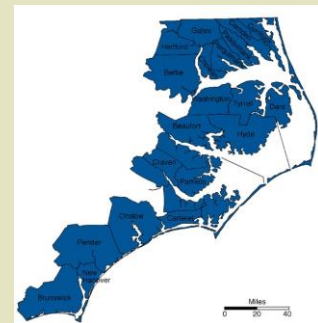




The CAMA and Barrier Island Development



**Patrick Amico
Field Representative
North Carolina Division Of Coastal Management (DCM)
Wilmington**







DCM Mission

Protect, conserve and manage North Carolina's coastal resources through an integrated program of planning, permitting, education and research.





Division of Coastal Management (DCM)

The DCM carries out:

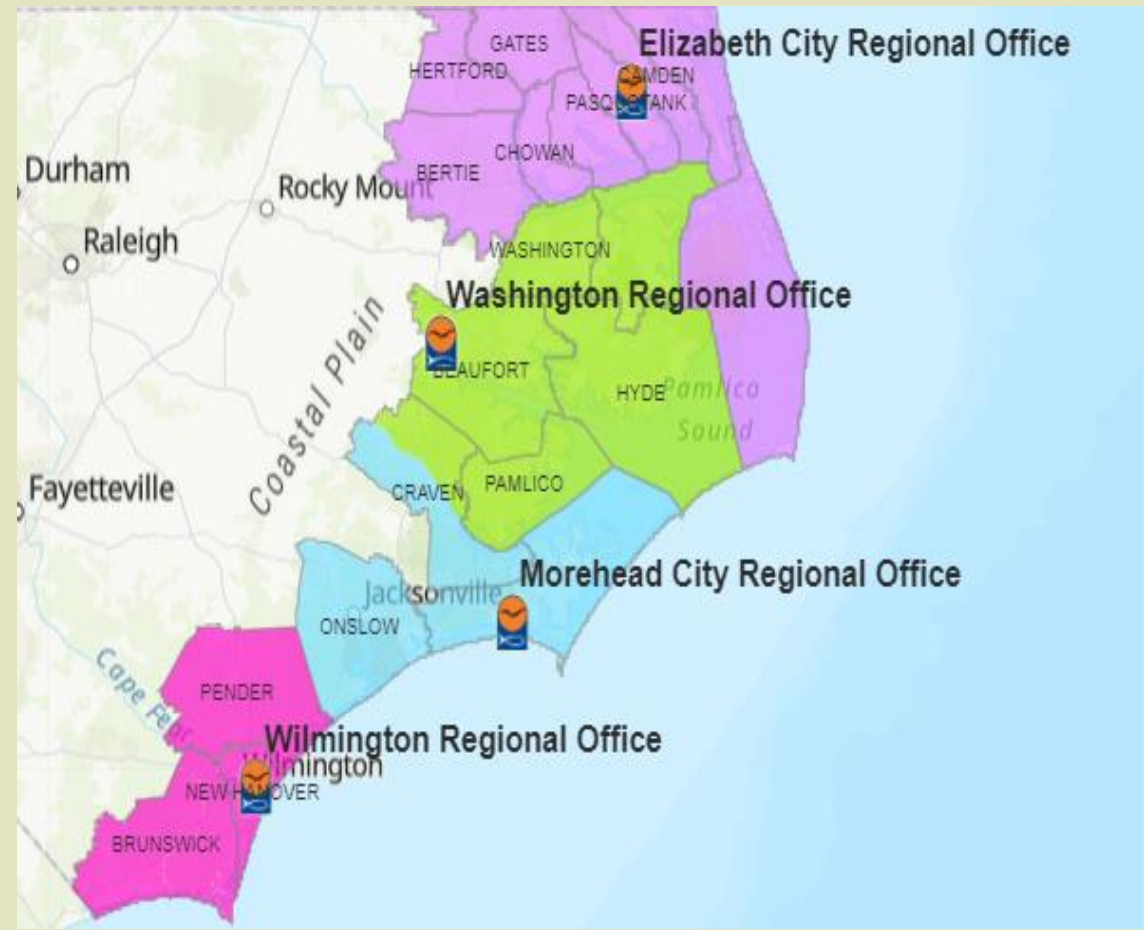
- The State's Coastal Area Management Act (CAMA) of 1974
- State's Dredge and Fill Law of 1969
- Coastal Zone Management Act of 1972

...in the 20 coastal counties, using rules and policies of the N.C. Coastal Resources Commission, known as the CRC. The division serves as staff to the CRC.



CAMA Counties

**DCM has four different
field offices**





North Carolina Coast

- Covers 320 miles of ocean beaches and more than 12,000 miles of shoreline
- Encompasses 2.3 million acres. Albemarle-Pamlico estuarine system (2nd largest estuarine system in the nation & 3rd largest in the world)
- 5.1 million acres of wetlands
- Populated by more than 900,000 residents



Division action items:

- **Permitting and Enforcement**
- Federal Consistency
- Land Use Planning
- North Carolina Coastal Reserve
- Waterfront Access Sites





Areas of Environmental Concern (AECs)

Ocean Hazard Areas

- Ocean Erodible Area
- Inlet Hazard Area
- Unvegetated Beach Area



Estuarine System

- Public trust waters and submerged lands, estuarine waters, coastal wetlands, and coastal (non-ocean) shorelines
- Estuarine Shoreline Areas





CAMA Permits are required if you are undertaking development in an AEC:

Any activity in an AEC involving, requiring, consisting of the construction or enlargement of a structure; excavation; dredging; filling; dumping; removal of clay, silt, sand, gravel or minerals; bulkheading, driving of pilings; clearing or alteration of land as an adjunct of construction; alteration or removal of sand dunes; alteration of the shore, bank, or bottom of the Atlantic Ocean or any sound, bay, river, creek, stream, lake, or canal.



