommercial** means a sign that contains no commercial advertising or statements, logos, designs or trademarks designed or intended to promote or produce financial gain other than donations for charitable organizations such as groups which are tax exempt pursuant to the Internal Revenue Code.

**Sign, flag (non-advertising, non-informational)** means a piece of fabric or other flexible material attached to a freestanding flagpole.

**Sign, outdoor advertising (and structure)** means a sign and structure which directs attention to a business, commodity, service or entertainment conducted, sold, or offered:

- (1) Only elsewhere than upon the premises where the sign is displayed; or
- (2) As a minor or incidental activity upon the premises where the sign is displayed.

**Sign, permanent** means a sign attached or affixed to a building, window, or structure, or to the ground in a manner that enables the sign to resist environmental loads, such as wind, and that precludes ready removal or movement of the sign and whose intended use appears to be indefinite.

## APPENDIX A. DEFINITIONS

**Sign, temporary** means a type of non-permanent sign located on private property that is generally displayed for a limited period of time in conjunction with a specific activity or event occurring at the property.

**Siltation** means sediment resulting from accelerated erosion, which is settleable or removable by properly designed, constructed and maintained control measures; and which has been transported from its point of origin within the site of a land-disturbing activity; and which has been deposited or is in suspension in water (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Site** means the area or parcel of land on which a business or residence is located and operated. A site may be one or more subdivided lots, unsubdivided parcels, tracts, or areas of land which join and are being developed under a common scheme of development.

**Site element** means improvements to the existing land form for the purposes of development to include buildings, pavement, decks, landscaping, pools or other accessory structures.

**Site plan** means a plan provided that reflects existing and proposed conditions on a site that is intended for construction. This may include but is not limited to topography, structures or additions, grading, drainage, erosion control measures, trees to be saved or planted to comply with the applicable standards of this UDO as well as other requirements of the Town Code of Ordinances.

- (1) **Site plan, major** means all site plans not meeting the requirements for a minor site plan.
- (2) **Site plan, minor** includes the following: increases in lot coverage or building floor area not greater than 1,000 square feet, changes to stormwater management measures, landscape buffering, vegetation preservation area, signage, or site lighting for existing development.

**Site specific development plan** means a plan which has been submitted to the Town by a landowner describing with certainty the type and intensity of use for a specific parcel or parcels of property. Such site specific development plan shall be presented to the Town as specified and subject to all provisions of Section 3.8, application for building permits for conditional uses.

**Skate park facility** means a facility for the use of skateboards, roller skates, and inline roller skates.

**Small fishing skiff** means a rental skiff, used for fishing, 16 feet or less in length, powered by either electric or four-cycle engine of 25 horsepower or less.

**Small wireless facility** means a wireless facility that meets both of the following qualifications:

- (1) Each antenna is located inside an enclosure of no more than six (6) cubic volume or, in the case of an antenna that has exposed elements, the antenna and all of its exposed elements, if enclosed, could fit within an enclosure of no more than six (6) cubic feet.
- (2) All other wireless equipment associated with the facility has a cumulative volume of no more than twenty-eight (28) cubic feet. For purposes of this subdivision, the following types of ancillary equipment are not included in the calculation of equipment volume:

## APPENDIX A. DEFINITIONS

electric meters, concealment elements, communications demarcation boxes, ground based enclosures, grounding equipment, power transfer switches, cut-off switches, vertical cable runs for the connection of power and other services, and other support services.

**Soft play** means indoor juvenile entertainment that features physical interaction with inflated, textile play structures, such as bouncing chambers and ball-crawling pits, and other similar play apparatus.

**Soil erosion and sedimentation control plan** means a plan designed by the Soil Conservation Service or a comparable organization that will ensure the stabilization and subsequent revegetation of all areas that have been disturbed to the extent that bare land has become exposed.

**Solar energy facility** means a solar collector or other device or structural design feature of a structure that relies upon sunshine as an energy source and is capable of collecting, distributing, and storing (if appropriate to the technology) the sun's radiant energy for a beneficial use.

**Solid waste disposal facility** means, as defined in NCGS 130A-290(a)(35), any facility involved in the disposal of solid waste (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Solid waste disposal site** means, as defined in NCGS 130A-290(a)(36), any place to which solid wastes are disposed of by incineration, sanitary landfill, or any other method (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Special flood hazard area (SFHA)** means the land in the floodplain subject to a one percent or greater chance of being flooded in any given year, as determined in Article 11, Part III, Flood Damage Prevention.

**Specified anatomical areas** as defined in NCGS 14-202.10(10) which is incorporated in this definition by reference.

**Specified sexual activities** means as defined in NCGS 14-202.10(11) which is incorporated in this definition by reference.

**Sport-climbing wall** means an artificial attempt to recreate the characteristics of a rock-climbing face. They are usually incorporated into existing internal or external walls but can be a freestanding structure. The purpose of climbing walls is to allow basic climbing instruction and sport climbing. They allow climbers to experience the same faceholds, cracks, overhangs and other features one might expect to find at a natural climbing area.

**Standing** means the following persons who shall have standing to file a petition or appeal under this UDO:

- (1) Any person meeting any of the following criteria:
  - (a) Has an ownership interest in the property that is the subject of the decision being appealed, a leasehold interest in the property that is the subject of the decision

## APPENDIX A. DEFINITIONS

being appealed, or an interest created by easement, restriction, or covenant in the property that is the subject of the decision being appealed.

- (b) Has an option or contract to purchase the property that is the subject of the decision being appealed.
  - (c) Was an applicant before the decision-making board whose decision is being appealed.
- (2) Any other person who will suffer special damages as the result of the decision being appealed.
- (3) An incorporated or unincorporated association to which owners or lessees of property in a designated area belong by virtue of their owning or leasing property in that area, or an association otherwise organized to protect and foster the interest of the particular neighborhood or local area, so long as at least one of the members of the association would have standing as an individual to challenge the decision being appealed, and the association was not created in response to the particular development or issue that is the subject of the appeal.
- (4) A Town whose decision-making board has made a decision that the Board of Commissioners believes improperly grants a variance or is otherwise inconsistent with the proper interpretation of an ordinance adopted by the Board of Commissioners.

**Start of construction** includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement or other improvement was within 180 days, unless a lesser period of time is required, of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Static Line** means the vegetation line that existed within one year prior to the onset of project construction for a large-scale beach fill project. Once established, this shall be the reference line for measuring oceanfront setbacks in all locations where it is landward of the first line of stable natural vegetation. This line is established in coordination with the Division of Coastal Management and is depicted on published maps for the community that has conducted the large-scale beach fill project.

## APPENDIX A. DEFINITIONS

**Storm event** means any natural weather event causing damage and destruction of property. A storm event may include, but not be limited to, hurricanes, tropical storms, northeasters, erosion, flood, tornadoes, severe thunderstorms, fire, waterspouts, and ice or snow storms.

**Storm drainage facilities** means the system of inlets, conduits, channels, ditches and appurtenances which serve to collect and convey stormwater through and from a given drainage area (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Stormwater Control Measure or SCM, also known as Best Management Practices or BMP** means a permanent structural device that is designed, constructed, and maintained to remove pollutants from stormwater runoff by promoting settling or filtration; or to mimic the natural hydrologic cycle by promoting filtration, evapo-transpiration, post-filtration discharge, reuse of stormwater, or a combination thereof.

**Stormwater management system** refers to a drainage network or series of best management practices working together as part of a comprehensive approach to handling stormwater.

**Stormwater retrofit** means implementation of stormwater management for an existing site, which previously had no stormwater management measures in place, measures inadequate to meet the stormwater management requirements of this UDO, or measures inadequate to meet other stormwater management goals or requirements.

**Stormwater runoff** means the flow of surface water resulting from precipitation and distinct from runoff created by human activity such as pumping or draining. (For the purposes of Article 11, Environmental Regulations, Part II, Soil Erosion and Sedimentation Control)

**Street** includes any public way, road, highway, street, avenue, boulevard, parkway, alley, lane, viaduct, bridge, and the approaches thereto within the Town and shall mean the entire width of the right-of-way between abutting property lines.

**Street, collector** means a street which serves or is designed to serve as a traffic-way for a neighborhood or as a feeder to a major street from local access streets. Collector streets collect traffic from 100 to 400 dwelling units.

**Street, environmental** means a local street intended to serve primarily as a direct access to residentially zoned properties in environmentally sensitive areas with a projected low traffic count, on which through traffic is discouraged and which is designed to serve no more than 50 dwelling units. An environmental street shall be a cul-de-sac, a loop street less than 2,000 feet in length or a street that does not connect with more than one major street, unless otherwise required by Town Code Chapter 36, Streets, Sidewalks, & Other Public Places. An environmental street is only allowed within 100 feet of estuarine waters, within a maritime forest, a residential subdivision street located wholly or partially within the CAMA Fresh Pond area of environmental concern (AEC). A street location within an environmentally sensitive area may be selected only if no other feasible location exists within the proposed development.

## APPENDIX A. DEFINITIONS

**Street, local access** means a street intended to serve primarily as a direct access to abutting properties, and on which through traffic is discouraged. A local access street is a cul-de-sac, a loop street less than 2,500 feet in length, or a street less than one mile in length which does not connect major streets. A local access street does not collect traffic from more than 100 dwelling units.

**Street, marginal access** means a local access street which parallels and is immediately adjacent to a major street or highway and which provides access to the properties abutting it and separates the abutting properties from the major street or highway right-of-way.

**Street, major** means a street which serves or is designed to serve heavy flows of traffic and which is used primarily as a route for traffic between communities or other heavy traffic-generating areas. Specifically, the term includes any state-maintained highway.

**Street, sub collector** means existing streets for which the right-of-way is less than 60 feet.

**Structure** means anything constructed or erected, the use of which requires location on the ground or attachment to something having location on the ground.

**Structure** means a walled and roofed building, a manufactured home, or a gas or liquid, or liquefied gas storage tank that is principally above ground (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Structure, accessory (appurtenant structure)** means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common accessory structures.

**Structure, midpoint** is defined as the halfway point of the principal structure measured from front to rear on the property, including decks.

**Structure highlighting** means:

- (1) Exposed or channel neon, argon, krypton or similar gas tube lighting, not utilized as a part of permitted signage, that directs attention to a building, or structure;
- (2) Any unshielded light source, or light source that illuminates a translucent or opaque two- or three-dimensional surface, or object, that is not part of a permitted sign, that directs attention to a building or structure.

**Subdivider** means any person who shall lay out any subdivision or part thereof, as defined in this section, either for himself or others.

**Subdivision** means all divisions of a tract or parcel of land into two or more lots, building sites or other divisions for the purpose of sale or building development (whether immediate or future) and shall include all divisions of land involving the dedication of a new street or a change in existing streets; but the following shall not be included within this definition nor be subject to the regulations of this UDO:

**Commented [HW47]:** Flood ordinance references building definition to see the definition of structure. Town ordinance does not.

**Commented [HW48]:** Model ordinance also lists this language-

Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

Should we include?

Dare County also included the following language-  
For floodplain management purposes, accessory structures are considered structures used for parking and storage only. The definition used for floodplain management purposes may vary from similar definitions found in the Dare County Zoning Ordinance.

## APPENDIX A. DEFINITIONS

- (1) The combination or recombination of portions of previously subdivided and recorded lots where the total number of lots is not increased and the resultant lots are equal to or exceed the standards of the municipality as shown in this UDO.
- (2) The division of land into parcels greater than ten acres where no street right-of-way dedication is involved.
- (3) The public acquisition by purchase of strips of land for the widening or opening of streets or for public transportation system corridors.
- (4) The division of a tract in single ownership whose entire area is no greater than two acres into not more than three lots, where no street right-of-way dedication is involved and where the resultant lots are equal to or exceed the standards of the municipality as shown in this UDO.
- (5) The division of a tract into parcels in accordance with the terms of a probated will or in accordance with intestate succession under Chapter 29 of the General Statutes.

**Subdivision, major** means any subdivision not classified as a minor subdivision including, but not limited to, subdivisions of five or more lots, or any size subdivision requiring any new street or extension of municipal facilities.

**Subdivision, minor** means any subdivision containing not more than four lots fronting on an existing street, not involving any new street or road or the extension of municipal facilities, not adversely affecting the development of the remainder of the parcel or adjoining property and not in conflict with any provision or portion of the master plan, official map, or this UDO.

**Subsidiary** means an affiliate that is directly, or indirectly through one or more intermediaries, controlled by another person (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Substantial damage** means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of substantial improvement. ***[CRS communities are eligible for up to 20 CRS points for adopting OPTIONAL Text for Substantial Damage that could include one or more of the following higher standards:]***

- 1.) *By choosing a timeframe that includes cumulative damages sustained over a period of time exceeding one year period. (5 or 10 year period recommended)*
- 2.) *By choosing a percent damaged that is less than 50% of the market value of the structure (CRS recommends 30 %.)*
- 3.) *By adding the following text for eligibility for Increased Cost of Compliance (ICC) benefits for repetitive losses: Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. (Strongly Recommended)*

## APPENDIX A. DEFINITIONS

**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 ~~project of improvement of a structure to~~ 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 Article 4 Section E of this ordinance.~~

*[CRS communities are eligible for up to 20 CRS points for adopting OPTIONAL Text for Substantial Damage that could include one or more of the following higher standards:]*

- 1.) By choosing a timeframe that includes cumulative damages sustained over a period of time exceeding one-year period. (5 or 10-year period recommended)*
- 2.) By choosing a percent improved that is less than 50% of the market value of the structure (CRS recommends 30 %.)*

**Substantial modification (wireless facility)** means the mounting of a proposed wireless facility on a wireless support structure that substantially changes the physical dimensions of the support structure. A mounting is presumed to be a substantial modification if it meets any one or more of the criteria listed below. The burden is on the local government to demonstrate that a mounting that does not meet the listed criteria constitutes a substantial change to the physical dimensions of the wireless support structure.

- (1) Increasing the existing vertical height of the structure by the greater of (i) more than ten percent (10%) or (ii) the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty (20) feet.
- (2) Except where necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable, adding an appurtenance to the body of a wireless support structure that protrudes horizontally from the edge of the wireless support structure the greater of (i) more than twenty (20) feet or (ii) more than the width of the wireless support structure at the level of the appurtenance.
- (3) Increasing the square footage of the existing equipment compound by more than 2,500 square feet.

**Surveyor** means a person licensed as a land surveyor by the state.

Commented [HW49]: Verify Reference .

## APPENDIX A. DEFINITIONS

**Swimming pool** means a structure, whether above or below grade level, designed to hold water more than 30 inches deep to be used for recreational purposes.

### T

**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. (OPTIONAL)

**Temperature controlled** means having the temperature regulated by a heating and/or cooling system, built-in or appliance.

**Temporary emergency, construction, or repair residence** means a subordinate residence that is: located on the same lot as a single-family dwelling made uninhabitable by fire, flood, or other natural disaster and occupied by the persons displaced by such disaster, or (ii) located on the same lot as a residence that is under construction or undergoing substantial repairs or reconstruction and occupied by the persons intending to live in such permanent residence when the work is completed.

**Temporary structure or building** means any structure or building intended for temporary use, or which is not permanently anchored or attached to a permanent foundation.

**Ten-year storm** means the rainfall of an intensity expected to be equaled or exceeded, on the average, once in ten years, and of a duration which will produce the maximum peak rate of runoff, from the watershed of interest under average antecedent wetness conditions (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Tenant** means one who resides on or has the temporary use or occupancy of real property owned by another person. In the case of residential property, the term "tenant" shall be considered to mean any individual actually residing at the residential location, whether such person is listed on a lease or not.

**Top plate** means the point at which the structural wall framing, and the structural roof framing join together at the top of the uppermost habitable floor. When a building is designed with top plates at more than one horizontal level, the uppermost plate is the one referred to and regulated by this UDO.

**Commented [HW50]:** Optional in model but already adopted in UDO.

## APPENDIX A. DEFINITIONS

**Tour boat** means a vessel used to transport passengers for passive nature or recreational enjoyment from a shore-based site to a destination or attraction and returning to the same shore-based site without embarking or disembarking passengers enroute. A tour boat does not include charter boat, guide boat, or water taxi boat.

**Town** means the Town of Nags Head, North Carolina as it is now, or may in the future be, constituted.

**Town Administrator** means a person designated by the Town Manager to represent the Town in all business with the grantee.

**Town right-of-way** means a right-of-way owned, leased, or operated by the Town, including any public street or alley that is not part of the State highway system.

**Town utility pole** means a pole owned by a Town located in a Town right-of-way that provides lighting, traffic control, or similar function.

**Townhouse** means a single-family dwelling on its own individual lot but connected on two sides, by means of a common wall for at least ten feet of its length, to two other single-family dwellings or an end dwelling of a row of such dwellings.

**Tract** means all contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Trade association** means an unincorporated or incorporated association of members of a particular profession or trade formed for the advancement of the trade or the betterment of its members in the trade.

**Trade association office** means a building or portion of a building wherein an unincorporated or incorporated association of members of a particular profession perform noncommercial, predominantly administrative and/or clerical activities, educational, and/or training activities and meetings necessary for the advancement of the trade or the betterment of its members in the trade.

**Trade center** means a structure containing two or more individual units, primarily devoted to service and wholesale operations and the storage of materials for off-site work.

**Trailer** includes any of the following:

- (1) **Travel trailer** means a vehicular, portable structure built on a chassis, designed to be used as a temporary dwelling for travel, recreational and vacation uses, and, when factory equipped for the roads, it shall have a body width not exceeding eight feet and a body length not exceeding 32 feet.
- (2) **Pickup coach** means a structure designed to be mounted on a truck chassis for use as a temporary dwelling for travel, recreation and vacation.
- (3) **Motor home** means a portable, temporary dwelling to be used for travel, recreation, and vacation, constructed as an integral part of a self-propelled vehicle.

## APPENDIX A. DEFINITIONS

- (4) **Camping trailer** means a folding structure of canvas or other material mounted on wheels and designed for travel, recreation and vacation use.

**Trailer park** means a parcel or tract of land under single ownership which has been planned and improved for open-air camping or the temporary placement of trailers as a service to the traveling public.

**Transient occupancy** means occupancy by the same individual or owner for a combined period of no greater than 30 days in any single calendar year.

**Tree** means a woody perennial plant with one main stem or trunk which develops many branches, usually at some height above the ground.

**Tree removal** means removal of a tree or portion of a tree or any act which causes a tree to die within a period of two years including, but not limited to, damage inflicted upon the root system by machinery, storage of materials and soil compaction; changing the natural grade above the root system or around the trunk; damage inflicted on the tree permitting infection or pest infestation; excessive pruning; or paving with concrete, asphalt or other impervious material within such proximity as to be harmful to the tree.

**Twenty-five year storm** means the stormwater runoff resulting from a rainfall of an intensity expected to be equaled or exceeded, on the average, once in 25 years, and of a duration which will produce the maximum peak rate of runoff, from the watershed of interest under average antecedent wetness conditions (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

### U

**Uncovered** means the removal of ground cover from, on or above the soil surface (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Undertaken** means the initiating of any activity or phase of activity which results or will result in a change in the ground cover or topography of a tract of land (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Use** means:

- (1) Any purpose for which a building or other structure or a tract of land may be designed, arranged, maintained or occupied; or
- (2) Any activity, occupation, business or operation carried on in a building or other structure or on a tract of land.

**Use, accessory** means a building, structure or use which meets all of the following criteria:

## APPENDIX A. DEFINITIONS

- (1) It is clearly incidental to and customarily found in connection with a principal building or use;
- (2) It is subordinate to and serves a principal building or a principal use;
- (3) It is subordinate in area, extent or purpose to the principal building or principal use served;
- (4) It contributes to the comfort, convenience or needs of occupants, or business in the principal building or the principal use served;
- (5) It is located on the same lot as the principal building or use served; and
- (6) Is not a sexually oriented business or a sexually oriented business activity.

**Use, conditional** means a use that would not be appropriate generally or without restriction throughout a particular zoning district but which, if controlled as to number, area, location or relation to the neighborhood, would preserve the intent of this chapter to promote the public health, safety, morals and general welfare. Specific provisions are made for conditional uses which may be permitted in certain zones and the procedures for application are set out in Section 3.8, Conditional Use Permits of this UDO.

**Utility pole** means a structure that is designed for and used to carry lines, cables, wires, lighting facilities, or small wireless facilities for telephone, cable television, electricity, lighting, or wireless services.

### V

**Variance** means a relaxation of the terms of this UDO where such variance will not be contrary to the public interest and where, owing to conditions peculiar to the property and not the result of the actions of the applicant, a literal enforcement of this UDO would result in unnecessary and undue hardship.

**Vegetation line** means the first line of stable natural vegetation or the static line, as defined by CAMA, which shall be used as the reference point for measuring oceanfront setbacks. In cases where the static line is landward of the first line of stable natural vegetation, the static line shall be used for the measurement. In areas where there is no stable natural vegetation present and a static line has not been established, this line shall be established by connecting or extending the lines from the nearest adjacent vegetation on either side of the site and by extrapolating (by either on-ground observation or by aerial photographic interpretation) to establish the line.

**Velocity** means the average velocity of flow through the cross section of the main channel at the peak flow of the storm of interest. The cross section of the main channel shall be that area defined by the geometry of the channel plus the area of flow below the flood height defined by vertical lines at the

**Commented [HW51]:** Model ordinance defines variance as –

Variance- is a grant of relief from the requirements of this ordinance.

## APPENDIX A. DEFINITIONS

main channel banks. Overload flows are not to be included for the purpose of computing velocity of flow (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Vessel** means a vessel as defined in NCGS 76A-2.

**Violation** means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required Article 11, Part III is presumed to be in violation until such time as that documentation is provided (for the purposes of Article 11, Part III, Flood Damage Prevention).

### W

**Water surface elevation (WSE)** means the height, in relation to NAVD 1988, of floods of various magnitudes and frequencies in coastal or riverine floodplains (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Watercourse** means a lake, river, creek, stream, wash, channel or other topographic feature on or over which water flows at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur (for the purposes of Article 11, Part III, Flood Damage Prevention).

**Watercraft, non-powered** means an apparatus including, but not limited to, sailboat, canoe, kayak, windsurfer, stand-up paddle board, pedal boat, which does not have a motor or engine designed to propel such craft or apparatus.

**Watercraft, personal** means a small vessel that uses an outboard or propeller-driven motor, or an inboard motor powering a water jet pump, as its primary source of motive power and which is designed to be operated by a person sitting, standing, or kneeling on, or being towed behind the vessel, rather than in the conventional manner of sitting or standing inside the vessel.

**Watercraft, powered** means an apparatus including, but not limited to, fishing skiff, fishing boat, guide boat, designed for use on water, including trailers therefor, and motors or engines designed to propel such craft or apparatus.

**Waste** means surplus materials resulting from onsite construction and disposed of at other locations (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

**Wetlands** means areas that are inundated or saturated by an accumulation of surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

**Wetland swales** means seasonally flooded or water-saturated depressions located between drier adjacent dune ridges. The vegetation cover includes a tree canopy. The general aspect of a swale greatly resembles that of a forested swamp, of which it may be considered a subunit. In the Nags Head Woods, dominant wetland swale vegetation includes sweet gum, black gum, red maple, buttonbush and cattails. Swales may become flooded seasonally or following heavy rainfall.

## APPENDIX A. DEFINITIONS

**Wind energy** means kinetic energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators.

**Wind energy facility, rooftop** means no more than two commercially manufactured roof-mounted systems per site, attached to either principal or accessory structures, designed to supplement other electricity sources as an accessory use to existing principal buildings or facilities, wherein the power generated is used primarily for on-site consumption having a total rated capacity of ten kW or less. The structural, mechanical, and electrical installation of such facilities shall conform to all applicable local, state and federal code and permitting requirements.

**Wind energy facility, small** means a single system designed to supplement other electricity sources as an accessory use to existing principal buildings or facilities, wherein the power generated is used primarily for on-site consumption. A small wind energy conversion system consists of a single wind turbine, a tower, and associated control or conversion electronics, which has a total rated capacity of 20 kW or less.

**Wind energy facility, vertical axis** means a system where the main rotor shaft is set vertically, and the main components are located at the base of the turbine. They are designed to supplement other electricity sources as an accessory use to existing principal buildings or facilities, wherein power generated is used primarily for on-site consumption. A vertical axis wind energy facility consists of a single wind turbine, a tower, and associated control or conversion electronics.

**Wireless facility** means equipment at a fixed location that enables wireless communications between use equipment and a communications network, including (i) equipment associated with wireless communications and (ii) radio transceivers, antennas, wires, coaxial or fiber optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration. The term includes small wireless facilities. The term shall not include any of the following:

- (1) The structure of improvements on, under, within, or adjacent to which the equipment is collocated.
- (2) Wireline backhaul facilities.
- (3) Coaxial or fiber optic cable that is between wireless structures or utility poles or Town utility poles or that is otherwise not immediately adjacent to or directly associated with a particular antenna.

**Wireless infrastructure provider** means any person with a certificate to provide telecommunications service in the State who builds or installs wireless communication transmission equipment, wireless facilities, or wireless support structures for small wireless facilities but that does not provide wireless services.

**Wireless provider** means a wireless infrastructure provider or a wireless services provider.

**Wireless services** means any services, using licensed or unlicensed wireless spectrum, including the use of Wi-Fi, whether at a fixed location or mobile, provided to the public using wireless facilities.

## APPENDIX A. DEFINITIONS

**Wireless services provider** means a person who provides wireless services.

**Wireless services structure** means a new or existing structure, such as a monopole, lattice tower, or guyed tower that is designed to support or capable of supporting wireless facilities. A utility pole or a Town utility pole is not a wireless support structure.

**Working days (soil erosion and sedimentation control)** means days exclusive of Saturday and Sunday during which weather conditions or soil conditions permit land-disturbing activity to be undertaken (for the purposes of Article 11, Part II, Soil Erosion and Sedimentation Control).

### X

**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.

### Y

**Yard** means a required open space, unoccupied and unobstructed by any structure or portion of a structure from 12 inches above the general ground level of the graded lot upward, provided that, fences, walls, poles, posts and other customary yard accessories, ornaments and furniture may be permitted in any yard subject to height limitations and requirements limiting obstruction of visibility or any other requirement of this UDO. Further, customary accessory buildings or structures, including pools and pool surrounds, may be located in any rear or side yard no closer than five feet to any property line and subject to other limitations of this UDO. For lots of record which front on access easements, yard and lot depth measurements shall be made from the edge of the easement rather than from the lot line.

- (1) **Yard, front** means a yard extending between side lot lines across the front of a lot adjoining the public street. Depth of required front yard shall be measured at right angles to a straight line joining the foremost points of the side lot lines. The foremost point of the side lot line, in the case of rounded property corners at street intersections, shall be assumed to be the point at which the side and front lot lines would have met without such rounding. Front and rear yard lines shall be essentially parallel.
- (2) **Yard, rear** means a yard extending across the rear of the lot between side lot lines. Depth of a required rear yard shall be measured in such a manner that the yard established is a strip of the minimum width required by district regulations with its inner edge parallel with the rear lot line.
- (3) **Yard, side** means a yard extending from the rear line of the required front yard to the rear yard. Width of a required side yard shall be measured in such a manner that the yard established is a strip of the minimum width required by district regulations with its inner edge parallel with the side lot line.

## APPENDIX A. DEFINITIONS

### Z

**Zoning** means a police power measure, enacted primarily by general purpose units of local government, in which the community is divided into districts or zones within which permitted and conditional uses are established as are regulations governing lot size, building bulk, placement, and other development standards. Requirements vary from district to district, but they must be uniform within districts. The Zoning Code consists of two parts: a text and a map.

**Zoning districts** means those districts depicted on the official zoning map and described in Article 6 Zoning Districts of this UDO.

**Zoning permit** means a permit issued by the UDO Administrator that authorizes the recipient to make use of property in accordance with the requirements of this UDO.



## Town of Nags Head

Planning and Development  
Department

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### MEMORANDUM

**TO:** Board of Commissioners  
**FROM:** Andy Garman, Deputy Town Manager  
David Morton, Chief Building Inspector  
Holly White, Principal Planner  
**DATE:** February 15, 2018  
**SUBJECT:** Update on the Preliminary Flood Maps

In preparation for the upcoming workshop on the preliminary Flood Insurance Rate Maps (FIRM), staff has compiled information to assist the Board in its discussion. The goal of this workshop would be to update the Board on the status of the preliminary FIRM map adoption process and gain input and direction on the possible adoption options. This memo highlights major milestones of this process thus far. In addition to the memo, there are several important maps and documents that will help to frame the discussion for the workshop. These include:

- Attachment 1- Board of Commissioners Resolution dated March 1, 2017-  
On March 1<sup>st</sup>, 2017, the Board of Commissioners approved a resolution requesting that FEMA revise the models used to generate the FIRM Maps and consider all appropriate sources of flooding to better and more accurately reflect the risk from flooding and storm surge.
- Attachment 2- Comment letter on the Preliminary Flood Maps for the Town of Nags Head dated October 4, 2017-  
The Board of Commissioners reviewed and approved a letter summarizing the town's comments and concerns on the preliminary flood maps. This letter provides insight and establishes a foundation for development of alternative options for adoption of the preliminary flood maps.
- Attachment 3- Tables-  
These tables provide a comparison of regulatory options for adoption of the new flood maps and discuss the advantages and disadvantages of each.
- Attachment 4- Maps- These maps are best viewed digitally by allowing the viewer to zoom in to specific areas of the town.
  - A. 2012 Digital Elevation Model with 1' Contours Map-  
This map reflects 1' ground elevation contours for the town and can be helpful in comparing existing ground elevations to the preliminary flood zone boundaries.

B. Proposed Flood Zone Boundary Changes Map-

This map reflects the adopted 2006 Flood Zones in red and green hatching as well as the preliminary flood zones in solid colors.

C. Comparison Map-

This map displays several different items. These include:

- Current AE Flood Zone- The current AE flood zone is shown in black hatching.
- Adoption Option 3- If Option 3 is selected; the local elevation standard would regulate properties in an AE and X flood zone at 8' and below. Everything in blue reflects elevations at 8' or below which would be regulated under Option 3.
- Adoption Option 4- If Option 4 is selected, the local elevation standard would regulate properties in AE and X flood zone at the 10' elevation and below. Again, everything in blue on the map reflects the 8' elevation. Additionally, the 8-10' elevation contours are shown in green and yellow. Therefore, everything shown in blue, green, and yellow would be regulated in Option 4.
- Matthew Flooding- The thick red line is a representative example of the area inundated with flood water during Hurricane Matthew in the northern portion of town. The flood height observed was approximately 10'. This line also correlates with both the 10' elevation contour and the 2006 AE flood line.
- Hurricane Irene Damage- Properties shown in pink experienced damage during Irene. The number, shown within the property boundaries, represents the depth of flooding recorded inside the heated living space or enclosure of the home.

The preliminary Flood Insurance Rate Maps (FIRM) released in June of 2016 revealed that many areas of the town have been proposed to 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. Soon after the preliminary maps were made available, town staff began working with Dare County and the other towns to hold community meetings, review, and discuss concerns with the preliminary maps. After review of the preliminary maps and additional research to compare historical records, both staff and the Board of Commissioners felt that these maps underrepresented the actual flood risk observed during previous flood events for certain parts of the town. If adopted "as is" (i.e. without the addition of higher regulatory standards) construction will occur that will be subject to routine flooding. Those property owners who choose to forego flood insurance in these areas will be unprotected against future loss.

In addition to the required community meetings and notifications outlined below in the Flood Insurance Rate Map Process & Community Involvement section, the town consulted with several other resources to better understand how the maps were developed and what options were available for adoption.

On February 6, 2017, Spencer Rogers with NC Sea Grant was invited to speak to the Nags Head Board of Commissioners and the community about his review of and concerns with the preliminary flood maps. Mr. Rogers indicated that the coastal model used by FEMA to develop Flood Insurance Rate Maps has inherent flaws which are reflected in the Special Flood Hazard Areas and Base Flood Elevations shown on the preliminary maps. Mr. Rogers explained that the modeling process is highly quantitative and dependent on simulations. This reduces the ability to make inferences from historical storm and storm gauge records. The key to improving

coastal flood maps lies in revising the coastal flood models that are used to calculate the areas subject to flood inundation as well as Base Flood Elevations. The modeling process also needs to better address estimates of storm return period and consider areas of shallow flooding.

In September 2017, Dr. Rick Luettich, Director of the UNC Center for Natural Hazards Resilience, made a presentation to the Nags Head Board of Commissioners describing the modeling process used to develop the preliminary flood maps. Dr. Luettich has completed further analysis of the preliminary flood maps using data from a new gauge that was installed in Hatteras in 2011. Based on his research and analysis, Dr. Luettich is concerned that the selection of historical storms utilized in the first phase of the preliminary mapping process does not adequately describe what communities in the northern beaches (Hatteras north) are likely to encounter, especially along the soundside. Dr. Luettich indicated that this has resulted in the low BFE's and reduced Special Flood Hazard Area acreage as shown on the preliminary flood maps. Staff would encourage you to review the video of Mr. Luettich's presentation prior to the workshop at the following link: [https://www.youtube.com/watch?v=EnL-4\\_ishmA](https://www.youtube.com/watch?v=EnL-4_ishmA). Mr. Luettich's presentation starts at the 1:21 minute point in the video.

In October 2017, the Town submitted a letter outlining concerns about the preliminary FIRMs and does not anticipate changes to the maps based on feedback received from state officials. At this point, the Town is evaluating the options it has to protect the community if the maps are adopted as is. The Town must adopt the maps to continue to participate in the National Flood Insurance program, which makes federally backed flood insurance and disaster relief available to communities. The Town also may consider adopting higher regulatory standards to address the concerns with the preliminary FIRMs.

### **Possible Adoption Options**

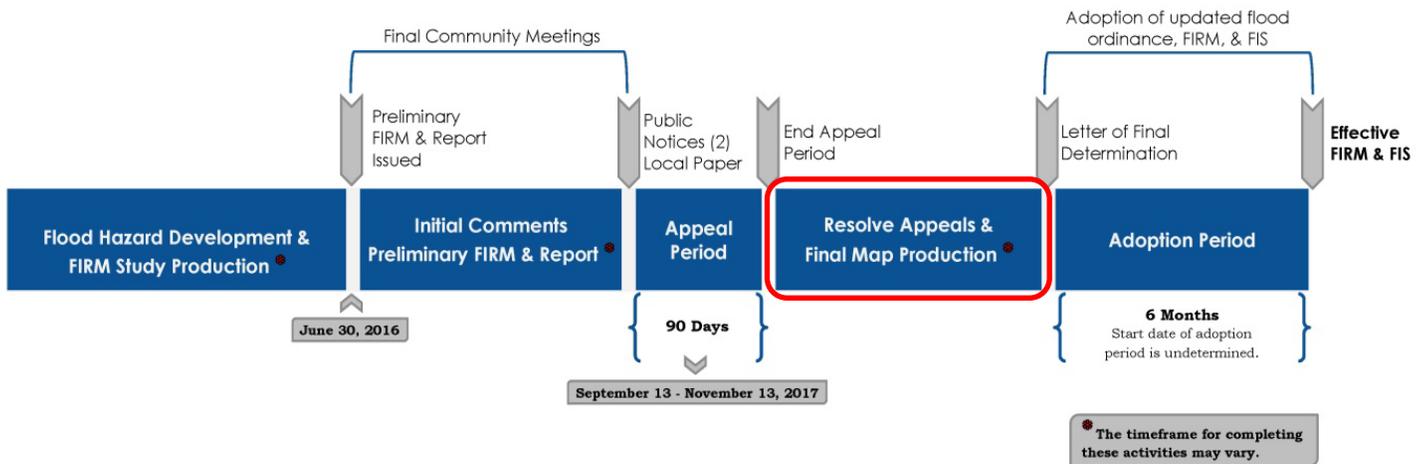
Based on all the previous research and information collected, the town has several possible options for adoption including:

1. Adopt the proposed flood maps without any additional higher regulatory standards. This would remove a significant number of properties from the Special Flood Hazard Area at which time they would no longer be required to carry flood insurance or meet any minimum regulatory requirements.
2. Adopt the proposed maps for flood insurance purposes, but continue to regulate based on the current (2006) flood maps.
3. The Dare County Towns and the County have been working as a group for several months to explore ways to provide consistency with administering the new flood maps. All communities recognize that the proposed maps do not reflect the actual risk of flooding. The working group has developed a proposal which would do the following:
  - A. Adopt the draft FIRM for flood insurance purposes.
  - B. Adopt a local elevation standard for the entire town that would be greater than what is shown on the maps:
    - For non-oceanfront areas (west of NC 12 or SR 1243), a minimum elevation of eight feet would be required for all new construction or substantial improvements.
    - East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.

4. Adopt modified version of option 3.
  - A. Adopt the draft FIRM for flood insurance purposes.
  - B. Adopt a local elevation standard:
    - For non-oceanfront areas (west of NC 12 or SR 1243), a minimum elevation of ten feet would be required for all new construction or substantial improvements.
    - East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.

The tables shown in Attachment 3, outline the advantages and disadvantages for each option.

### **Flood Insurance Rate Map Process & Community Involvement**



Preliminary Flood Insurance Rate Maps (FIRM) maps were issued June 30, 2016 for Dare County and its municipalities. Since that time, there has been a general public viewing period. In November 2016 the Board of Commissioners discussed options for either appealing the information on the maps and/or creating a higher regulatory standard to protect Nags Head properties. The Board suggested that the town conduct its own public outreach on the proposed maps and receive community feedback prior to taking any action. This outreach included hosting a Community Meeting on December 14, 2016 on the new flood maps to provide an overview of the new maps as well as the information comparing the new flood maps to areas damaged in recent storms. Following the meeting, people were given the opportunity to participate in a survey. Approximately 15 people attended the meeting. Additionally, staff developed a video to reflect the messaging made at the Community Meeting that has been made available on the website. Citizens were encouraged to watch the video and then participate in the survey. Approximately 59 people participated in the survey.