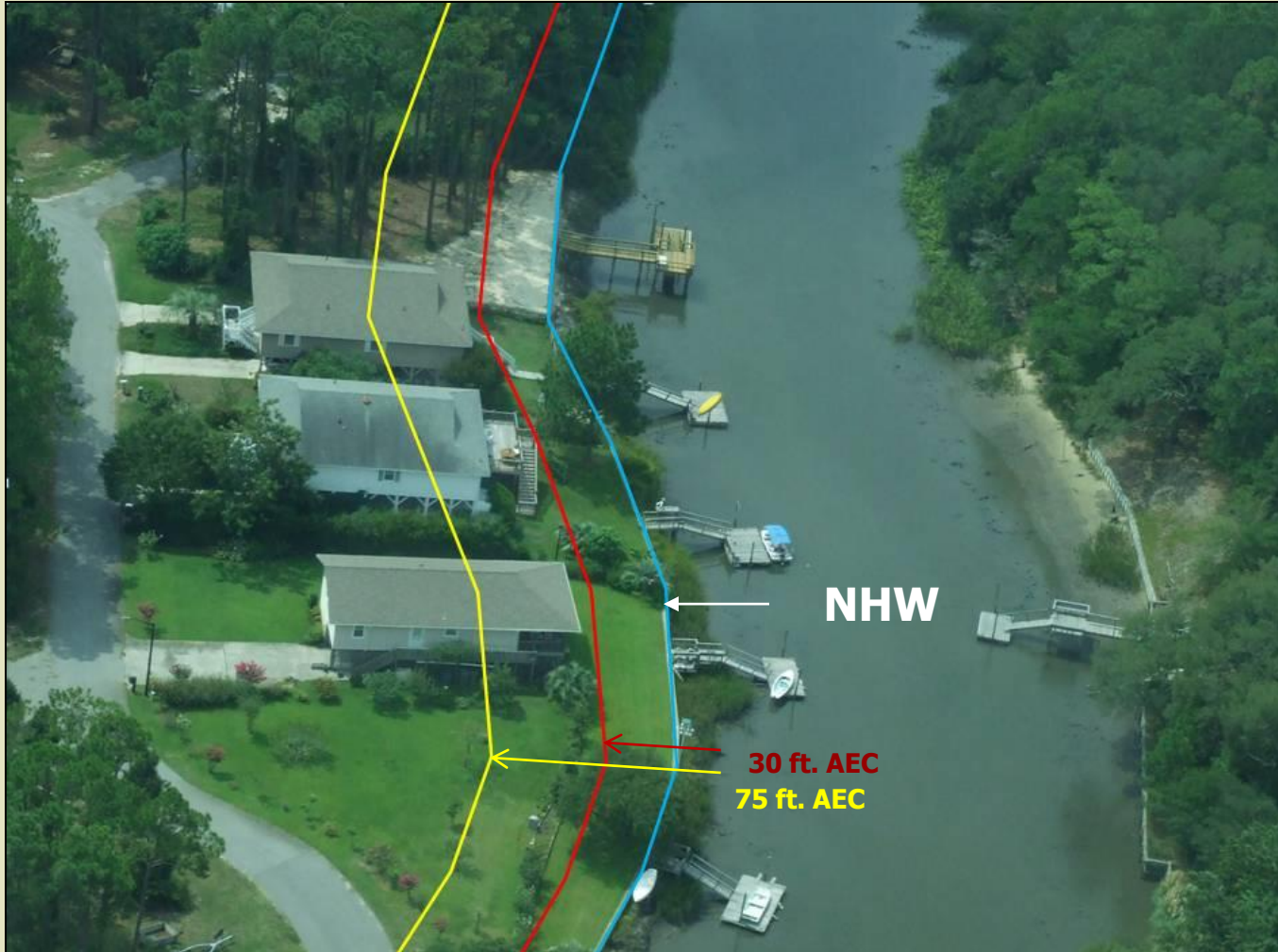
AECs in the Estuarine System

- Coastal Shoreline (above NHW)
 - ✓ Estuarine Shoreline
 - ✓ Public Trust Shoreline
- Coastal Wetlands
- Public Trust Areas
- Estuarine Waters





Coastal Shoreline AEC





Water Classifications

Estuarine Shoreline

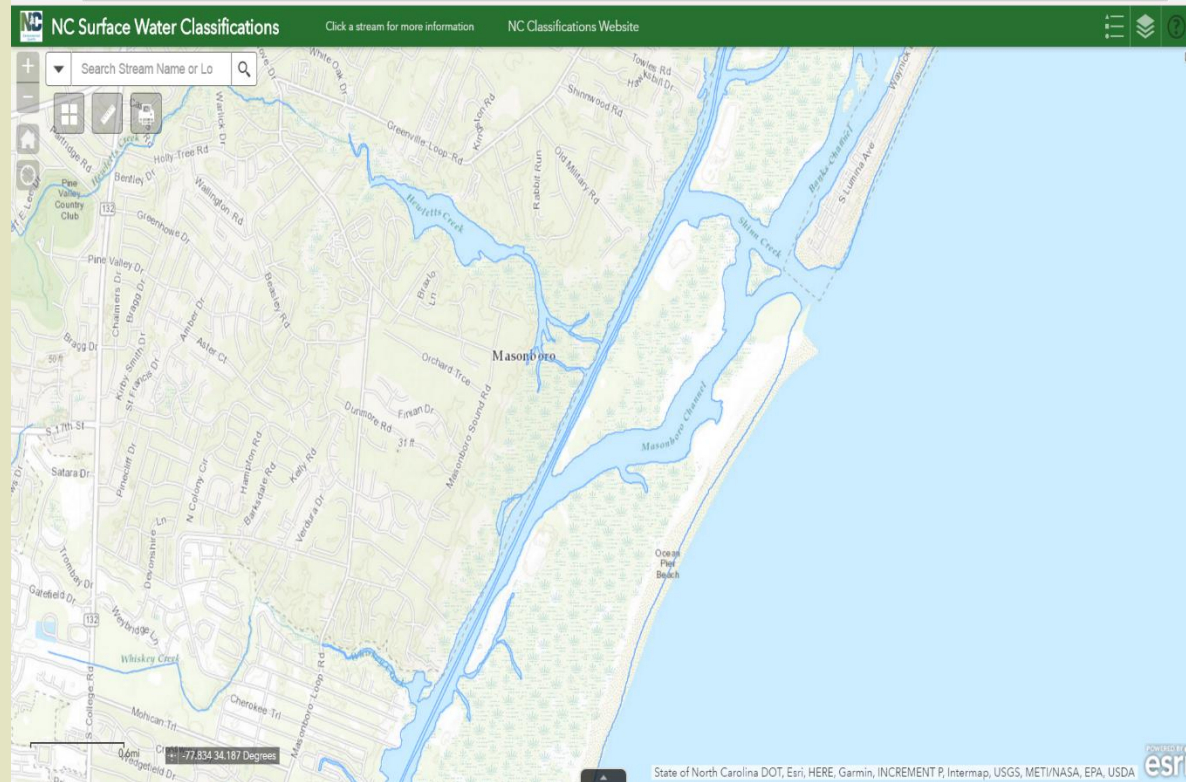
**AEC extends 75 ft. from
NHW**

**-Max Allowed 30%
impervious surface**

ORW Estuarine Shoreline AEC

**extends 575 ft. from
NHW**

**-Max Allowed 25%
impervious surface**





ORW-Outstanding Resource Waters

NC Surface Water Classifications Click a stream for more information NC Classifications Website