In January of 2017, Dare County and the NC Floodplain Mapping program hosted a series of three community meetings throughout Dare County. These meetings were held:

- January 10<sup>th</sup>- Kill Devil Hills Town Hall
- January 11<sup>th</sup>- Dare County Board of Commissioners Meeting Room, Manteo
- January 12<sup>th</sup>- Fesseden Center, Buxton

A 90-day appeal period began September 13<sup>th</sup> 2017 and closed November 13<sup>th</sup> 2017. In October 2017, the town submitted a letter outlining concerns and comments on the Preliminary Flood Maps. The Dare County preliminary maps are currently in the resolution and final map

production period. There is not a set amount of time required for this portion of the process. The length of this time can be determined by the length of time it takes for the NC Floodplain Mapping program to finalize any appeals and finalize map production. Once this is complete, the NC Floodplain Mapping Program will issue a Letter of Final Determination which establishes the final flood hazard data and the effective date of the new Flood Insurance Rate Maps (FIRM) and Flood Insurance Study (FIS) report. After a six month period, the FIRM and FIS become effective. During the six month waiting period for adoption, Nags Head will need to hold a public hearing to adopt the new FIRMs, FIS, and an updated ordinance.

**Next Steps:**

Based on the information provided and discussion at the upcoming meeting, staff would request direction from the Board on their preference of possible adoption options. Once a desired direction has been determined, staff can continue work to implement this through continued participation in the Dare County Planners group and through the ordinance rewrite.

**Attachments:**

- Attachment 1- Board of Commissioners Resolution dated March 1, 2017
- Attachment 2- Comment letter on the Preliminary Flood Maps for the Town of Nags Head dated October 4, 2017
- Attachment 3- Tables
- Attachment 4- Maps
  - A. 2012 Digital Elevation Model with 1' Contours Map
  - B. Proposed Flood Zone Boundary Changes Map
  - C. Comparison Map



**RESOLUTION REQUESTING THAT THE FEDERAL EMERGENCY MANAGEMENT AGENCY REVISE THE COASTAL FLOODPLAIN MAPPING MODEL AND CONSIDER SHALLOW FLOODING AND OTHER SOURCES OF FLOOD RISK AS PART OF THE PROCESS TO UPDATE FLOOD INSURANCE RATE MAPS**

**WHEREAS**, the Town of Nags Head has been a member of the National Flood Insurance Program since 1972; AND

**WHEREAS**, the Town of Nags Head strongly believes that the National Flood Insurance Program, through the use of Flood Insurance Rate Maps and associated regulations, has been one of the primary and most effective ways to minimize flood damage to properties within the Town and communicate flood risk to the general public; AND

**WHEREAS**, the Town of Nags Head received preliminary Flood Insurance Rate Maps on June 30, 2016 as part of the North Carolina Floodplain Mapping Program's most recent effort to update flood maps in partnership with the Federal Emergency Management Agency (FEMA); AND

**WHEREAS**, the Town has compared the proposed Special Flood Hazard Areas and associated Base Flood Elevations to previous maps as well as local historical storm records and documented flooding; AND

**WHEREAS**, a large portion of the Town has been removed from the Special Flood Hazard Area and the remaining non-VE zone Special Flood Hazard Areas have a Base Flood Elevation of 4 feet above mean sea level, which is generally lower than the land surface elevations in much of the Town; AND

**WHEREAS**, based on this analysis, the Town has determined that the preliminary Flood Insurance Rate Maps underrepresent the flood risk for a significant portion of the Town, including areas flooded and/or damaged in Hurricanes Isabel, Irene, Matthew as well as Tropical Storm Beryl; AND

**WHEREAS**, the preliminary maps, if adopted without modification, would allow new construction and/or improvements to existing buildings that would be at risk of flooding from storms of similar intensity and/or duration as the aforementioned events; AND

**WHEREAS**, buildings constructed outside of the Special Flood Hazard Area are not grandfathered for flood insurance purposes and, if later mapped into a flood zone, may realize significant flood insurance premium increases if not constructed in compliance with new flood damage prevention regulations; AND

**WHEREAS**, the Town has consulted with North Carolina Emergency Management, the North Carolina Floodplain Mapping Program, NC Sea Grant and conducted other research to collect information on how the maps were developed including the models and analyses used to develop Special Flood Hazard Areas and associated Base Flood Elevations; AND

**WHEREAS**, the Town believes that the coastal models used by FEMA to develop Flood Insurance Rate Maps has inherent flaws which are reflected in the Special Flood Hazard Areas and Base Flood Elevations shown on the preliminary maps; AND

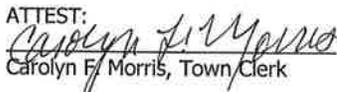
**WHEREAS**, the modeling process is highly quantitative and dependent on simulations which reduces the ability to make inferences from historical storm and storm gage records; AND

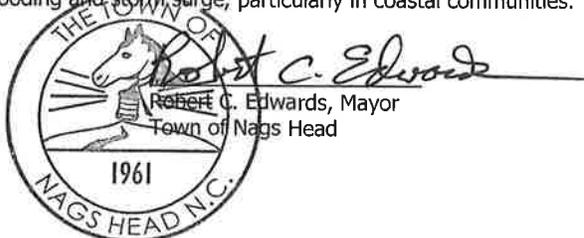
**WHEREAS**, the key to improving coastal flood maps lies in improving the coastal flood models that are used to calculate the areas subject to flood inundation, Base Flood Elevations, as well as improving estimates of storm return period and consideration of areas of shallow flooding.

**NOW, THEREFORE BE IT RESOLVED** that the Nags Head Board of Commissioners calls upon our Federal and State representatives to request that the Federal Emergency Management Agency revise the models used to generate the Flood Insurance Rate Maps and consider all appropriate sources of flooding to better and more accurately reflect the risk from flooding and storm surge, particularly in coastal communities.

This the 1<sup>st</sup> day of March 2017.

ATTEST:

  
Carolyn F. Morris, Town Clerk





**Robert C. Edwards**  
Mayor

**Susie Walters**  
Mayor Pro Tem

**Cliff Ogburn**  
Town Manager

## **Town of Nags Head**

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Fax 252-441-0776  
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**M. Renée Cahoon**  
Commissioner

**John Ratzenberger**  
Commissioner

**Marvin Demers**  
Commissioner

October 4, 2017

Mr. John K. Dorman  
Program Director  
North Carolina Floodplain Mapping Program  
4105 Reedy Creek Road  
Raleigh, North Carolina 27607

Luis Rodriguez, Chief  
Engineering Management Branch  
Federal Insurance and Mitigation Administration  
FEMA  
500 C Street SW Room 423  
Washington, DC 20472

RE: Comments on the Preliminary Flood Maps for the Town of Nags Head

Dear Mr. Dorman,

The Town of Nags Head has reviewed the Preliminary Flood Insurance Rate Maps that were released for Dare County in June of 2016. As you are aware, many areas of the town have been proposed to 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 town has compared the preliminary Special Flood Hazard Areas and Base Flood Elevations to our historical records of storm surge and rainfall flooding as well as flood damage. Based on this comparison, the Nags Head Board of Commissioners believes that these maps underrepresent the actual flood risk observed during previous flood events for certain parts of the town. If adopted "as is" (i.e. without the addition of higher regulatory standards) construction will occur in the town that will be subject to routine flooding. Those property owners who choose to forego flood insurance in these areas will be unprotected.

The Town of Nags Head strongly believes that the National Flood Insurance Program, through the use of Flood Insurance Rate Maps and associated regulations, has been one of the primary and most effective ways to minimize flood damage to properties within the town and communicate flood risk to the general public. The flood maps are often the primary source of information people use to evaluate risk when making real estate purchases or

planning property improvements. To date, the National Flood Insurance Program has served to limit significant damage that would have otherwise occurred without these preventative measures. This has largely been due to gradual improvements in the floodplain mapping program. The preliminary maps represent a departure from previous map revisions, particularly with respect to the current maps which were adopted in 2006. This is a policy decision that will reintroduce risk into the town and represents a step backwards in our collective efforts to protect property. As a town and regulatory agency, we believe it is our responsibility to protect property owners from these risks, particularly since many property owners are from other areas of the country and may not be familiar with local conditions. Therefore, we provide the following comments for your consideration:

1. On March 1, 2017, the town adopted a resolution outlining our initial concerns with the flood maps and the modeling process used to develop the maps. Please incorporate the attached resolution as part of the town's official comments.

2. Reduction of Special Flood Hazard Areas (SFHA) and Base Flood Elevations (BFE)

The preliminary maps rezone large areas of the town from the AE and VE flood zones to unregulated Shaded X zones. In addition to the reduction in overall acreage of the Special Flood Hazard Area, Base Flood Elevations (BFE's) in all flood zones are reduced significantly. In AE flood zones, BFE's will be reduced from a range of 9-11 feet on the 2006 Flood Maps to 4-5 feet on the preliminary flood maps. In some cases, VE flood zones from the 2006 flood maps will become AO flood zones or Shaded X flood zones on the preliminary maps.

During Hurricane Irene, the town documented soundside flooding with flood heights reaching properties as high as seven feet above mean sea level. Many structures along the sound were damaged, and post-storm inspections revealed flood heights within structures between one and three feet. The average ground elevation in these same areas ranges between four and six feet above mean sea level. Fortunately, in most cases only ground floor unheated enclosures were flooded due to the fact that these homes were constructed in accordance with existing or previous flood damage regulations. The preliminary flood maps place these areas either in an AE flood zone with a BFE of four feet or within a Shaded X flood zone. Since many of these areas would no longer be regulated under the new maps, new structures could be positioned at existing grade and existing enclosures could be converted to heated space. (See Maps 1-5).

Further, in the northern portion of town, flooding associated with rainfall from hurricane Matthew was documented up to 3.5 feet within structures. This area is currently in the AE flood zone with a BFE of 10 feet. The extent of the floodwater surface elevations were documented between 10.0' msl and 11.5' msl (See Map 6). Topographic grades in this area generally range between five and eight feet. On the preliminary flood maps, this entire area will now be in a Shaded X flood zone. Many of the structures in this area are elevated with limited unheated storage beneath the structure. If the preliminary maps are adopted, enclosures could be converted to heated space. If this occurs on a widespread basis, the damage estimates from future storms such as Matthew will be exponentially higher. Please

note in section 4 below that Matthew is not the only historic event to cause flooding in this area.

### 3. Natural Topography

The natural topography of the barrier island creates a low-lying “trough” between the maritime forest zone west of US 158 and the primary beach and foredunes in the vicinity of NC 12. In general, the maritime ridge serves as the breakpoint for overland surface runoff and subsurface groundwater flow between the Atlantic Ocean and the Roanoke Sound. A majority of the developed properties exist east of the maritime ridge and are concentrated in the lower lying areas between the beach and maritime forest zones. With the general eastern direction of flow, runoff tends to accumulate in the lower elevations in the developed areas, creating a “bowl” like effect which leads to localized flooding by way of elevated groundwater conditions, surface runoff, or a combination of the two. When the town experiences frequent, intense and prolonged rainfall events, as observed during Hurricane Matthew in 2016 and during the summer of 2017, the ground becomes saturated, prohibiting any further infiltration from occurring. This exacerbates flooding in these low lying areas resulting in widespread impacts to structures, roadways, and septic systems.

As mentioned above, frequent, intense and prolonged rainfall events can elevate the surrounding shallow surficial aquifer, saturating the sandy soils and restricting infiltration, the town’s primary means of managing flooding and runoff. Where available, what does not infiltrate is conveyed through 55 miles of the town’s network of open channels and storm pipes to five ocean outfall discharge points and twelve soundside discharge points. The outfall discharges, which are strategically located at low elevations within the town’s drainage basins, are maintained by the North Carolina Department of Transportation (NCDOT) and were installed in the early 1960’s in response to the Ash Wednesday Storm. The outfalls were originally constructed to provide a mechanism for draining ocean overwash events when the storm surge from the ocean overtopped the dunes.

According to the document “Guidance for Flood Risk Analysis and Mapping, Shallow Flooding Analyses and Mapping, November 2016” published by FEMA, “Shallow flooding can occur as the result of several meteorological and watershed conditions. However, there are two broad classifications of shallow flooding into which almost all individual cases can be assigned — ponding and sheet runoff. Ponding is the result of runoff or flows collecting in a depression that may have no outlet, subterranean outlets, rim outlets or manmade outlets such as culverts or pumping stations. Impoundments behind manmade obstructions (e.g., levees, road fill, railroad grades, canal banks, or similar structures) are included in this type of shallow flooding as long as they are not backwater from a defined channel or do not exceed 3.0 feet in depth.” The town understands that shallow flooding studies are not typically completed as part of the coastal floodplain mapping process. Since it is clear that our local conditions reveal problems associated with shallow flooding, the town would request a shallow flooding study be conducted in areas where this “bowl” like effect is occurring as part of the mapping process (See Map 6).

#### 4. Chronic Flooding

The town has seen an increase in chronic flooding. The increase in occurrences of “extreme” rainfall events has led to extended periods of inundation in developed low-lying areas beyond what could be considered nuisance flooding. This has been evidenced by recent rainfall events. Flooding in the coastal environment is not only caused by soundside and ocean surge events, but also from frequent, intense and prolonged rainfall events.

The following is a list of the most notable, recent storms that have impacted Nags Head with varying levels of surge and rainfall flooding. Of the 17 documented events causing significant damage in the town, eight flooding events were caused by excessive amounts of rainfall both related to a storm event as well as extended periods of intense rainfall. Of the nine remaining flooding events, seven events were ocean surge, and two were soundside surge events.

<b>Year</b>	<b>Event</b>	<b>Source of Flooding</b>
1962	Ash Wednesday Storm	ocean overwash event
1991	Halloween Storm	ocean overwash event
1992	July/August	extended rainfall pattern created flooding
1993	March storm	soundside storm surge event
2000	July/August	extended rainfall pattern created flooding
2003	Hurricane Isabel	ocean overwash event
2004	July/August	extended rainfall pattern created flooding
2006 (September)	Tropical Storm Ernesto	ocean surge event
2009 (November)	Veteran’s Day Storm (Nor’easter)	ocean overwash event
2011	Hurricane Irene	soundside storm surge event created extensive flooding town wide for properties adjacent to the sound

<b>Year</b>	<b>Event</b>	<b>Source of Flooding</b>
2012	July/August	extended rainfall pattern created flooding
2012 (October)	Hurricane Sandy	ocean overwash event
2014	Hurricane Arthur	soundside storm surge event
2015	Tropical Storm Joaquin	rainfall associated with the storm resulted in flooding throughout the town
2016 (September)	Tropical Storm Hermine	rainfall associated with the storm resulted in flooding throughout the town
2016 (October)	Hurricane Matthew	rainfall associated with the storm resulted in flooding throughout the town
2017	July to September	extended rainfall pattern created flooding

More recently, Hurricane Matthew delivered record amounts of rainfall throughout Nags Head in October 2016. Rainfall measurements recorded range between 11.7 inches to 13.7 inches across the Town of Nags Head, most of which occurred during a six hour period between 10 pm on October 8, 2016 and 4 am October 9, 2016. Peak flood water levels measured in the low-lying areas were documented as much as 3.5 feet deep. Significant portions of NC 12, and to a smaller extent US 158, were flooded creating conditions where public health and safety were endangered. Flood depths ranging between one and three feet remained for several days. Approximately 600 homes were impacted with a significant number of impacted properties residing within an area that will be converted from an AE flood zone to an unregulated Shaded X flood zone on the preliminary maps. Floodwater moved through the town’s stormwater infrastructure system but could not flow out of the NCDOT outfall pipes because of the exceptionally elevated tailwater conditions associated with storm surge and higher than normal tide. This situation prevented floodwater from being transported to the ocean and sound via the outfall pipes and created extensive town wide flooding.

Between July 2017 and August 2017, an exceptional amount of rainfall occurred and the time interval can be derived from the North Ridge Weather station located in the north section of the Town of Nags Head. For the Period between July 2, 2017 and July 16, 2017, three separate significant rainfall events occurred; a 25-yr rainfall event, a 50-yr rainfall, and a 200-yr event (see attached tabular rainfall records and associative recurrence interval, North Ridge July Rainfall Totals). Cumulatively, when combined with other rainfall occurrences and extended over a 47-day time period, this equates to an approximate 200-yr recurrence interval. The

rainfall amount during this period accounts for approximately one-half of the annual average rainfall for the town. These circumstances were similar to conditions experienced in the Fall of 2016 when approximately one-half of the annual average rainfall occurred over the course of a 45-day period. Again, flood depths ranged between one and three feet and approximately 300 homes were impacted, with a significant number of impacted properties being removed from the Special Flood Hazard Area on the preliminary maps.

The town would request that a more comprehensive approach be employed by the state and through FEMA modeling in determining flood risk when creating flood maps. The Town of Nags Head and other coastal communities are impacted by flooding from rainfall as frequently as surge type events. FEMA models and the state mapping process should better account for these rainfall events coupled with the high groundwater table.

#### 5. Updates to FEMA Model

Spencer Rogers, with NC Sea Grant, made a presentation to the town in February of 2017. Based on his presentation and research, the town believes that the coastal model used by FEMA to develop Flood Insurance Rate Maps has inherent flaws which are reflected in the Special Flood Hazard Areas and Base Flood Elevations shown on the preliminary maps. Mr. Rogers explained that the modeling process is highly quantitative and dependent on simulations. This reduces the ability to make inferences from historical storm and storm gauge records. The key to improving coastal flood maps lies in revising the coastal flood models that are used to calculate the areas subject to flood inundation as well as Base Flood Elevations. The modeling process also needs to better address estimates of storm return period and consider areas of shallow flooding. Mr. Rogers indicated that these concerns are further noted in the document, "Mapping the Zone: Improving Flood Map Accuracy" produced by the Committee on FEMA Flood Maps and National Research Council of the National Academies. The town would request that the FEMA models be updated based on the research of Spencer Rogers and the documentation provided in Mapping the Zone: Improving Flood Map accuracy.

#### 6. Storm Selection

In September of 2017, Dr. Rick Luettich, Director of the UNC Center for Natural Hazards Resilience, made a presentation to the Nags Head Board of Commissioners describing the modeling process used to develop the preliminary flood maps. Dr. Luettich has completed further analysis of the preliminary flood maps using data from a new gauge that was installed in Hatteras in 2011. Based on his research and analysis, Dr. Luettich is concerned that the selection of historical storms utilized in the first phase of the preliminary mapping process does not adequately describe what communities in the northern beaches (Hatteras north) are likely to encounter, especially along the soundside. Dr. Luettich indicated that this has resulted in the low BFE's and reduced Special Flood Hazard Area acreage as shown on the preliminary flood maps. The town would request that additional storms be included in the mapping process to reflect recent storm tracks, such as Hurricane Irene, that have caused damage along soundside portions of our community.

## 7. Other Issues

- Street addressing on the FRIS webpage - The Flood Risk Information System (FRIS) webpage is not able to correctly locate addresses. Some searches yield addresses that are off by several numbers. In other cases, the addresses identified do not exist in the town's addressing system. Because the addressing does not work on the FRIS site, it is difficult and often impossible for users to find an address. Users often call town staff to help them locate properties. Town staff are having to use a combination of the Dare County GIS site as well as the FRIS webpage to provide information. The town requests that this function be fixed.
- Map Legend - The legend on the maps, created by the FRIS webpage, uses the technical description of the Shaded X Zone - 0.2% of the annual flood hazard, but with no accompanying label of the Shaded X Zone on the final product. The X Zones are not labeled. Individuals not familiar with flood map terminology find this confusing since the legend does not convey the appropriate information. The town requests that the legend options on the map output be revised to include the Shaded X and X Zone labels.
- Local Government Involvement- The preliminary flood maps for Dare County include the unincorporated areas of the county and the six municipal areas of Manteo, Nags Head, Kill Devil Hills, Kitty Hawk, Southern Shores, and Duck. Dare County staff often serves as the liaison with the towns during the map development and review process. In an effort to better facilitate input from all localities, the town requests that staff and elected officials of all Dare County government agencies be engaged prior to and during the initial stages of future mapping processes. Such engagement would enable local officials to share recent issues related to flooding and clearly identify problem flooding areas. Additionally, more frequent updates early on in the mapping process could prevent the omission of relevant flooding data.

## 8. Conclusion

As a small barrier beach municipality, we are vulnerable to flooding both from storm surge and rainfall. The effects of sea-level rise and climate change further complicate and exacerbate the effects of flooding. The town is committed to developing policies as well as completing planning and infrastructure projects to proactively mitigate the effects of flooding. This is evidenced by the adoption of a Comprehensive Plan (July 2017) that will implement policies on flooding and coastal resiliency as well as the commitment of funding for a Stormwater Masterplan and Decentralized Wastewater Management Plan update. Further, the town is working with Dare County and other municipalities to develop higher regulatory flood damage prevention standards for future development in conjunction with the preliminary maps.

Based on the town's historical, first-hand knowledge of repetitive flooding events, it is difficult for the town to support the preliminary maps that would allow future construction that is more vulnerable to flooding than what exists presently. After consultation with NCEM staff, NC Sea Grant, and the UNC Center for Natural Hazards Research, the town would like the North Carolina Floodplain Mapping Program and FEMA to address mapping issues associated with the modeling process including the evaluation of storms utilized as the basis for subsequent phases of the mapping process. The town would also request that consideration be given to a shallow flooding study as suggested in this letter.

Again, if the preliminary maps are adopted, this would allow new development to be constructed in areas subject to known flood risk without the benefit of construction techniques designed to mitigate flood damage. Although the preliminary maps should positively affect insurance rates for many property owners in the town, there is a concern that property owners may cancel flood insurance coverage because they are no longer in a flood zone. Then, if flood maps are updated in the future to reflect expanded Special Flood Hazard Areas or higher BFE's, these property owners may become non-conforming and subsequently face costly insurance rate increases.

On behalf of the Town of Nags Head Board of Commissioners, please accept the above comments and concerns. The town has direct experience with the destructive nature of flooding and to the importance of mitigating flood hazards. We look forward to your response to these comments on the preliminary flood maps.

Sincerely,

Robert Edwards, Mayor  
Town of Nags Head

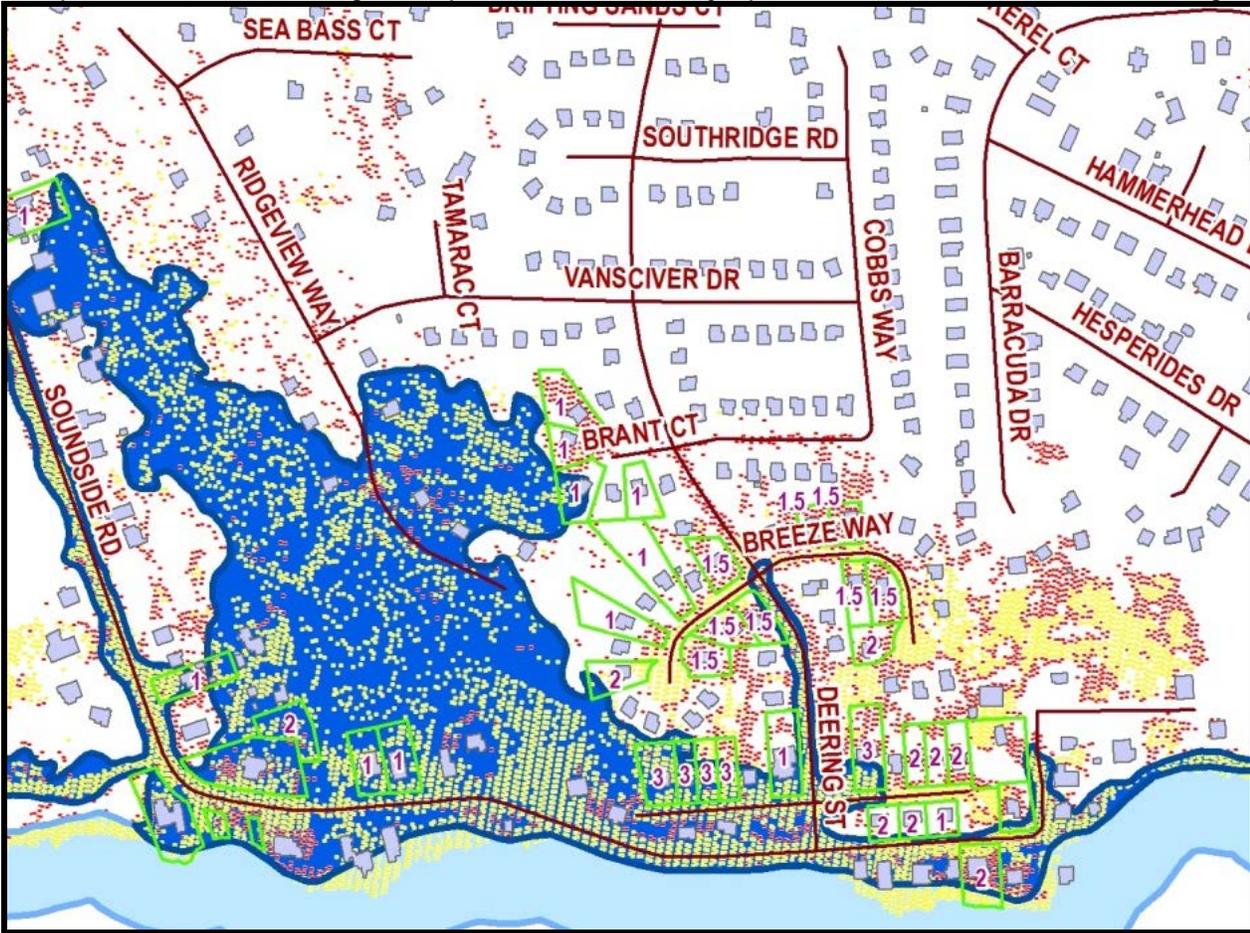
Attachments:

- Resolution adopted by Nags Head Board of Commissioners – March 1, 2017
- Maps 1 - 6
- Tabular rainfall records and associative recurrence interval, North Ridge

cc: Cliff Ogburn, Town Manager  
Dare County Board of Commissioners  
Robert Outten, Dare County  
Chris Layton, Town of Duck  
Peter Rascoe, Town of Southern Shores  
Andy Stewart, Town of Kitty Hawk  
Debbi Diaz, Town of Kill Devil Hills  
Kermit Skinner, Town of Manteo

Map 1

Comparison of Irene Damaged Properties to Preliminary Special Flood Hazard Areas (Southridge)



- Damaged Property (Irene) (Number indicates documented flood height in building)
- AE, BFE 4
- AE, BFE 5
- AO
- VE
- 4-5' msl
- Below 4' msl

Map 2  
Comparison of Irene Damaged Properties to Preliminary Special Flood Hazard Areas  
(Old Nags Head Cove)



-  Damaged Property (Irene) (Number indicates documented flood height in building)
-  AE, BFE 4
-  AE, BFE 5
-  AO
-  VE
-  4-5' msl
-  Below 4' msl

Map 3

Comparison of Irene Damaged Properties to Preliminary Special Flood Hazard Areas (Roanoke Shores)



- Damaged Property (Irene) (Number indicates documented flood height in building)
- AE, BFE 4
- AE, BFE 5
- AO
- VE
- 4-5' msl
- Below 4' msl

Map 4

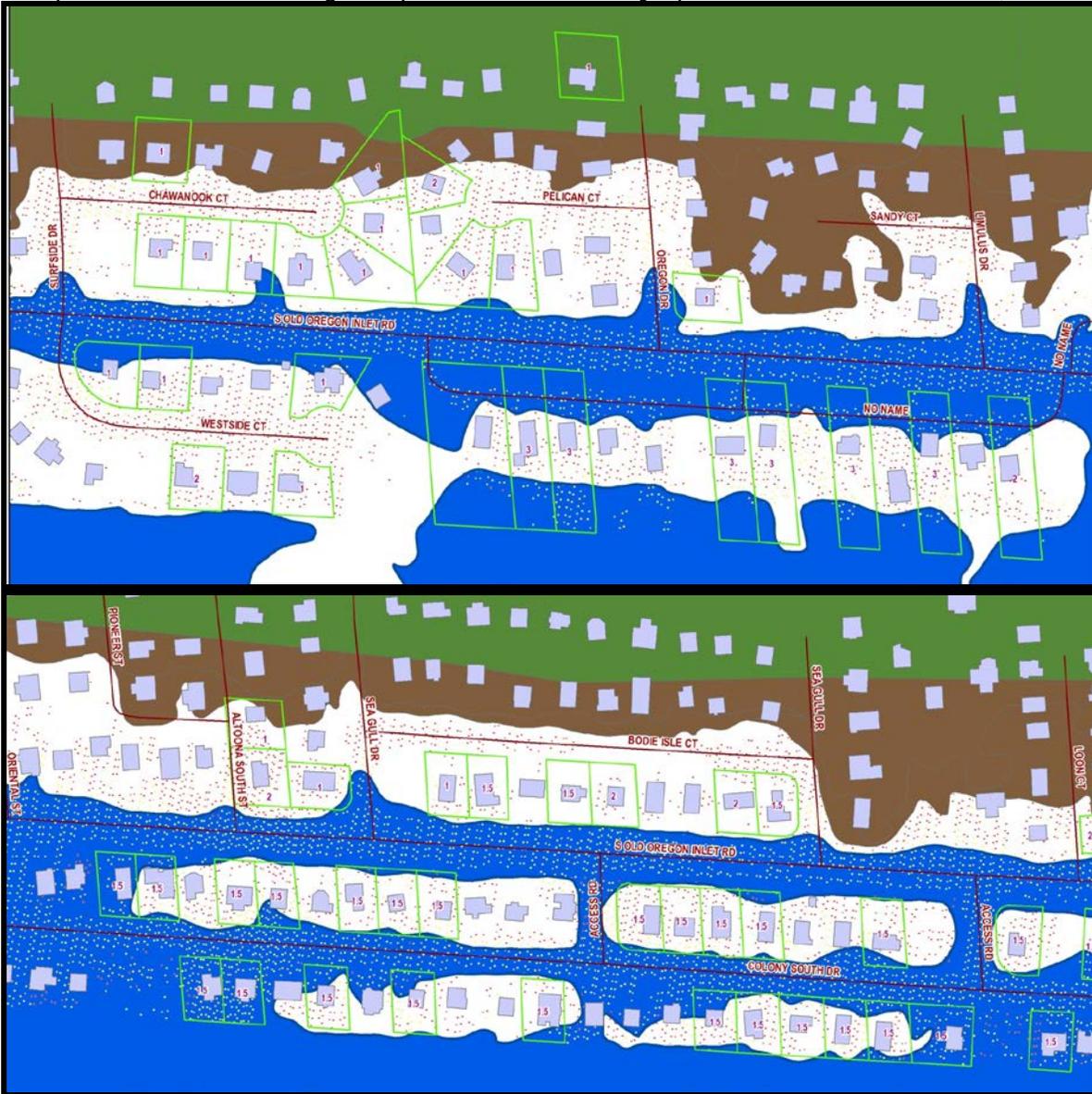
Comparison of Irene Damaged Properties to Preliminary Special Flood Hazard Areas (Pond Island)



-  Damaged Property (Irene) (Number indicates documented flood height in building)
-  AE, BFE 4
-  AE, BFE 5
-  AO
-  VE
-  4-5' msl
-  Below 4' msl

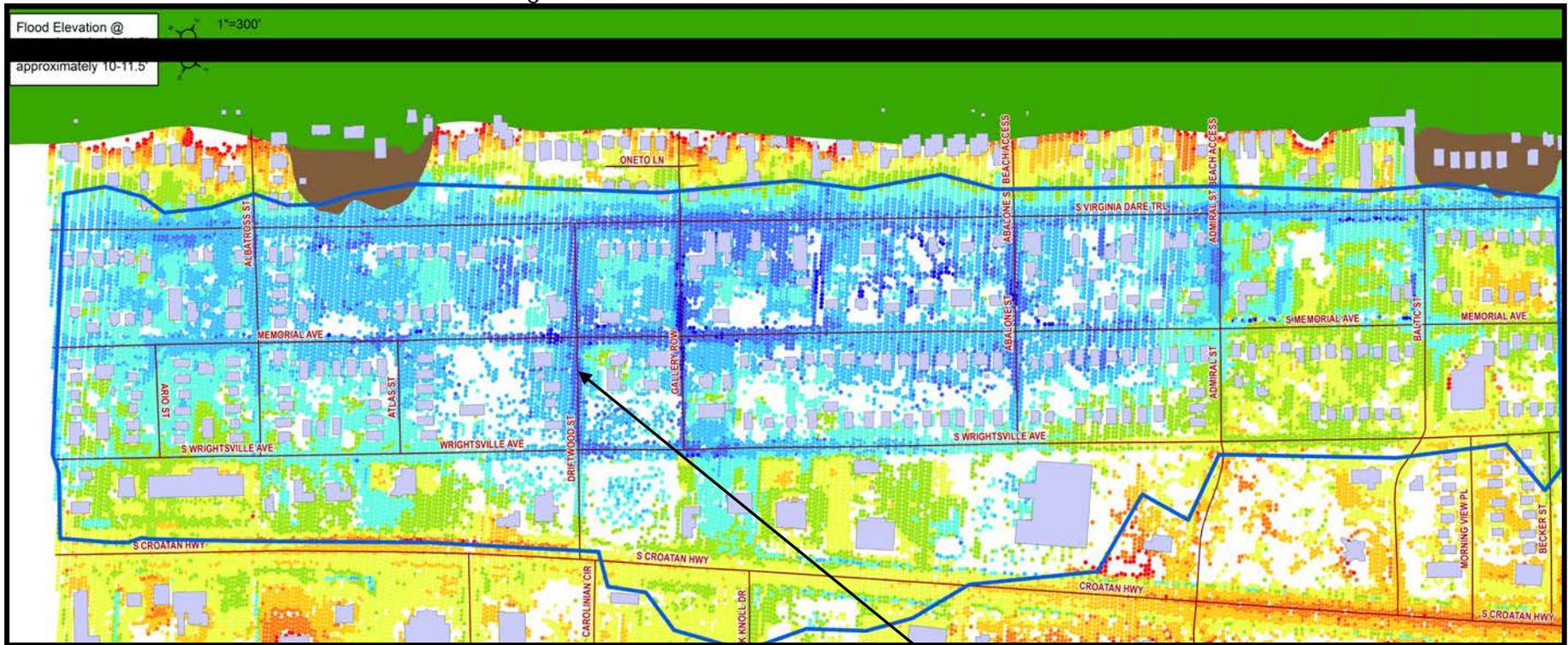
Map 5

Comparison of Irene Damage Properties to Preliminary Special Flood Hazard Areas (South Nags Head)



- Damaged Property (Irene) (Number indicates documented flood height in building)
- AE, BFE 4
- AE, BFE 5
- AO
- VE
- 4-5' msl
- Below 4' msl

Map 6  
Hurricane Matthew Inundation Area – North Nags Head



Elevation above msl

- 12.000001 - 13.000000
- 11.000001 - 12.000000
- 10.000001 - 11.000000
- 9.000001 - 10.000000
- 8.000001 - 9.000000
- 7.000001 - 8.000000
- 6.000001 - 7.000000
- 5.000001 - 6.000000
- -4.510000 - 5.000000



**Comparison of Regulatory Options for Adoption of New Flood Maps**

Town of Nags Head Board of Commissioners – February 21, 2018

Option	Advantage	Disadvantage
<p>1. Adopt the proposed flood maps without any additional higher regulatory standards. This would remove a significant number of properties from the Special Flood Hazard Area at which time they would no longer be required to carry flood insurance or meet any minimum regulatory requirements.</p>	<p>a. Easy to administer.                      b. Reduction of number of properties in the flood zone as well as lower BFE's.                      c. Many properties would be able to make improvements that they previously could not make (i.e. ground floor enclosures, lateral additions at-grade).                      d. There may be a reduction in the practice of filling lots to meet minimum flood elevations.                      e. Property owners may no longer have to pay for flood insurance or may pay lower premiums.</p>	<p>a. Maps do not represent accurate risk. The FEMA Coastal Model for flooding does not take in to account rainfall. Refer to Comment Letter on the Preliminary Flood Maps dated October 4, 2017.                      b. Allows new development, and potentially additions, to be constructed in areas subject to known flood risk without the benefit of construction techniques designed to mitigate flood damage.                      c. Communicates to existing and future property owners the perception that known flood areas are not at risk for flooding                      d. While the new maps should positively affect insurance rates for many property owners, property owners may cancel flood insurance coverage because they are no longer in a flood zone. Then, if flood maps are updated in the future to reflect expanded Special Flood Hazard Areas (SFHA's) or higher BFE's, these property owners may become non-conforming, subsequently face costly insurance rate increases, and be exposed to greater risk and loss (if allowed to increase the size of the home).                      e. Correlation to CRS- CRS points are based on the area of land within the flood zone. A reduction in the total area located in a flood zone could impact our CRS score negatively.</p>