Search Stream Name or Lo

Surface Water Classifications:

Stream Index:	18-87-25.7
Stream Name:	Masonboro Sound ORW Area
Description:	All waters between the Barrier Islands and the mainland from a line running from a point on the mainland directly across the Intracoastal Waterway from the southwest mouth of Shinn Creek to the southern shore of Masonboro Inlet and a line running from th
Classification:	SA;ORW
Date of Class.:	December 31, 1989

[Zoom to](#)

State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

POWERED BY esri



Property along the AIWW may have **USACE Easements**

- ~ No development in these areas without USACE Consent.
Contact USACE Real Estate Office





Coastal Shoreline Rules Basic Standards

- Less than **30% impervious coverage** along Coastal Shoreline AECs, innovative stormwater systems acceptable (75' AEC)
- Less than **25% impervious coverage** along ORW coastal shoreline AECs, stormwater systems not allowed (575' AEC)

All plans you receive should indicate the impervious coverage within the AEC and show the calculations on the drawing.



What about Coastal and Section 404 Wetlands?





Coastal Wetlands

- **Presence of at least one of the ten species listed in 15A NCAC 7H.0205.**
- **Subject to regular or irregular tidal flooding**





Coastal Wetland species



Cat-tails



Sawgrass



Bulrush



Cord Grass



Salt Grass



Salt Meadow Grass

Division of Coastal Management



Glasswort



Sea Lavender



Salt Reed Grass

INVASIVE

VS





Why is Coastal Marsh Important?

- first line of defense for estuarine shoreline erosion (natural buffer)
- waterfowl and wildlife habitat
- nutrient and sediment traps for organic/inorganic
- pollutants and nutrients uptake
- Nursery area for juvenile fish and shellfish (90% of commercial/recreational fish species are dependant on wetlands)



Question:

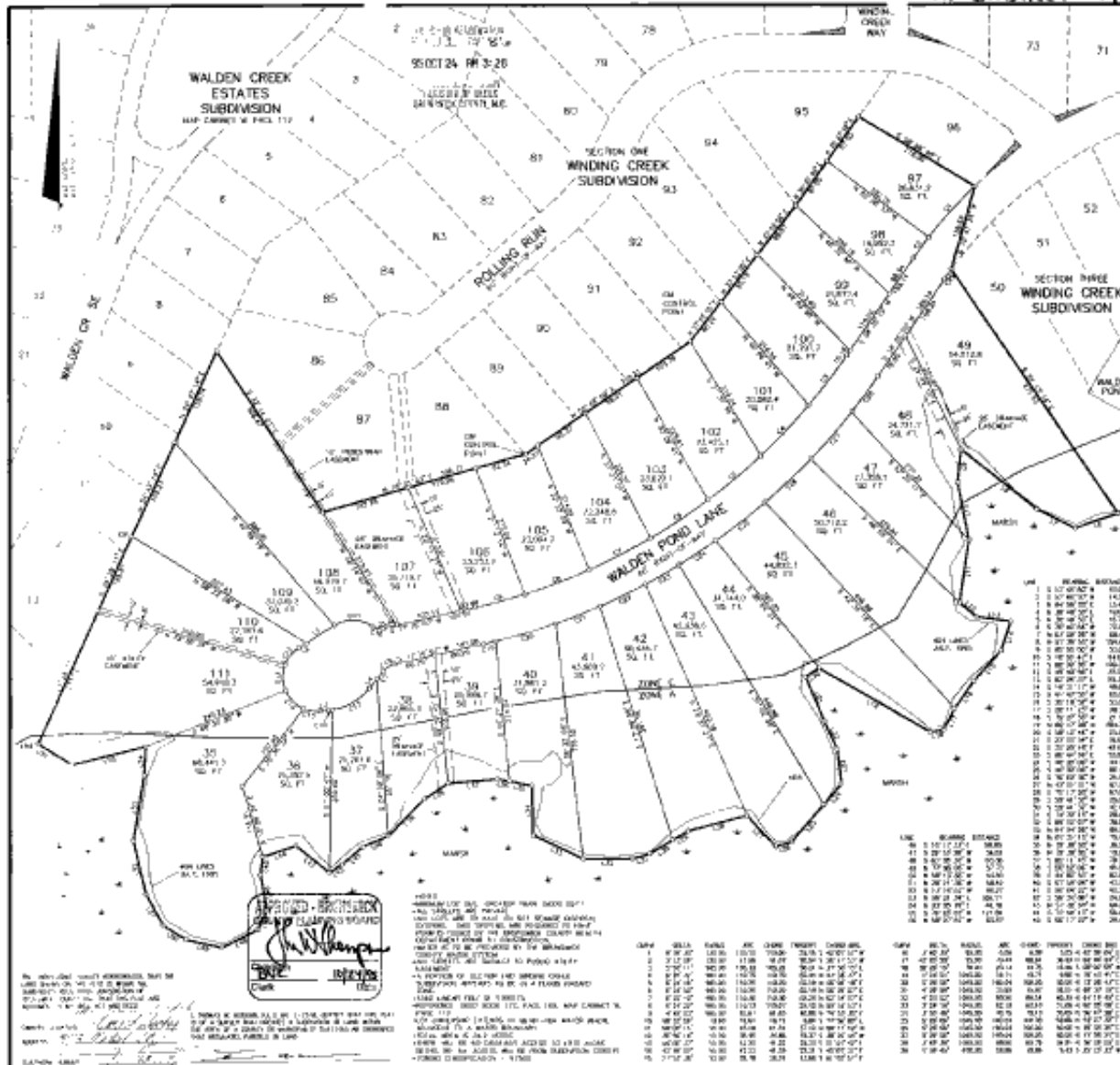
“Can my client build a pier on the lot we have under contract”?