**Comparison of Regulatory Options for Adoption of New Flood Maps**

Town of Nags Head Board of Commissioners – February 21, 2018

Option	Advantage	Disadvantage
<p>2. Adopt the proposed maps for flood insurance purposes, but continue to regulate based on the current (2006) flood maps.</p>	<p>a. Adoption of preliminary maps will result in reduction of number of properties in the flood zone as well as lower BFE's. Ultimately this results in lower insurance premiums for property owners.</p> <p>b. Adopting option 2 would allow property owners to experience a decrease in flood insurance premiums, but still allow the town to regulate using the 2006 maps which better addresses flood risk than option 1.</p> <p>c. The current maps appear to accurately reflect risk and may even overemphasize risk in some area (i.e. Causeway in VE zone).</p> <p>d. Regulating to the old maps would allow the town to maintain status quo on the current process and ordinances.</p>	<p>a. While adopting this option would allow property owners flood insurance relief, they would still have to meet regulatory standards for new construction, additions, and substantial damage/improvement.</p> <p>b. When compared to options 3 and 4, this option would not allow the town to standardize, to the extent possible, the model flood ordinance and overall procedures that are currently being considered by the County and the other Dare County towns.</p>

**Comparison of Regulatory Options for Adoption of New Flood Maps**

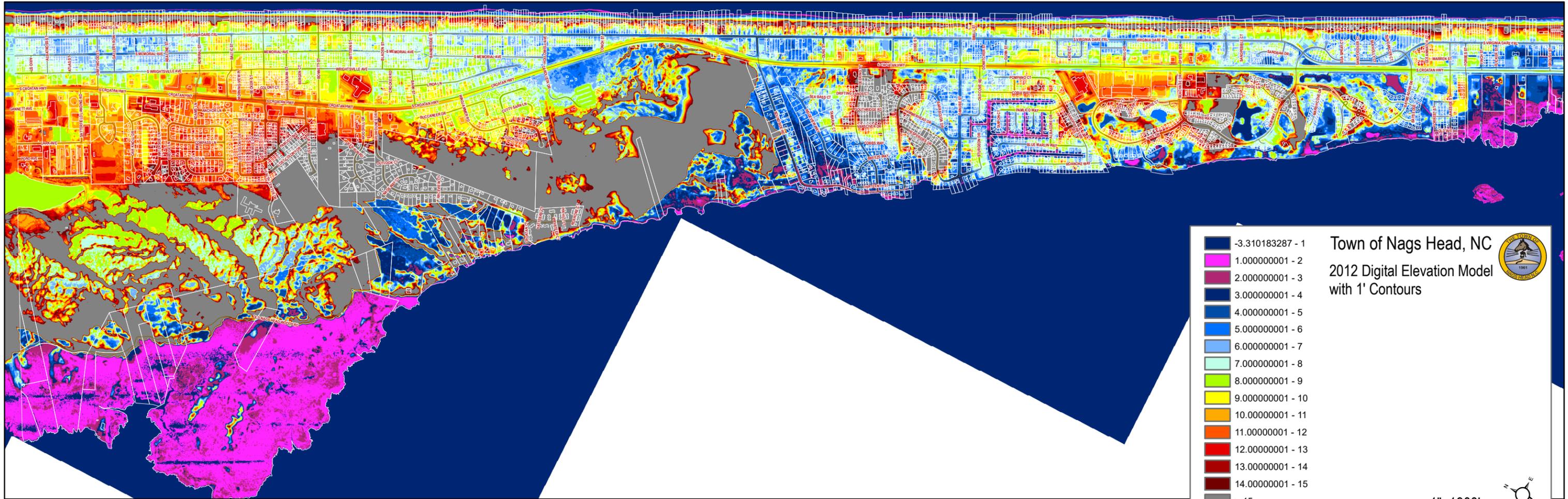
Town of Nags Head Board of Commissioners – February 21, 2018

Option	Advantage	Disadvantage
<p>3. The Dare County Towns and the County have been working as a group for several months to explore ways to provide consistency with administering the new flood maps. All communities recognize that the proposed maps do not reflect the actual risk of flooding. The working group has developed a proposal which would do the following:</p> <p>A. Adopt the draft FIRM for flood insurance purposes.</p> <p>B. Adopt a local elevation standard for the entire town that would be greater than what is shown on the maps:</p> <ul style="list-style-type: none"> <li>• For non-oceanfront areas (west of NC 12 or SR 1243, a minimum elevation of eight feet would be required for all new construction or substantial improvements.</li> <li>• East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.</li> </ul>	<p>a. Adoption of preliminary maps will result in reduction of number of properties in the flood zone as well as lower BFE's. Ultimately this results in lower insurance premiums for property owners.</p> <p>b. Adopting option 3 would allow property owners to experience a decrease in flood insurance premiums, but still allow the town to regulate using a local elevation standard that is based on known flooding risk.</p> <p>c. Allows the town to regulate based on a common local elevation standard that has been developed through input from Dare County, all Dare County municipalities, and the building/insurance communities. If adopted by all municipalities, this would create a consistent base flood elevation (BFE) requirement.</p>	<p>a. While adopting this option would allow property owners flood insurance relief, they would still have to meet regulatory standards for new construction, additions, and substantial damage/improvement avoiding increased risk and loss to the homeowner (as described in Option 1- Disadvantage(d))</p> <p>b. Based on research and knowledge of historical flooding in Nags Head, an 8' local elevation requirement would not adequately protect property from historical storms. The most recent example is Matthew, which had flood heights of 10'. In the northern part of town between the highways, many properties are between 5 and 9 feet above sea level. The town may see many of the existing enclosure converted to heated space which would cause greater property damage in future similar storms. Adopting this option would also result in a 2-3' reduction in the minimum flood elevations based on our current maps.</p> <p>c. May require elevation certificates in areas formerly shown as X zones.</p> <p>d. While the new maps should positively affect insurance rates for many property owners, property owners may cancel flood insurance coverage because they are no longer in a flood zone. Then, if flood maps are updated in the future to reflect expanded Special Flood Hazard Areas (SFHA's) or higher BFE's, these property owners may become non-conforming, subsequently face costly insurance rate increases, and be exposed to greater risk and loss (if allowed to increase the size of the home).</p>

**Comparison of Regulatory Options for Adoption of New Flood Maps**

Town of Nags Head Board of Commissioners – February 21, 2018

Option	Advantage	Disadvantage
<p>4. Adopt modified version of option 3.</p> <p>A. Adopt the draft FIRM for flood insurance purposes.</p> <p>B. Adopt a local elevation standard:</p> <ul style="list-style-type: none"> <li>• For non-oceanfront areas (west of NC 12 or SR 1243, a minimum elevation of ten feet would be required for all new construction or substantial improvements.</li> <li>• East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.</li> </ul>	<p>a. The town is proactively regulating based on known historical risk.</p> <p>b. Adoption of preliminary maps will result in reduction of number of properties in the flood zone as well as lower BFE's. Ultimately this results in lower insurance premiums for property owners.</p> <p>c. Adopting option 4 would allow property owners to experience a decrease in flood insurance premiums, but still allow the town to regulate using a local elevation standard that is based on known flooding risk.</p> <p>d. Even though the town's local elevation standard would be higher than the other towns as well as the county, the model flood damage prevention ordinance, the terminology, and standards would be consistent between the town and the rest of the county.</p> <p>e. Based on research and knowledge of historical flooding, a 10' local elevation requirement, applied to the preliminary flood maps, in an X and AE flood zone would adequately protect property.</p> <p>f. Avoid future loss and risk to property owners for new construction, additions, and substantial damage/improvement situations.</p> <p>g. Properties on the causeway would no longer be regulated to VE zone standards.</p>	<p>a. While adopting this option would allow property owners flood insurance relief, they would still have to meet regulatory standards for new construction, additions, and substantial damage/improvement avoiding increased risk and loss to the homeowner (as described in Option 1- Disadvantage(d))</p> <p>b. May regulate properties that are currently in an X zone since there are a few properties below 10 feet that are not in a flood zone now.</p> <p>c. Would eliminate one foot of freeboard in the portions of the town that are currently shown as AE 10.</p> <p>d. May require elevation certificates in areas formerly shown as X zones.</p>

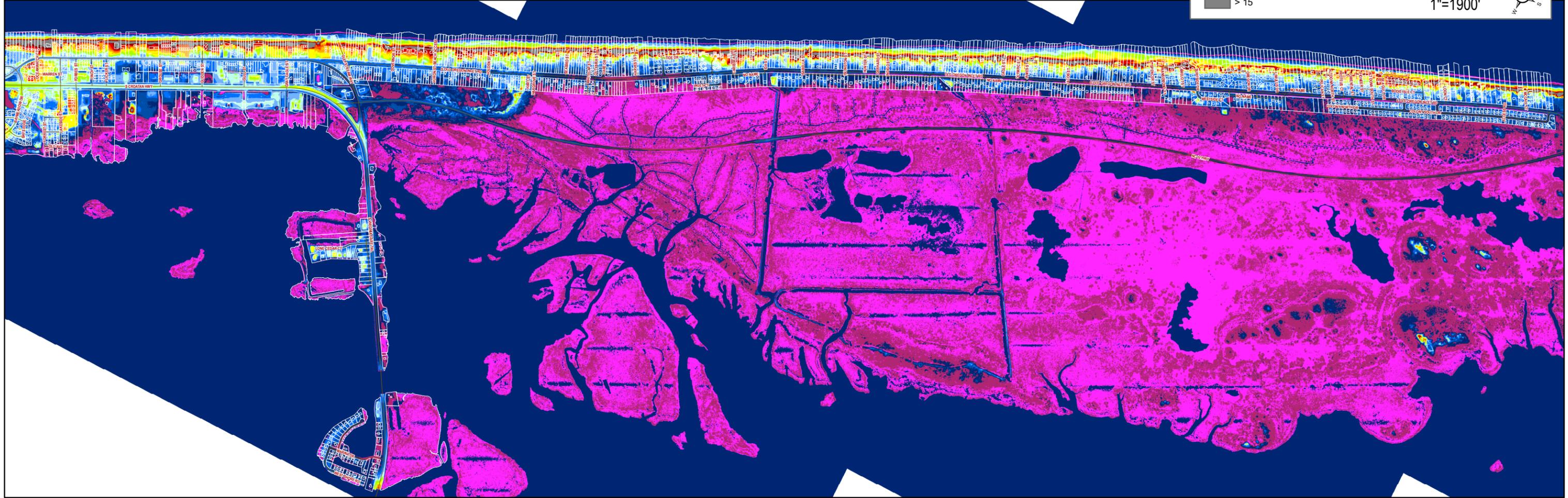


Town of Nags Head, NC  
2012 Digital Elevation Model  
with 1' Contours

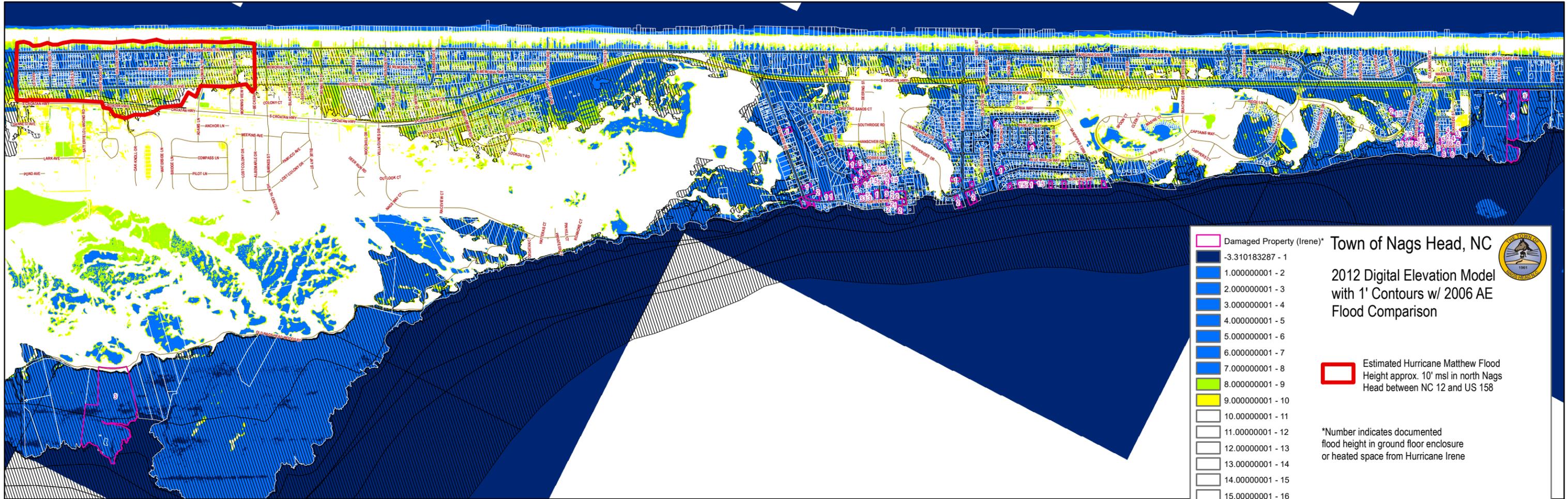


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█	> 15

1"=1900'







**Town of Nags Head, NC**

2012 Digital Elevation Model with 1' Contours w/ 2006 AE Flood Comparison

Estimated Hurricane Matthew Flood Height approx. 10' msl in north Nags Head between NC 12 and US 158

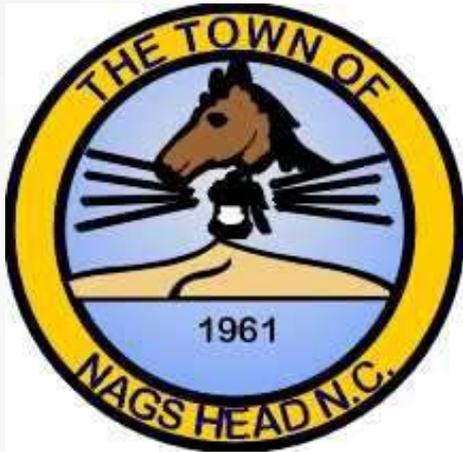
\*Number indicates documented flood height in ground floor enclosure or heated space from Hurricane Irene

**Current AE Flood Zone (2006)**

AE

1"=1900'





# Flood Map Workshop

February 21, 2018

# Flood Map Revisions

- New preliminary flood maps released for Dare County – June 30, 2016
- Last update September 20, 2006

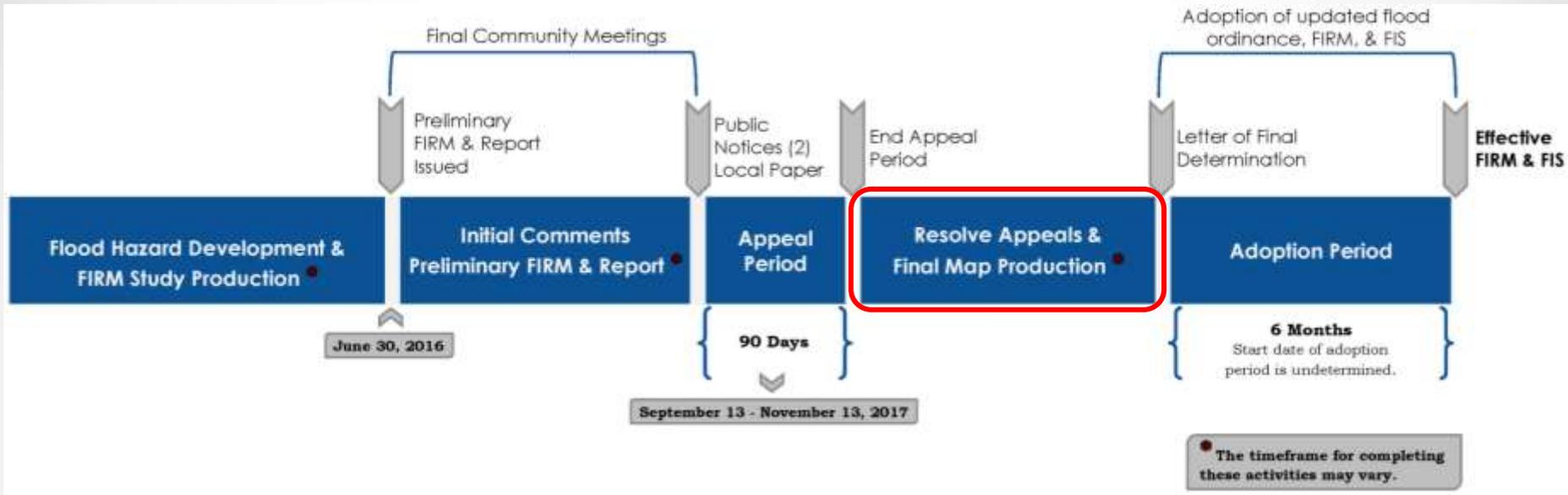
Nags Head Specific Information-

[www.nagsheadnc.gov/floodmaps](http://www.nagsheadnc.gov/floodmaps)

NC Floodplain Mapping- Digital FIRMs

<http://fris.nc.gov/fris/>

# Timeline



- Current phase- Resolve Appeals & Final Map Production
  - No set amount of time.
- Important anticipated dates-
  - Letter of final determination- August 2018
  - Effective FIRM & FIS- February 2019

# Important Milestone Recap

Date	Event
July 2016- Present	Monthly meetings with Dare County Planners Group
December 2016	Town of Nags Head- Community Informational Meeting
December 2016- April 2017	Development of informational video and survey
January 2017	Joint Community Meetings in Dare Co. (3 locations)
February 2017	Presentation- Spencer Rogers
March 2017	BOC Adopted Resolution
September 2017	Presentation- Rick Luettich
October 2017	Comment Letter on Preliminary FIRMs
February 2018	BOC Workshop

# Important Terms

- **Flood Insurance Rate Map (FIRM)**
  - A digitally-produced FIRM, whether viewed in hardcopy or in digital form
  - All FIRMs produced by the North Carolina Floodplain Mapping Program are digital FIRMs <http://fris.nc.gov/fris/>
- **Flood Insurance Study (FIS)**
  - Details the examination, evaluation, and determination of flood hazard areas
  - FIRMs are part of the FIS
- **Special Flood Hazard Area (SFHA)**
  - The 1% annual chance floodplain, where NFIP regulations must be enforced by the community as a condition of participation in the NFIP
- **Base Flood Elevation (BFE)**
  - In areas where these are established, this is the minimum elevation above mean sea level that the first floor (AE) or the bottom of lowest horizontal member (VE) of a structure must be elevated
- **Freeboard**
  - Extra measure of protection above BFE. Nags Head has adopted a 1' freeboard.

# Flood Zones

VE and AE zones have established BFE's that require minimum elevation above sea level for construction

1% Annual Chance of  
Flooding or 100 year flood

- **VE** – Velocity zone, impacts from stillwater base flood elevation + 3' waves
- **AE** – impacts from stillwater base flood elevation only 1% annual chance flooding
- **AO** – areas of shallow flooding associated with low lying topography & sheet flow, no BFE, minimum elevation is required above highest adjacent grade
- **X** – Non-regulatory flood zone, no construction requirements, still subject to 0.2% annual chance of flooding

# Major Changes to Preliminary FIRMs

- Primary frontal dune has been established and used in modeling of storm surge
- Reduction of surge impacts, overland waves, and stillwater elevations
- Fewer VE zone properties
- Fewer AE zone properties, particularly west of NC 12
- Removal of causeway properties from VE zone
- Base flood elevations reduced in AE zone; most new BFE's are 4 or 5, formerly 8-10.
- Addition of AO zones west of primary frontal dune

# Concerns

- Underrepresented Risk-
  - Removal of many areas known to flood from SFHA and reduction in BFE's
- Adoption of preliminary FIRM as is would allow construction that would be at risk for flooding.
  - If future maps changed, may not be eligible for flood insurance
- FEMA model
  - Coastal flood model does not account for rainfall or shallow flooding
  - Better address storm return periods
  - Other issues noted in "Mapping the Zone: Improving Flood Map Accuracy"
- Storm Selection
  - Additional storms need to be included in mapping process to reflect recent storm tracks that have caused Soundside flooding

# Comparison Map



## Town of Nags Head, NC Proposed Flood Zone Boundary Changes

### 2006 Flood Zones

- AE
- VE

### Proposed 2016 Flood Zones

- X
- AE
- AO
- VE

# Comparison Map



# Comparison Map

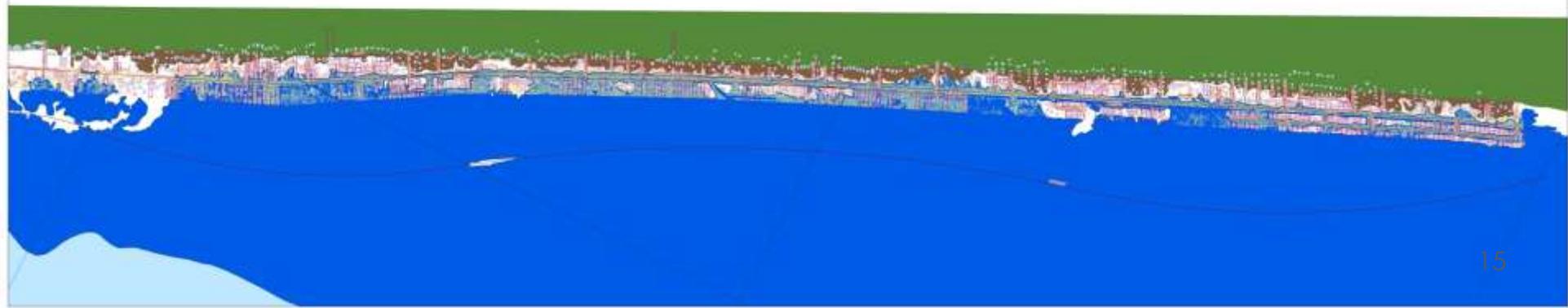
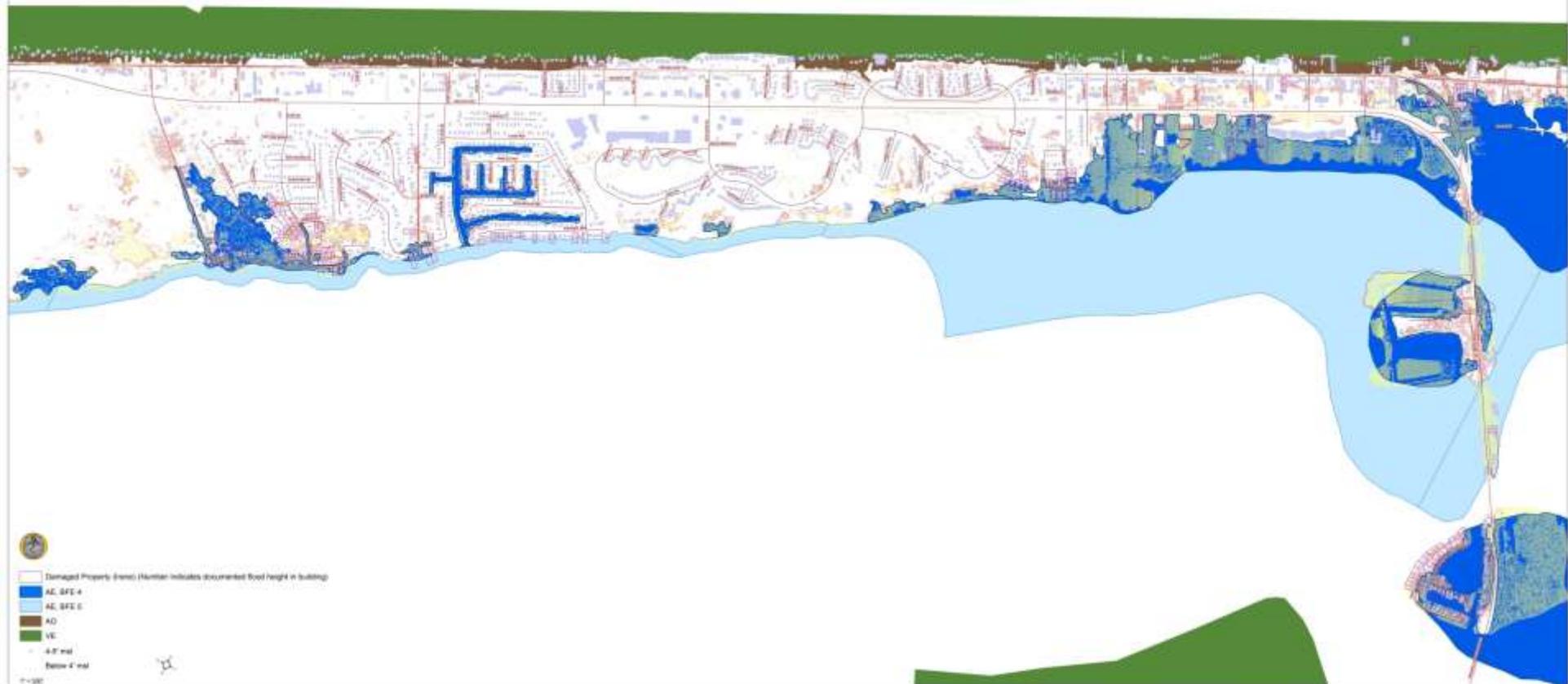


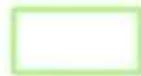




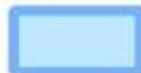
# Flood Analysis Recent Storms

Hurricane Irene



 Damaged Property (Irene) (Number indicates documented flood height in building)