Does this parcel have Riparian Rights?

1. **Deed** – Meets and bounds
2. **Plat Map**- Do property lines follow MHW?
3. **Survey** – Does Mean or Normal High Water cross the property line?

Division of Coastal Management



APPROVED - BRUNSWICK COUNTY

PLAT NO. 10-24-95

BRUNSWICK COUNTY

PLAT NO. 10-24-95

BRUNSWICK COUNTY

PLAT NO. 10-24-95

OWNER: PATRIC CAROLAN & SONS, INC.
ATTN: DEBRA W. CAROLAN
1111 SOUTH BRIDGE
WILMINGTON, NC 28403
910-497-0265

PREPARED BY: BRUNSWICK SURVEYING, INC.
THOMAS W. MANGIN
REGISTERED LAND SURVEYOR
1018 GARDNER DRIVE
WILMINGTON, NC 28403
910-497-0265

SECTION TWO WINDING CREEK SUBDIVISION

BRUNSWICK SURVEYING, INC.

THOMAS W. MANGIN
REGISTERED LAND SURVEYOR
1018 GARDNER DRIVE
WILMINGTON, NC 28403
910-497-0265

SCALE: 1" = 100'

DATE: 10-24-95

PROJECT: WALDEN CREEK ESTATES

FILE NO.: 10-24-95

DATE: 10-24-95

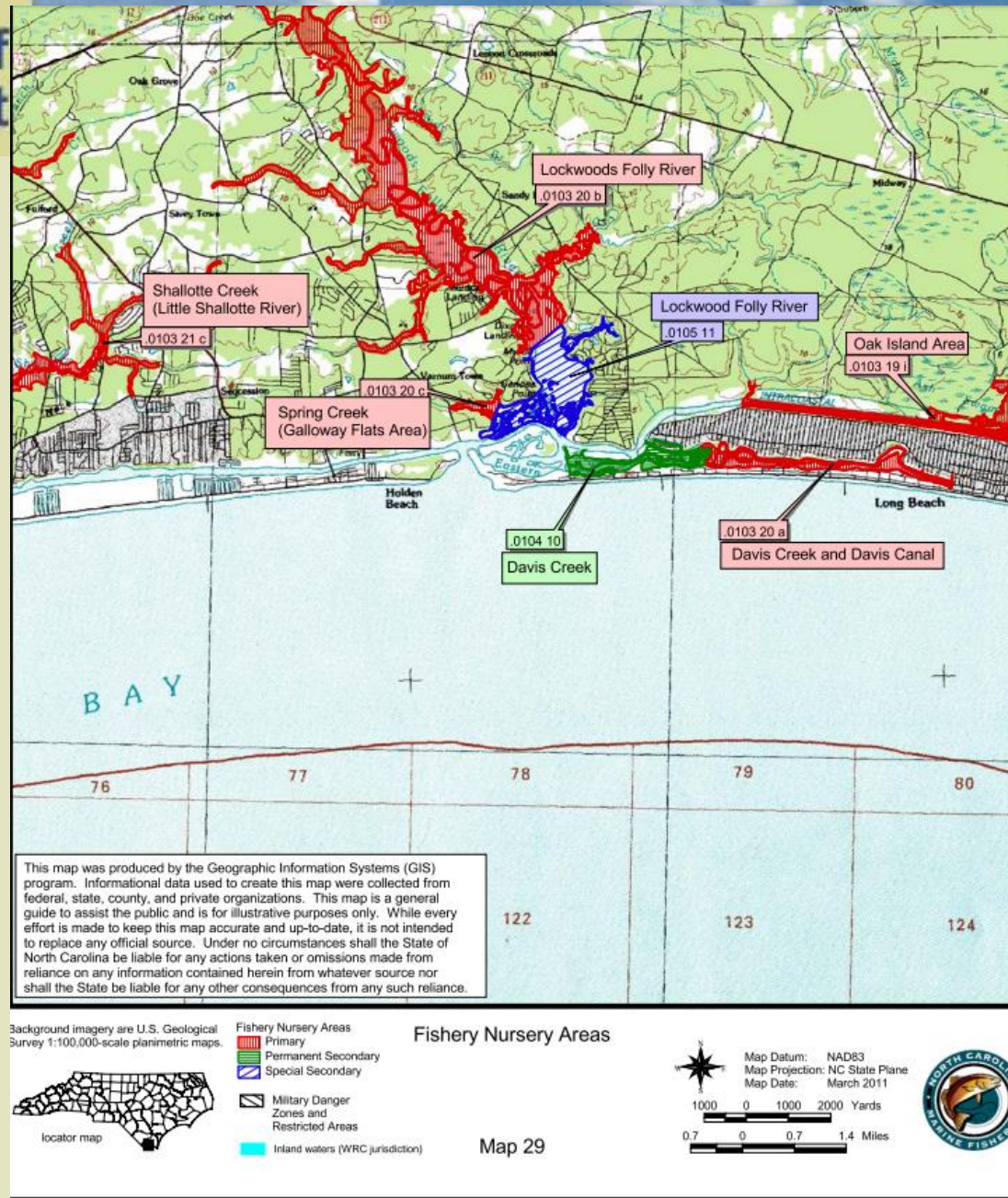


NOTES:

- *MINIMUM LOT SIZE: GREATER THAN 15000 SQ.FT.
- *ALL STREETS ARE PRIVATE
- *ALL LOTS ARE TO HAVE ON SITE SEWAGE DISPOSAL SYSTEMS. SAID SYSTEMS ARE REQUIRED TO HAVE PERMITS ISSUED BY THE BRUNSWICK COUNTY HEALTH DEPARTMENT PRIOR TO CONSTRUCTION.
- *WATER IS TO BE PROVIDED BY THE BRUNSWICK COUNTY WATER SYSTEM.
- *ALL STREETS ARE SUBJECT TO PUBLIC UTILITY EASEMENT.
- *A PORTION OF SECTION TWO WINDING CREEK SUBDIVISION APPEARS TO BE IN A FLOOD HAZARD ZONE.
- *1360 LINEAR FEET OF STREETS
- *REFERENCE: DEED BOOK 172, PAGE 169; MAP CABINET W, PAGE 112.
- *LOT OWNERSHIP EXTENDS TO MEAN HIGH WATER WHERE ADJACENT TO A WATER BOUNDARY.
- *TOTAL AREA IS 24.2 ACRES
- *THERE WILL BE NO DRIVEWAY ACCESS TO LOTS ALONG BETHEL RD. ALL ACCESS WILL BE FROM SUBDIVISION STREETS
- *ZONING CLASSIFICATION - R7500

PNA- Primary Nursery Areas

Proposed docking
facilities in these areas
must have at least 24 “
of water at NLW





Piers and Bulkheads

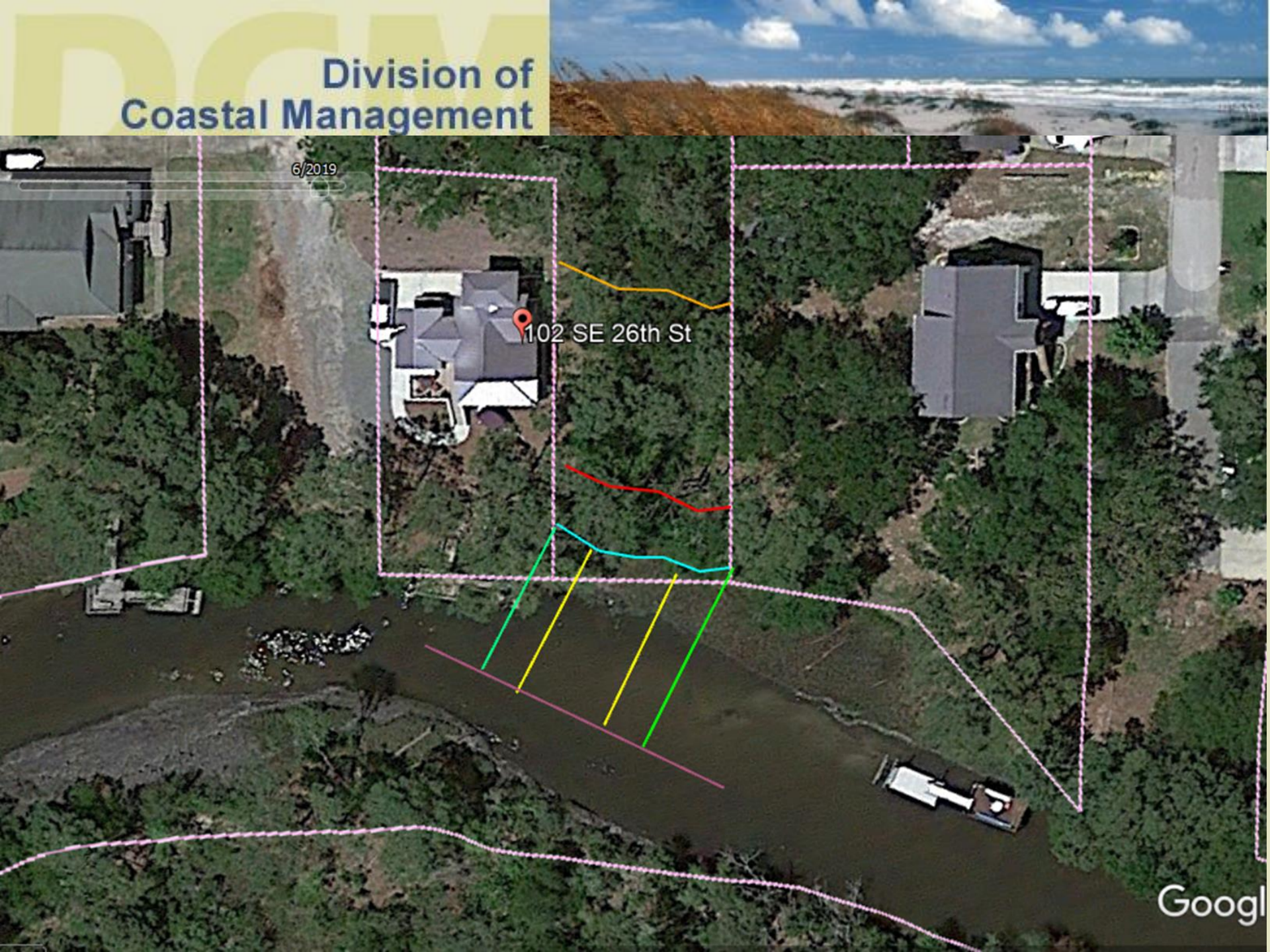
- **Linear ft. of shoreline x 8 =** amount of platform allowed over water
- **Floating boatlifts** are not counted as boatslips but count towards allowed platform area, must meet riparian setbacks and depths for PNA.
- **Drip lines** are used for calculations for water dependent development.
- **Bulkheads/riprap** for erosion control at NHW line and landward of all wetlands.