 AE, BFE 4

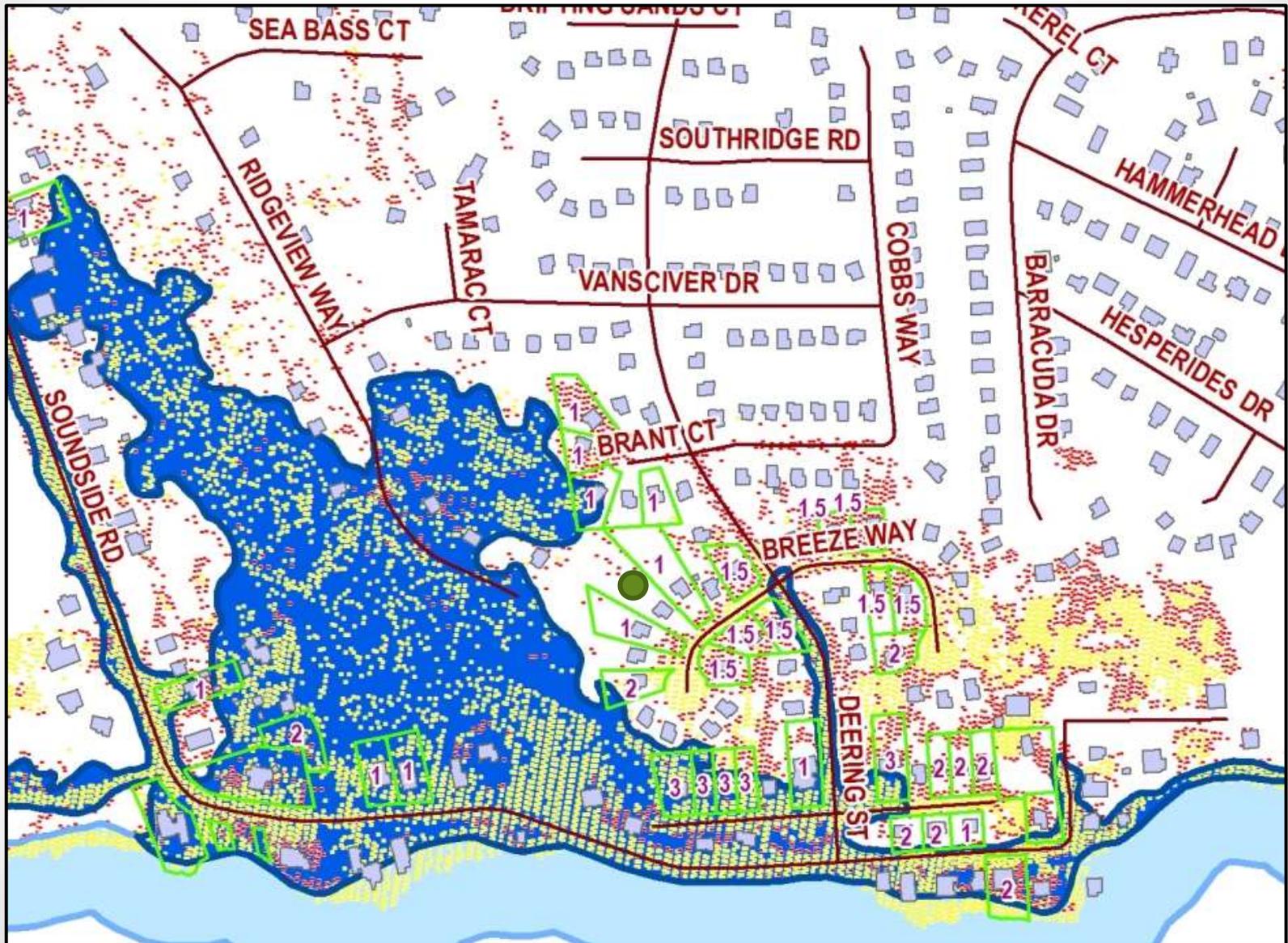
 AE, BFE 5

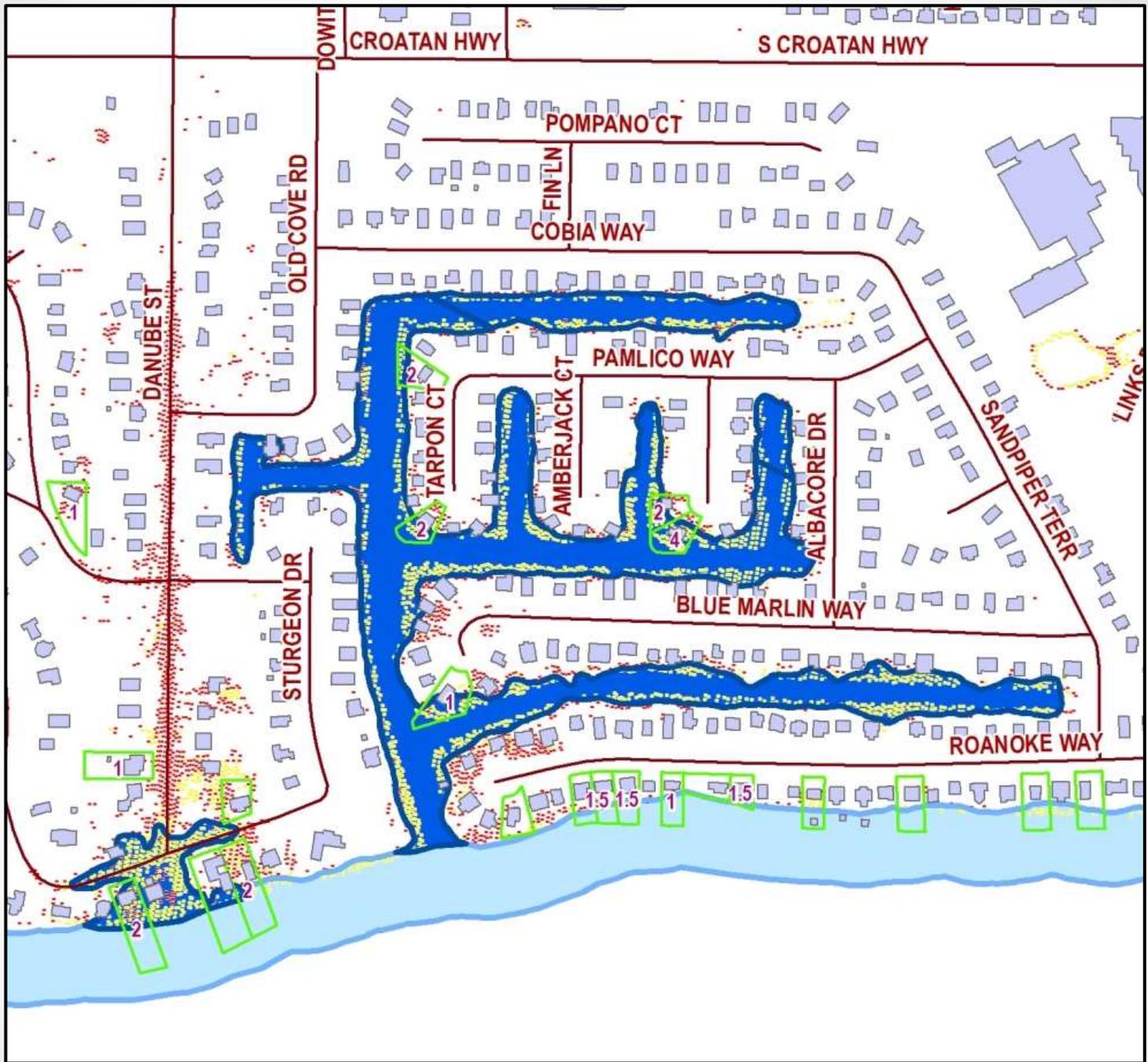
 AO

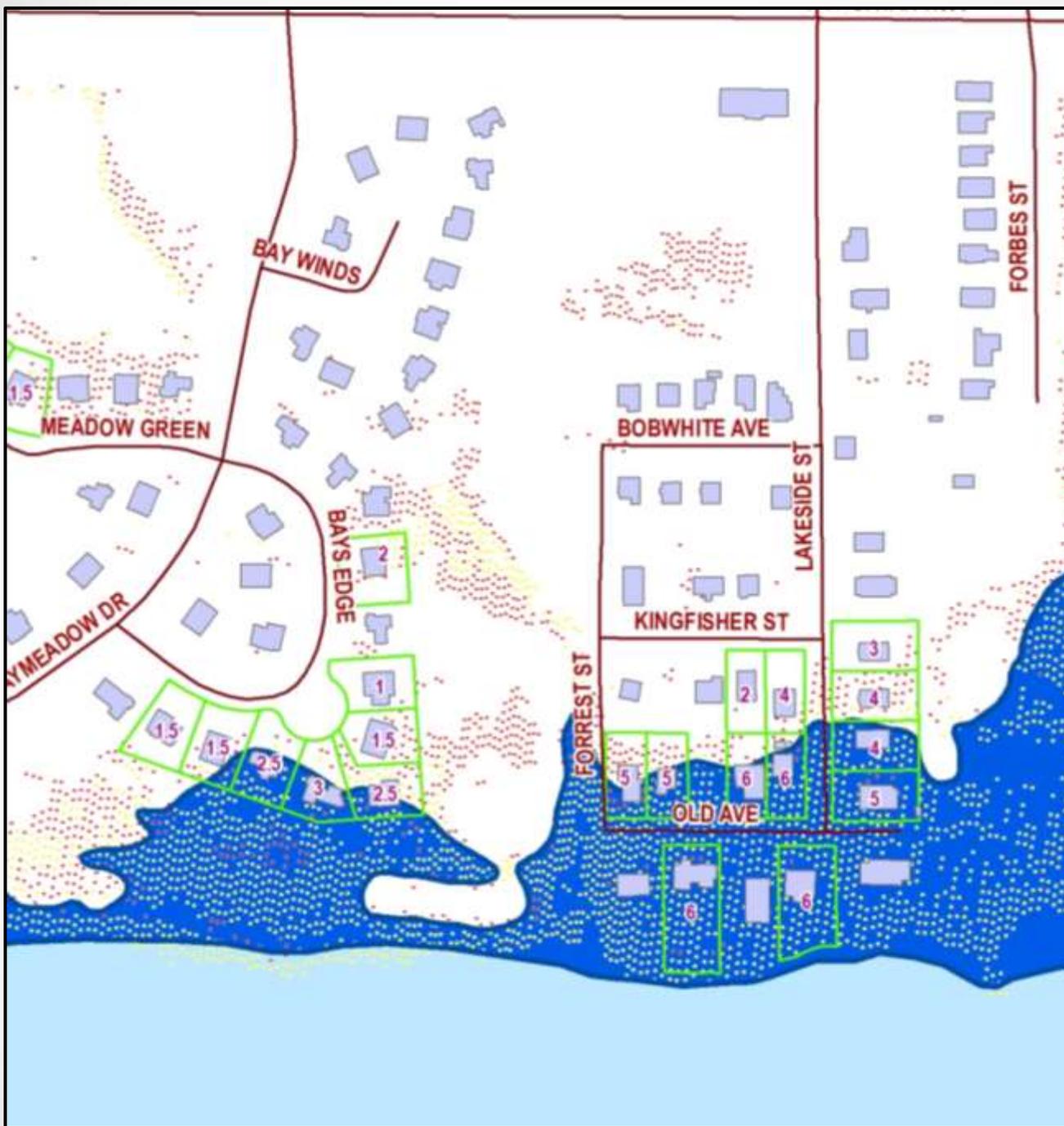
 VE

• 4-5' msl

• Below 4' msl

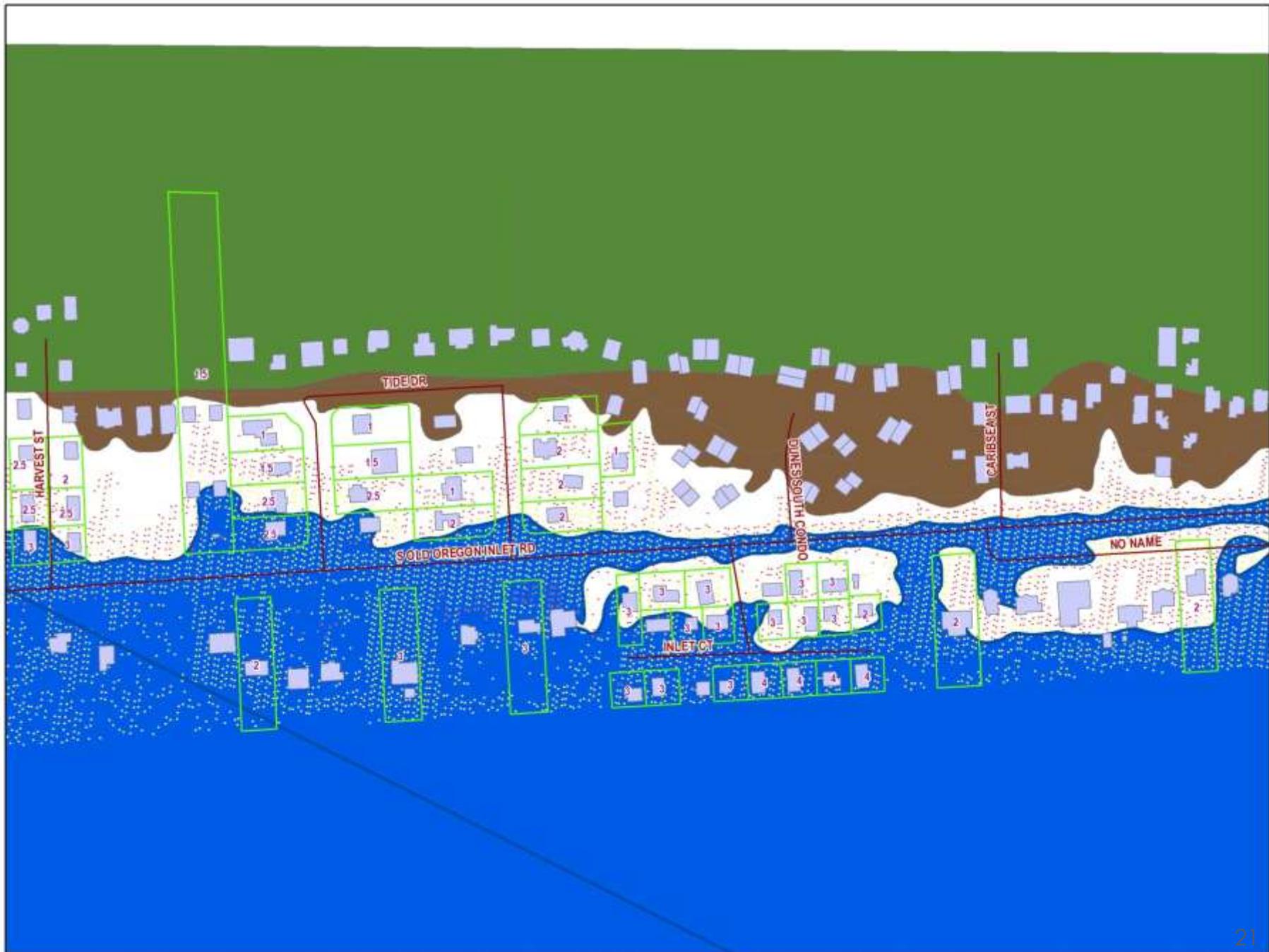


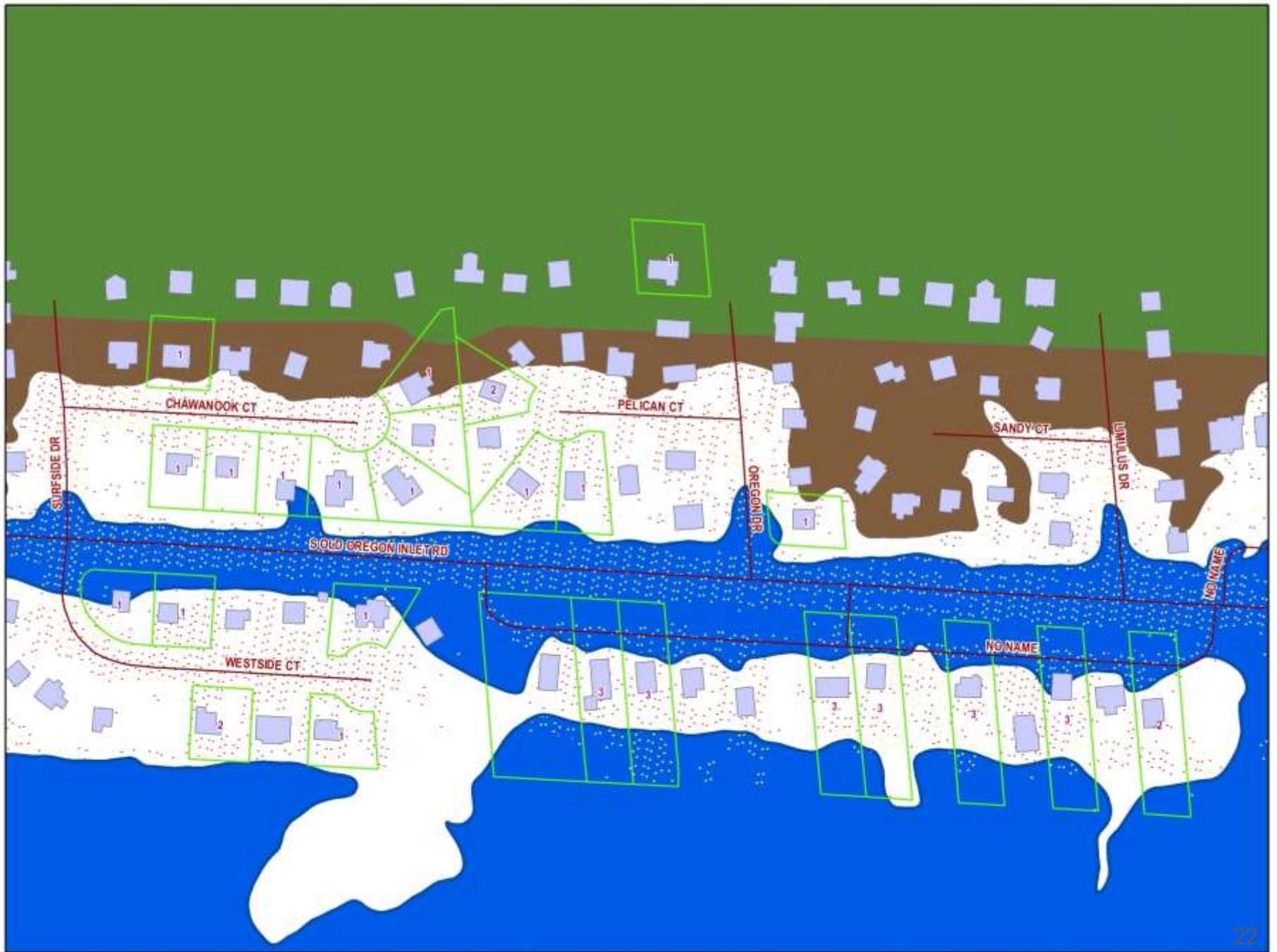




Homes outside proposed flood zone; grade elevations between four and five feet; 3-4' water noted in building









# Flood Analysis Recent Storms

Hurricane Matthew

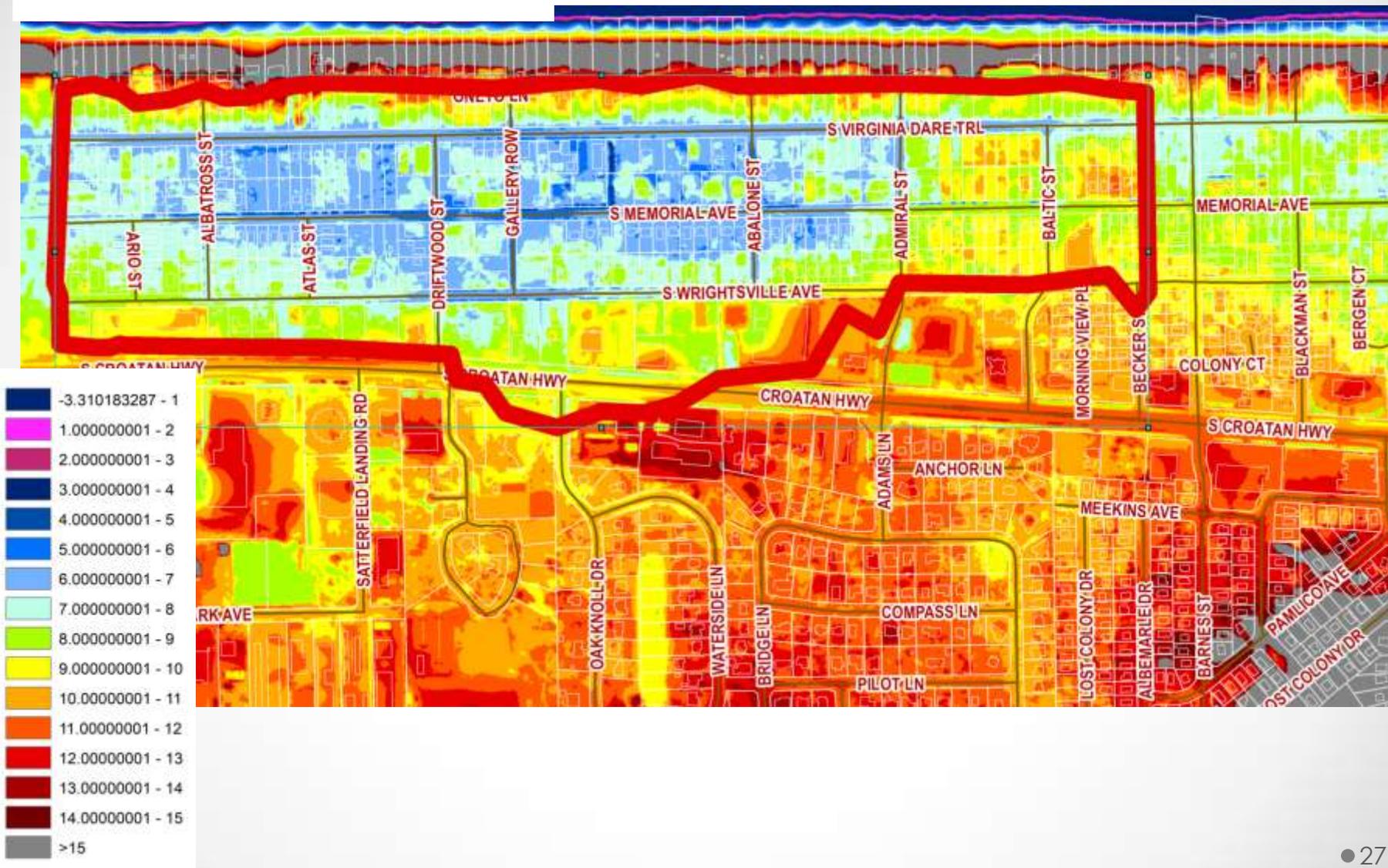




© Matt Lusk Photography



Estimated Hurricane Matthew Flood  
Height approx. 10' msl in north Nags  
Head between NC 12 and US 158



# Planners Group

- Mission-
  - Work with local planners and stakeholders to develop a local elevation standard for areas transitioning to an X zone or where BFE's were being lowered.
  - Develop group outreach and messaging with the Dare County municipalities to encourage people to keep flood insurance even though maps are changing
    - Low Risk is not No Risk
- Meeting since-
  - June 2016 for flood maps
  - July 2017/ monthly- CRS and local elevation standard

# Implementation & Compliance of LES

*How we apply standard to AO, AE, and X flood zones.*

- Local elevation standard and freeboard
  - AE and X- Meet LES or 3' Freeboard, whichever is greater
- Free of obstruction
- EC or Finished Construction Certificates in X Zone
- Conversion of existing ground floor enclosures that will transition in X flood zones
- Flood Resistant Materials
- Additions/lateral additions
  - X Zone
- Measurements-
  - where we measure for elevation certificates. i.e. top of bottom floor, bottom of floor joist, etc.

# Adoption Alternatives

Option 1:

Adopt the proposed flood maps without any additional higher regulatory standards.

## Option 1:

Adopt the proposed flood maps without any additional higher regulatory standards. This would remove a significant number of properties from the Special Flood Hazard Area at which time they would no longer be required to carry flood insurance or meet any minimum regulatory requirements.

### Pros:

- a. Easy to administer.
- b. Reduction of number of properties in the flood zone as well as lower BFE's.
- c. Many properties would be able to make improvements that they previously could not make (i.e. ground floor enclosures, lateral additions at-grade).
- d. There may be a reduction in the practice of filling lots to meet minimum flood elevations.
- e. Property owners may no longer have to pay for flood insurance or may pay lower premiums.

### Cons:

- a. **Maps do not represent accurate risk. The FEMA Coastal Model for flooding does not take in to account rainfall. Refer to Comment Letter on the Preliminary Flood Maps dated October 4, 2017.**
- b. Allows new development, and potentially additions, to be constructed in areas subject to known flood risk without the benefit of construction techniques designed to mitigate flood damage.
- c. Communicates to existing and future property owners the perception that known flood areas are not at risk for flooding
- d. While the new maps should positively affect insurance rates for many property owners, property owners may cancel flood insurance coverage because they are no longer in a flood zone. Then, if flood maps are updated in the future to reflect expanded Special Flood Hazard Areas (SFHA's) or higher BFE's, these property owners may become non-conforming, subsequently face costly insurance rate increases, and be exposed to greater risk and loss (if allowed to increase the size of the home).
- e. Correlation to CRS- CRS points are based on the area of land within the flood zone. A reduction in the total area located in a flood zone could impact our CRS score negatively.

# Adoption Alternatives

## Option 2:

Adopt the proposed maps for flood insurance purposes, but continue to regulate based on the current (2006) flood maps.

<p><b>Option 2:</b></p> <p>Adopt the proposed maps for flood insurance purposes, but continue to regulate based on the current (2006) flood maps.</p>	<p>Pros:</p> <ul style="list-style-type: none"> <li>a. Adoption of preliminary maps will result in reduction of number of properties in the flood zone as well as lower BFE's. Ultimately this results in lower insurance premiums for property owners.</li> <li>b. Adopting option 2 would allow property owners to experience a decrease in flood insurance premiums, but still allow the town to regulate using the 2006 maps which better addresses flood risk than option 1.</li> <li>c. The current maps appear to accurately reflect risk and may even overemphasize risk in some area (i.e. Causeway in VE zone).</li> <li>d. Regulating to the old maps would allow the town to maintain status quo on the current process and ordinances.</li> </ul>	<p>Cons:</p> <ul style="list-style-type: none"> <li>a. While adopting this option would allow property owners flood insurance relief, they would still have to meet regulatory standards for new construction, additions, and substantial damage/improvement.</li> <li><b>b. When compared to options 3 and 4, this option would not allow the town to standardize</b>, to the extent possible, the model flood ordinance and overall procedures that are currently being considered by the County and the other Dare County towns.</li> </ul>
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# Adoption Alternatives

Option 3:

Local Elevation Standard 8'

(The Dare County Towns and the County Proposal):

A. *Adopt the draft FIRM for flood insurance purposes.*

B. *Adopt a local elevation standard for the entire town that would be greater than what is shown on the maps:*

- *For non-oceanfront areas (west of NC 12 or SR 1243), a minimum elevation of eight feet would be required for all new construction or substantial improvements.*

- *East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.*

### Option 3:

The Dare County Towns and the County have been working as a group to develop higher regulatory standards in addition to the maps. The working group has developed a proposal which would do the following:

- A. Adopt the draft FIRM for flood insurance purposes.
- B. Adopt a local elevation standard for the entire town that would be greater than what is shown on the maps:
- For non-oceanfront areas (west of NC 12 or SR 1243, a minimum elevation of eight feet would be required for all new construction or substantial improvements.
- East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.

#### Pros:

- a. Adoption of preliminary maps will result in reduction of number of properties in the flood zone as well as lower BFE's. Ultimately this results in lower insurance premiums for property owners.
- b. Adopting option 3 would allow property owners to experience a decrease in flood insurance premiums, but still allow the town to regulate using a local elevation standard that is based on known flooding risk.
- c. Allows the town to regulate based on a common local elevation standard that has been developed through input from Dare County, all Dare County municipalities, and the building/insurance communities. If adopted by all municipalities, this would create a consistent base flood elevation (BFE) requirement.

#### Cons:

- a. While adopting this option would allow property owners flood insurance relief, they would still have to meet regulatory standards for new construction, additions, and substantial damage/improvement avoiding increased risk and loss to the homeowner (as described in Option 1- Disadvantage(d))
- b. **Based on research and knowledge of historical flooding in Nags Head, an 8' local elevation requirement would not adequately protect property from historical storms. The most recent example is Matthew, which had flood heights of 10'. In the northern part of town between the highways, many properties are between 5 and 9 feet above sea level. The town may see many of the existing enclosure converted to heated space which would cause greater property damage in future similar storms. Adopting this option would also result in a 2-3' reduction in the minimum flood elevations based on our current maps.**
- c. May require elevation certificates in areas formerly shown as X zones.
- d. While the new maps should positively affect insurance rates for many property owners, property owners may cancel flood insurance coverage because they are no longer in a flood zone. Then, if flood maps are updated in the future to reflect expanded Special Flood Hazard Areas (SFHA's) or higher BFE's, these property owners may become non-conforming, subsequently face costly insurance rate increases.

# Adoption Alternatives

## Option 4:

### Local Elevation Standard 10'

A. *Adopt the draft FIRM for flood insurance purposes.*

B. *Adopt a local elevation standard:*

- *For non-oceanfront areas (west of NC 12 or SR 1243), a minimum elevation of ten feet would be required for all new construction or substantial improvements.*

- *East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.*

## Option 4:

Adopt modified version of option 3.