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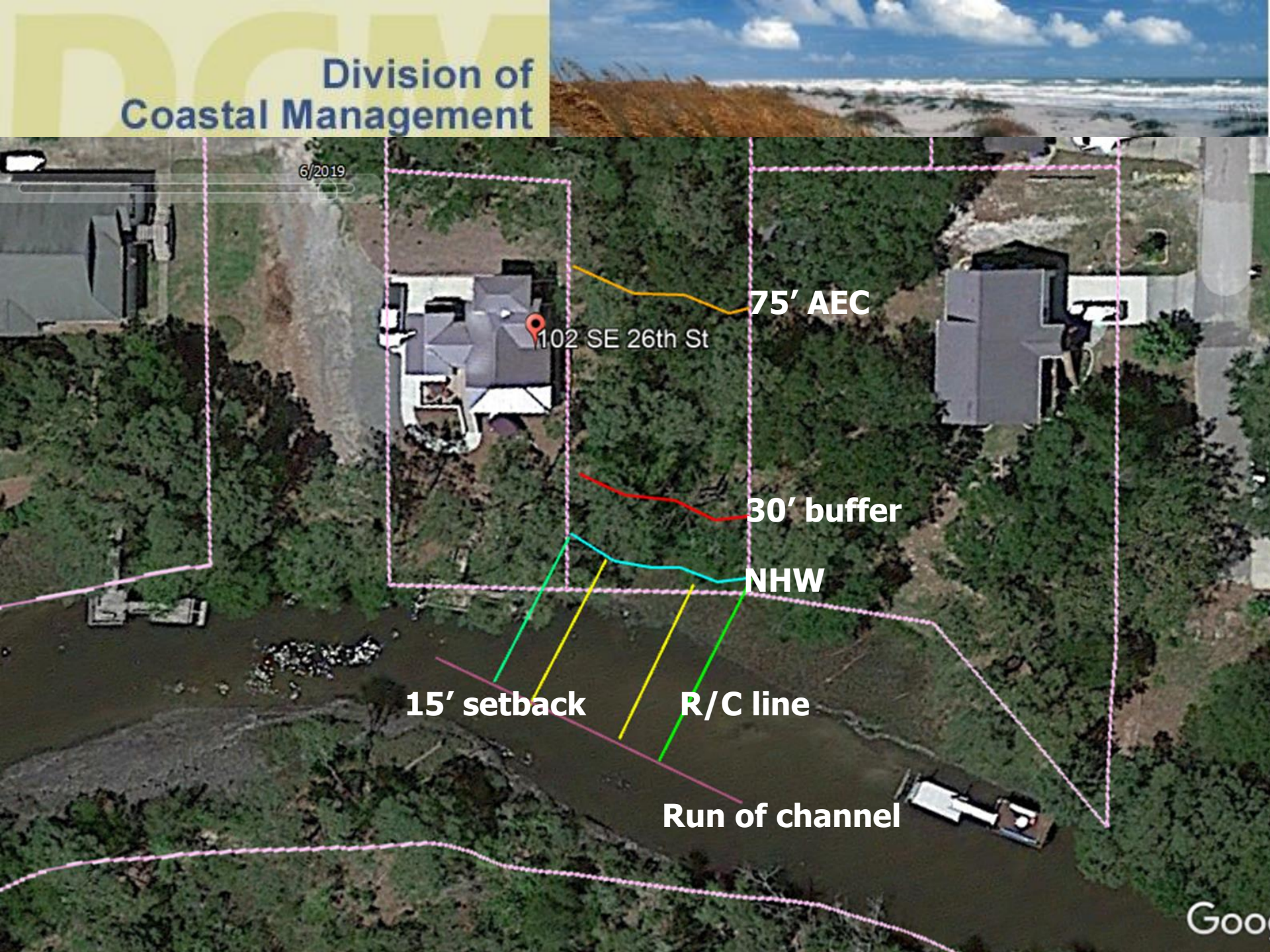
6/2019

102 SE 26th St



Google

Division of Coastal Management



6/2019

102 SE 26th St

75' AEC

30' buffer

NHW

15' setback

R/C line

Run of channel

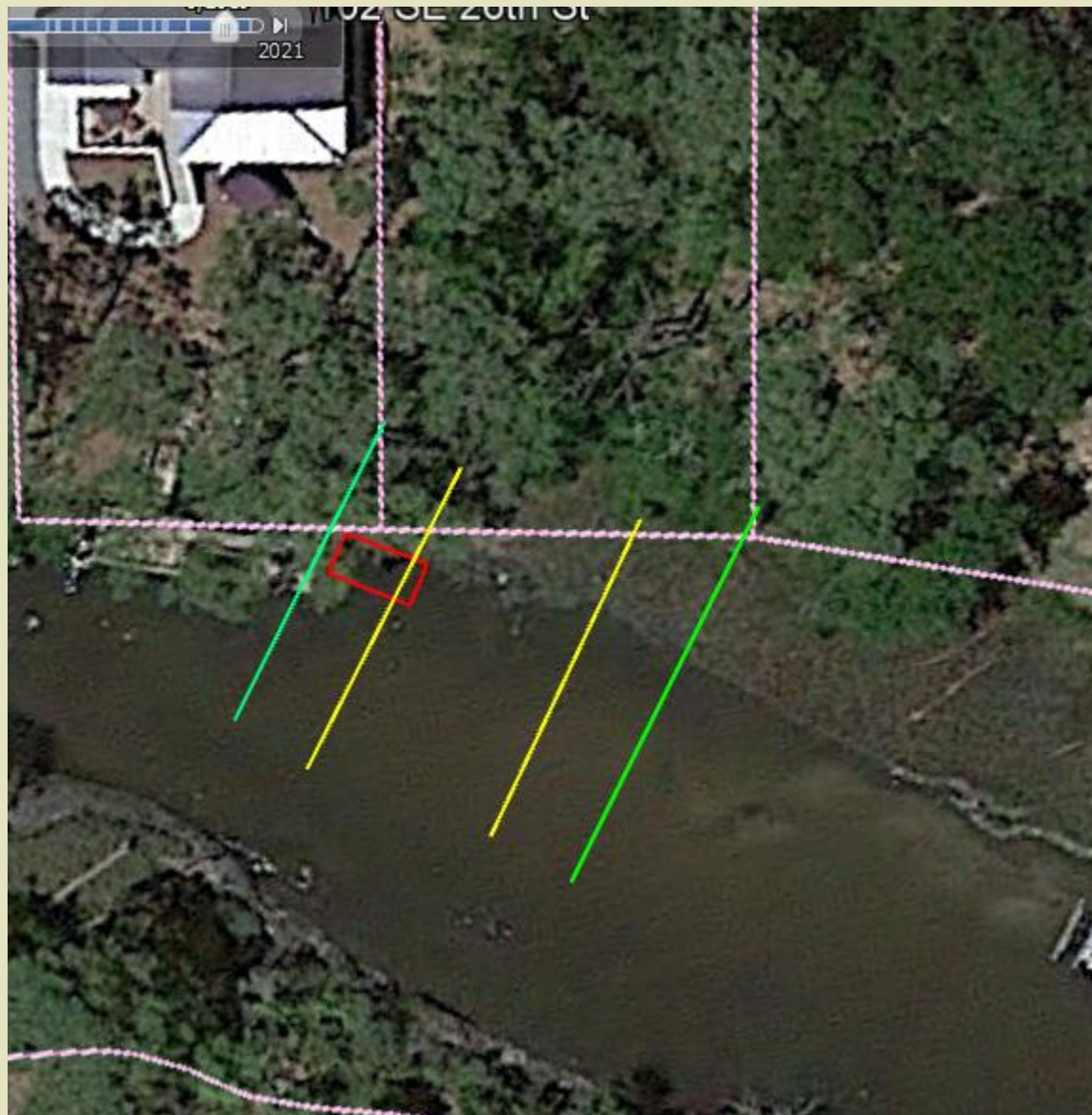
Go

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Ocean Hazard AECs

Ocean Erodible Area



Holden Beach, NC

8/10/2020 8:36



15A NCAC 07H .0303 MANAGEMENT OBJECTIVE OF OCEAN HAZARD AREAS

- ~ Minimizing losses to life and property resulting from storms and long-term erosion,
 - ~ Preventing encroachment of permanent structures on public beach areas,
- ~ Preserving the natural ecological conditions of the barrier dune and beach systems, and
- ~ Reducing the public costs of inappropriately sited development



Ocean Erodible AEC:

How to determine the AEC: Long term annual erosion rate X 90.

-With a 2 ft. erosion rate the AEC extends 180 ft. from the FLSNV.

****Example: 2 ft. erosion rate 2 ft./yr. x 90 – 180 ft. AEC from FLSNV**





Inlet Hazard Areas (IHA)

Areas especially vulnerable to erosion and flooding due to proximity to ocean inlets

- **Allows no more than one commercial or residential unit per 15,000 sq. ft. of land on lots subdivided or created after July 23, 1981.**
- **Only residential structures of four units or less and non-residential structures of less than 5,000 sq. ft. of total floor area shall be allowed.**



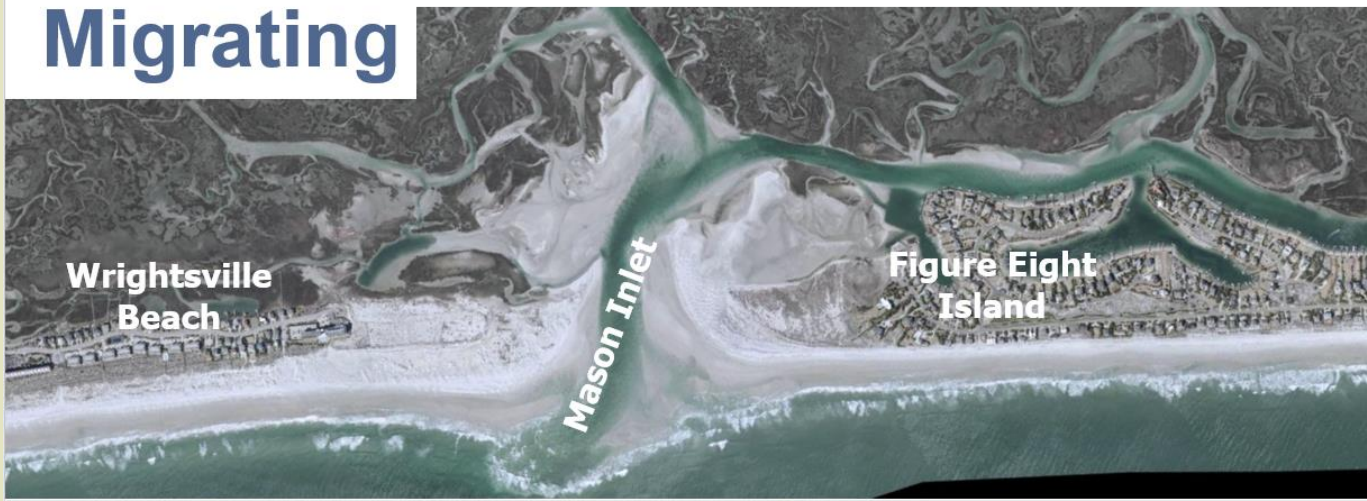


Inlet Hazard Areas

Oscillating



Migrating





Unvegetated Beach Area



Oak Island, NC

8/10/2020 8:33



DCM MAP VIEWER

NC DCM setback and erosion rates are
online!

NC Division of Coastal Management Department of Environmental Quality

home

caswell beach nc

Show search results for caswell beac...

Layer List

- Setback Factors - 2020 (oceanfront) ...
- Setback Factors - 2013 (oceanfront) ...
- Setback Factors - 2004 (oceanfront) ...
- Setback Factors - 1997 (oceanfront) ...
- Setback Factors - 1988 (oceanfront) ...
- Setback Factors - 1983 (oceanfront) ...
- Setback Factors - 1979 (oceanfront) ...
- Development Lines (DVL) Points (oceanfront) ...
- Development Lines (DVL) (oceanfront) ...
- Measurement Line ...
- Static Vegetation Lines (SVL) Points ...