A. Adopt the draft FIRM for flood insurance purposes.

B. Adopt a local elevation standard:

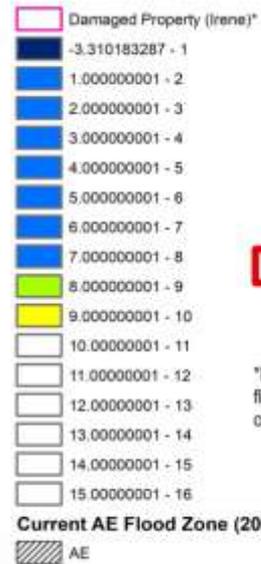
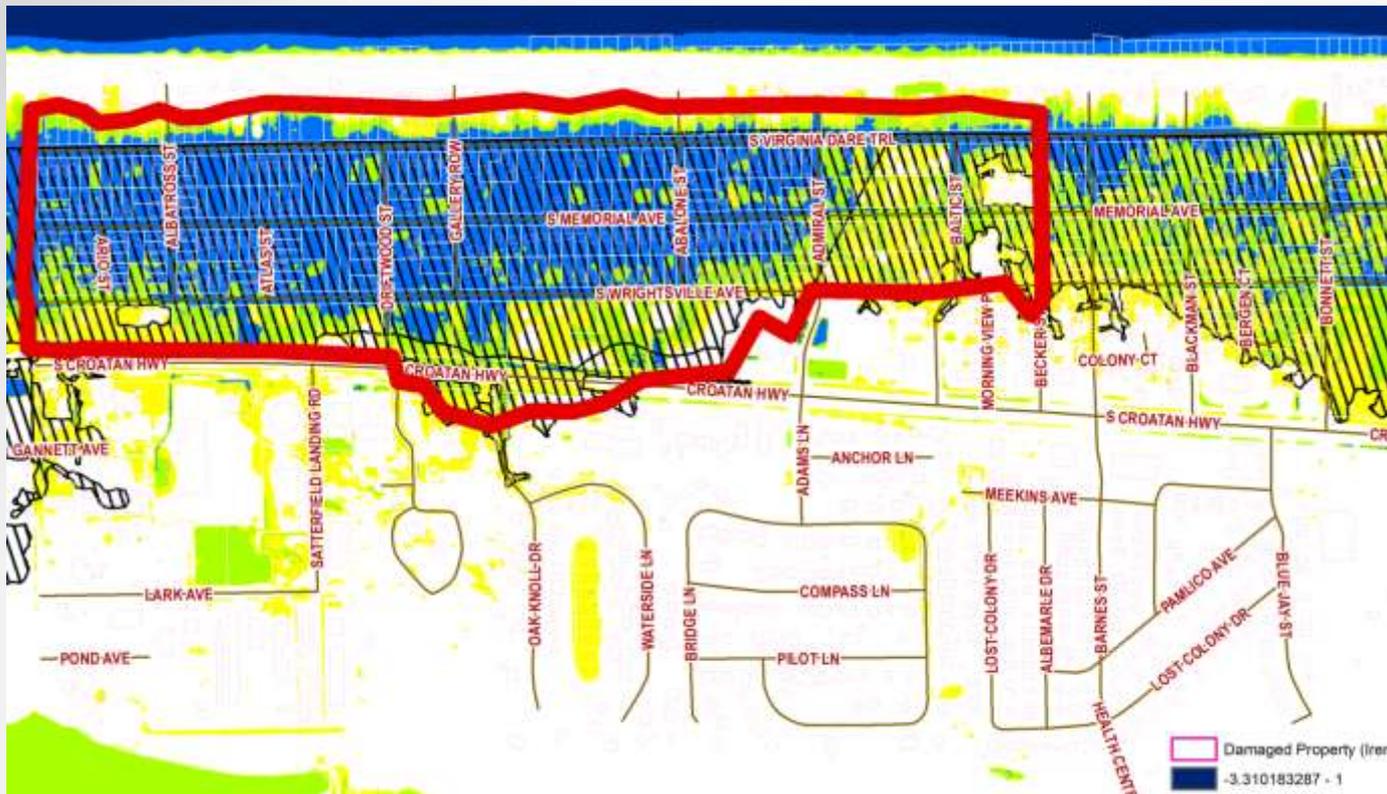
- For non-oceanfront areas (west of NC 12 or SR 1243, a minimum elevation of ten feet would be required for all new construction or substantial improvements.
- East of 12/1243 – There would be a minimum elevation of 12' and VE construction requirements would apply.

### Pros:

- a. The town is proactively regulating based on known historical risk.
- b. Adoption of preliminary maps will result in reduction of number of properties in the flood zone as well as lower BFE's. Ultimately this results in lower insurance premiums for property owners.
- c. Adopting option 4 would allow property owners to experience a decrease in flood insurance premiums, but still allow the town to regulate using a local elevation standard that is based on known flooding risk.
- d. Even though the town's local elevation standard would be higher than the other towns as well as the county, the model flood damage prevention ordinance, the terminology, and standards would be consistent between the town and the rest of the county.
- e. **Based on research and knowledge of historical flooding, a 10' local elevation requirement, applied to the preliminary flood maps, in an X and AE flood zone would adequately protect property. Consistent with current BFE's which have been effective.**
- f. Avoid future loss and risk to property owners for new construction, additions, and substantial damage/improvement situations.
- g. Properties on the causeway would no longer be regulated to VE zone standards.

### Cons:

- a. While adopting this option would allow property owners flood insurance relief, they would still have to meet regulatory standards for new construction, additions, and substantial damage/improvement avoiding increased risk and loss to the homeowner (as described in Option 1-Disadvantage(d))
- b. May regulate properties that are currently in an X zone since there are a few properties below 10 feet that are not in a flood zone now.
- c. Would eliminate one foot of freeboard in the portions of the town that are currently shown as AE 10.
- d. May require elevation certificates in areas formerly shown as X zones.



### Town of Nags Head, NC

#### 2012 Digital Elevation Model with 1' Contours w/ 2006 AE Flood Comparison



Estimated Hurricane Matthew Flood Height approx. 10' msl in north Nags Head between NC 12 and US 158

\*Number indicates documented flood height in ground floor enclosure or heated space from Hurricane Irene

1"=1900'





# Current Higher Standards

- 1' Freeboard- V & AE
- 18" Free of Obstruction
- Enclosures-
  - No enclosures in V
  - Limited to 300' AE
- Elevation Certificates-
  - Require 2-
    - After 1<sup>st</sup> floor established
    - Final
  - Only required to have final

# Timeline



- Current phase- Resolve Appeals & Final Map Production
  - No set amount of time.
- Important anticipated dates-
  - Letter of final determination- August 2018
  - Effective FIRM & FIS- February 2019

# Next Steps

- Direction on desired adoption option
- Continue to work toward map adoption and ordinance implementation
- Continued participation in Dare County Planners Group
- Board will make specific decisions regarding flood ordinance during six month compliance period (adoption period)

# Staff Contacts

- Chief Building Inspector/Floodplain Administrator David Morton (252.449.6043) or [david.morton@nagsheadnc.gov](mailto:david.morton@nagsheadnc.gov)
- Senior Building Inspector Steve Szymanski (252.449.2005) or [steve.szymanski@nagsheadnc.gov](mailto:steve.szymanski@nagsheadnc.gov)
- Principal Planner Holly White (252.449.6041) or [holly.white@nagsheadnc.gov](mailto:holly.white@nagsheadnc.gov)
- Deputy Town Manager Andy Garman (252.449.2006) or [andy.garman@nagsheadnc.gov](mailto:andy.garman@nagsheadnc.gov)
- Deputy Planning Director Kelly Wyatt (252.449.6042) or [kelly.wyatt@nagsheadnc.gov](mailto:kelly.wyatt@nagsheadnc.gov)

	Dare	Manteo	NH	KDH	KH	SS	Duck
<b>ELEVATION OPTIONS</b>							
Freeboard in VE Zone	1 ft	NA	NA	NA	1 ft	2 feet	2 feet
Free obstruction in VE zone	NO	NO	18 inches	1 ft east of NC 12	NO	NO	2 ft
Freeboard in AE, AO, AH Zones	3 ft or up to 8 ft	1 ft	NA	3 ft or up to 8 ft	AE 3 ft or up to 8 ft AH – 1 ft	2 ft	3 feet
Reference level for AE, AO, AH – bottom of lowest floor with flood resistant materials below RL **Need diagrams	YES	YES	YES	YES	YES	YES	YES
<b>X ZONE OPTIONS</b>							
Use of Local Elevation Standard in Shaded X and X Zones	YES- 8 feet	YES-# TBD	Yes- 10'	YES – 8 feet	YES – 8 feet	YES – 8 Feet	10 ft
Use of vents in Shaded X and X zones	YES	YES	YES	YES	YES	YES	YES
Finished Construction EC in Shaded X and X zones	YES	YES	YES	YES	YES	YES	YES
PAS restrictions for enclosures below LES	YES	YES	YES	YES	YES	YES	YES
Free of obstruction along oceanfront	NO	NO	18 inches	1 ft east of NC 12	NO	NO	2 ft up to extent of OEA
Flood resistant materials in enclosure areas below RFPE	Up to LES	Up to LES	Up to LES	Full Enclosure	Full Enclosure	Full Enclosure	Up to LES
Conversions of enclosures	NO	NO	NO	NO	NO	NO	NO
Remodeling of existing structure at same level of existing (no increase in footprint)	YES	YES	YES	YES	YES	YES	YES
Laterals additions	At same level	At same level	Greater than 10% of total floor area meet LES	At same level	At same level	At same level	must meet LES
Apply SD/SI Regulations if structure is below LES	NO	NO	NO	NO	NO	NO	Yes
Reference level for LES – bottom of lowest floor with flood resistant materials below RL	YES	YES	YES	YES	YES	YES	YES

MATRIX OF TENTATIVE FLOOD REGULATIONS/LOCAL ELEVATION STANDARDS – SUBJECT TO CHANGE

## ARTICLE 11. ENVIRONMENTAL REGULATIONS

1 provided by this section. To receive this credit, each measure shall individually account  
2 for a minimum of 15 percent of the project's overall storage volume.

### 3 **11.5.3. Standards for Grading and Fill.**

4 Residential lots may be graded and filled, subject to the requirements of this section, to create a level  
5 area for site improvements and to achieve positive drainage away from structures; such grading and  
6 filling activities shall avoid creating or exacerbating runoff conditions onto abutting properties. Where  
7 sections 11.5.3.2. through 11.5.3.7., inclusive of any subsections, establish standards for grading or fill,  
8 such grading and fill shall only be as allowed by section 11.5.3.1. and such subsections.

9 **11.5.3.1.** The following standards shall limit grading or filling within specific zones as designated  
10 on the most recent flood insurance rate maps (i.e. FIRM), except where the standards of Article  
11 11, Part III, Flood Damage Prevention, including the subparts thereof, are more stringent.

12 **11.5.3.1.1.** Within VE Zones associated with the Atlantic Ocean, the addition of  
13 landscape fill is permitted up to two feet above the pre-development surface grade or  
14 up to base flood elevation, whichever is lower. The fill footprint shall not exceed ten  
15 percent (10%) of the lot area (see Article 8, District Development Standards), excluding  
16 the footprint of the active drainfield and septic system as approved by the health  
17 department in accordance with the septic permit; lot area is defined as that portion of  
18 the lot landward of the first line of stable vegetation as defined by CAMA. All grading  
19 and fill activities must comply with guidance provided in FEMA Technical Bulletin #5. No  
20 bulkheads are allowed within VE Zones associated with the Atlantic Ocean.

21 **11.5.3.1.2.** Within VE Zones associated with the Roanoke Sound, the addition of  
22 landscape fill is permitted, but shall not exceed the base flood elevation. The fill  
23 footprint may not exceed 50 percent (50%) of the total developable lot area (Article 8,  
24 District Development Standards) as defined by CAMA, excluding the footprint of the  
25 active drainfield and septic system as approved by the health department in accordance  
26 with the septic permit, and backfill used as part of a CAMA approved estuarine bulkhead  
27 and placed within 25 feet of the bulkhead structure.

28 **11.5.3.1.3.** Within all other Flood Zones, including AE and X, fill shall not be permitted to  
29 exceed the base flood elevation except in cases where it is placed directly beneath a  
30 slab that is designed to meet the regulatory flood protection elevation as defined in  
31 Appendix A, Definitions. In these instances, fill may exceed the base flood elevation by  
32 up to 12 inches to support a turn-down or thickened edge slab or beneath a slab that is  
33 supported by a ring-wall style foundation. Fill placed above the base flood elevation  
34 shall not extend beyond the outside edge of the slab.

35 **11.5.3.1.3.1.** In areas in which there is no base flood, the height of fill for the  
36 wastewater system only shall be allowed to exceed two feet to achieve the  
37 minimum required elevation as indicated on a wastewater permit issued by the

# ARTICLE 11. ENVIRONMENTAL REGULATIONS

Dare County Health Department; such permit and/or approved plans shall identify the grade from which the required elevation is established.

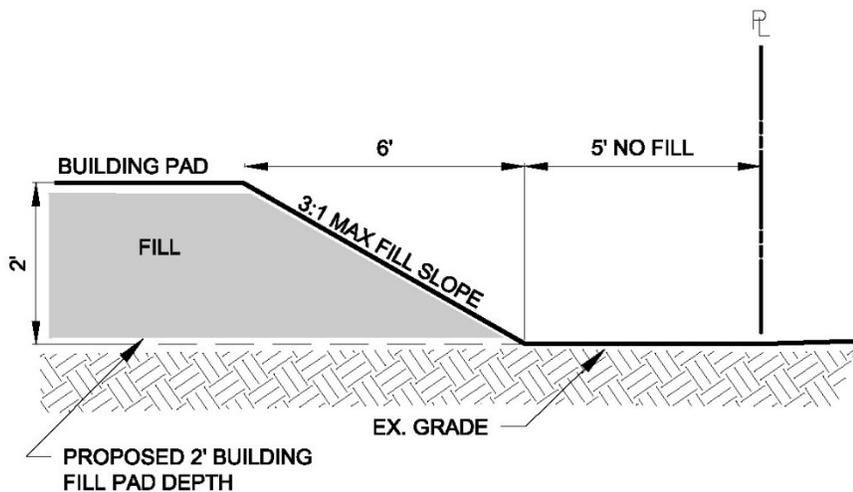
**11.5.3.2.** Fill areas shall be limited to the principal building and its accessory structures, driveway/parking areas, wastewater systems, and fill slopes extending beyond each improvement. Fill slopes shall not exceed a maximum of 3:1.

**11.5.3.3.** Fill shall not increase the property elevation underneath any individual improvement by more than two feet, except as authorized or limited by 11.5.3.4. and 11.5.3.5. Elevation shall be determined and measured based on the average pre-disturbance elevation beneath the corners of the subject improvement.

**11.5.3.4.** Fill that is placed directly beneath the building as part of the building foundation (i.e. ringwall/stem wall construction) shall not be counted against the fill height limitation as long as the finished grade does not exceed the regulatory flood protection elevation.

**11.5.3.5.** In instances where the Dare County Health Department has required more than two feet of fill for the installation of the wastewater system, the height of fill for the wastewater system only shall be allowed to exceed two feet to achieve the minimum required elevation as indicated on the wastewater system permit.

**11.5.2.8, 11.5.3.6.** Fill shall not be placed within five feet of a property line, except for the grading of driveway entrances, such that runoff from a fill slope is not "pitched" onto adjoining properties. A maximum of a 3:1 horizontal to vertical fill slope shall be maintained. Setback The setback area may be used to accommodate an approved stormwater control measure. (See diagram below.)



**Setback Requirement Where Fill is Used**

# ARTICLE 11. ENVIRONMENTAL REGULATIONS

1 11.5.3.6.1. The five-foot setback requirement may be varied or waived, as approved by  
2 the UDO Administrator, under the following circumstances:

3 ~~11.5.2.9.11.5.3.6.1.1. The five-foot setback requirement may be varied or~~  
4 ~~waived as~~ As part of a multi-lot development of contiguous properties, or  
5 between adjacent properties, if and only if a dedicated easement is established  
6 to accommodate a shared drainage swale or other SCM along a common  
7 property line between adjacent properties as approved by the UDO  
8 Administrator;

9 11.5.3.6.1.2. The setback requirement may be reduced to no-less-than one foot  
10 if a maximum of a 5:1 horizontal to vertical fill slope is maintained and an SCM is  
11 installed which results in no increase in runoff onto adjacent properties; or

12 11.5.3.6.1.3. The setback may be eliminated if an abutting property has a  
13 consistently higher elevation along a common property line and fill is to be  
14 added to match the existing elevation of the abutting property; in no case shall  
15 the grade of the subject property exceed that of the abutting property.

16 ~~11.5.2.10.11.5.3.7.~~ 11.5.3.7. The construction and use of bulkheads, walls, and other structural controls  
17 to retain the placement of fill on property shall only be permitted, as follows:

18 ~~11.5.2.10.1.11.5.3.7.1.~~ 11.5.3.7.1. In the immediate area of the on-site sewage disposal system as  
19 approved by the Dare County Health Department for the installation of such system, ~~or;~~

20 ~~11.5.2.10.2.11.5.3.7.2.~~ 11.5.3.7.2. Where retaining walls are used to stabilize or contain existing  
21 natural grade when a driveway, walkway, or other improvement is cut into a lot at an  
22 elevation lower than existing natural grade~~In those areas of the property where the~~  
23 ~~naturally occurring slope exceeds 3:1 or greater in steepness, or;~~

24 ~~11.5.2.10.3.11.5.3.7.3.~~ 11.5.3.7.3. In those areas of where a retaining wall is necessary to achieve a  
25 five-foot setback of fill from an adjacent property boundary. Retaining walls used on fill  
26 slopes shall not be tiered, shall not retain more than two feet of fill, and shall not exceed  
27 two feet in maximum height from final grade; ~~or~~

28 11.5.3.7.4. When bulkheads are utilized for the purpose of shoreline protection.

29 ~~11.5.2.11.~~ The allowable depth or elevations for fill are in subsection 11.5.3 of this section.

## 30 ~~11.5.3. Standard for Depth or Elevation of Fill.~~

31 ~~Any residential or duplex development or redevelopment which utilizes fill shall be limited to the~~  
32 ~~following standards according to the zone as designated on the most recent flood insurance rate~~  
33 ~~maps or FIRM.~~

34 ~~11.5.3.1. Within the Oceanfront V-Zone.~~

# ARTICLE 11. ENVIRONMENTAL REGULATIONS

~~11.5.3.1.1. Addition of landscape fill is permitted up to two feet above the pre-development surface grade or up to base flood elevation, whichever is lower;~~

~~11.5.3.1.2. Fill footprint may 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 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;~~

~~11.5.3.1.4. All grading and fill activities must comply with guidance provided in FEMA Technical Bulletin #5.~~

## ~~11.5.3.2. Within the Estuarine V Zone.~~

~~11.5.3.2.1. Addition of fill is permitted but shall not exceed the base flood elevation.~~

~~11.5.3.2.2. Fill footprint may not exceed 50 percent of the total developable lot area (Article 8 District Development Standards) as defined by CAMA, excluding:~~

~~11.5.3.2.2.1. The footprint of the active drainfield and septic system as approved by the health department in accordance with the septic permit; and~~

~~11.5.3.2.2.2. Backfill used as part of a CAMA-approved estuarine bulkhead and placed within 25 feet of the bulkhead structure.~~

## ~~11.5.3.3. All Other Flood Zones (including AE and X).~~

~~11.5.3.3.1. Fill shall not be permitted to exceed base flood elevation except in cases where it is placed directly beneath a slab that is designed to meet the regulatory flood protection elevation as defined in Appendix A Definitions. In these instances, fill may exceed the base flood elevation by up to 12 inches 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. In areas in which there is no base flood, fill shall not exceed the amount required for wastewater permits required by the Dare County Health Department, or two feet above pre-development surface elevation, whichever is higher.~~

## **11.5.4. Plan Submittal, Review and Approval for Residential or Duplex Development on Individual Lots.**

It is the responsibility of an applicant to provide sufficient information in the plan so that the Town or its agents may reasonably evaluate the environmental characteristics of the affected areas, the potential and predicted impacts of the proposed activity on area surface waters, and the effectiveness and acceptability of those measures proposed by the applicant for reducing adverse impacts. The applicant shall provide, as necessary, maps, tables, photographs, narrative descriptions and explanations to demonstrate compliance with the Town's stormwater management standards.