60m
200ft

33.890240 -78.030670 Degrees

POWERED BY
Maxar, Microsoft esri



**FIRST LINE OF
STABLE NATURAL
VEGETATION**

2005 2 22



Ocean Erodeable Area Setbacks & Frontal Dune Systems

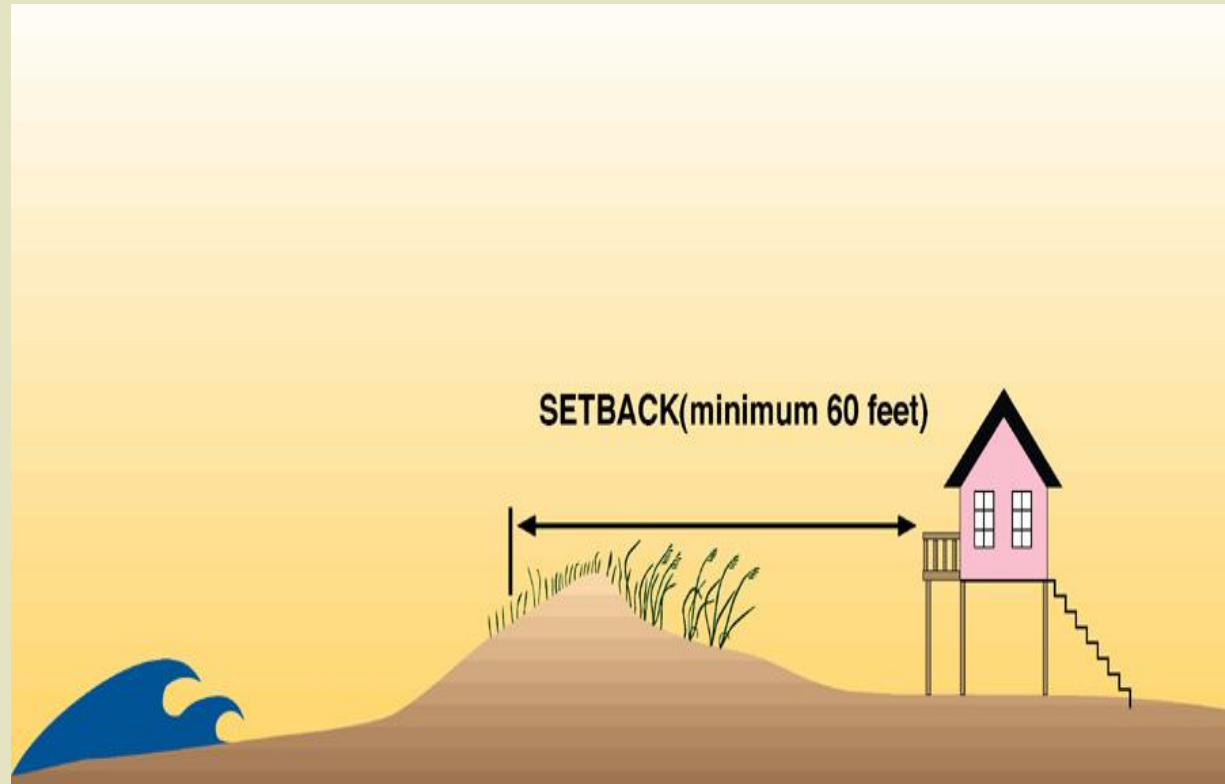
*How to determine
building setbacks:*

*Multiply the Long Term
annual erosion rate x
30.*

Example:

**Erosion rate is 2 ft. / yr.
x 30 = 60 ft. building
setback for a home
<5000 sq. ft.**

**Pulled from FLSNV
or static line!** -



“Oceanfront Construction Setbacks – 101”



Setback Line

Setback Measured from Vegetation

Vegetation Line

Rules: 15A NCAC 07H .0306(

Static Vegetation Lines: How do you get one?



Static Line

Setback Line

Defined large-scale beach fill project: "greater than 300,000 cubic yards"



180 Ft. AEC

60 ft. setback

60 ft. setback

Static Line

FLSNV

© 2016 Google

Google earth

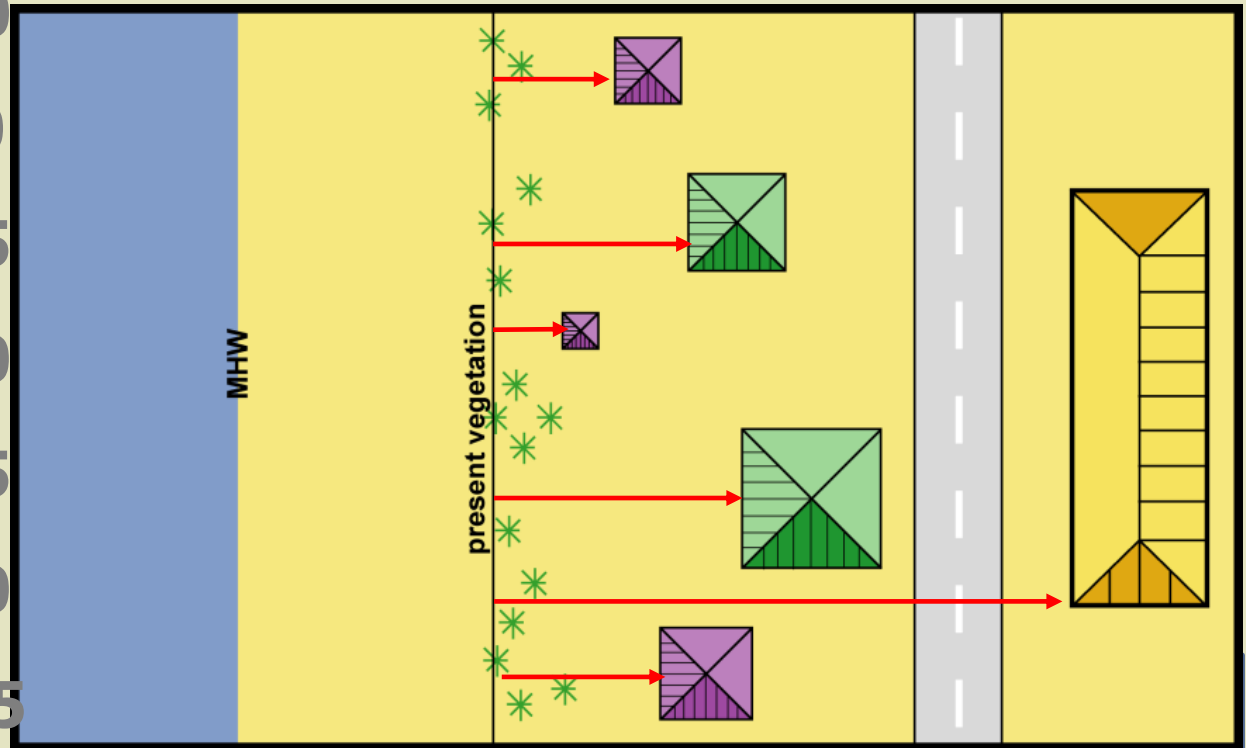
33°54'52.94" N 78°09'48.78" W elev 0 ft eye alt 466 ft

Graduated Oceanfront Construction Setbacks

Graduated erosion-based setbacks based on size of structures and long-term erosion rates

Minimum Setback Factor ("erosion rate") = 2 feet/year

- <5,000 sqft... x30
- 5-10K sqft.... x60
- 10-20K sqft... x65
- 20-40K sqft... x70
- 40-60K sqft... x75
- 60-80K sqft... x80
- 80-100K sqft . x85
- >100K sqft... x90



15A NCAC 07H .0306(a)(5) effective: August 11, 2015



Total Floor Area

- (A) The total sq. ft. area of heated or air-conditioned space;**
- (B) The total sq. ft. of parking elevated above ground level; and**
- (C) The total sq. ft. of non-heated or non-air-conditioned areas elevated above ground level, excluding attic space that is not designated to be load bearing.**

***Decks, roof covered porches and walkways shall not be included in total floor area unless they are enclosed with material other than screen mesh or are being converted into an enclosed space.**

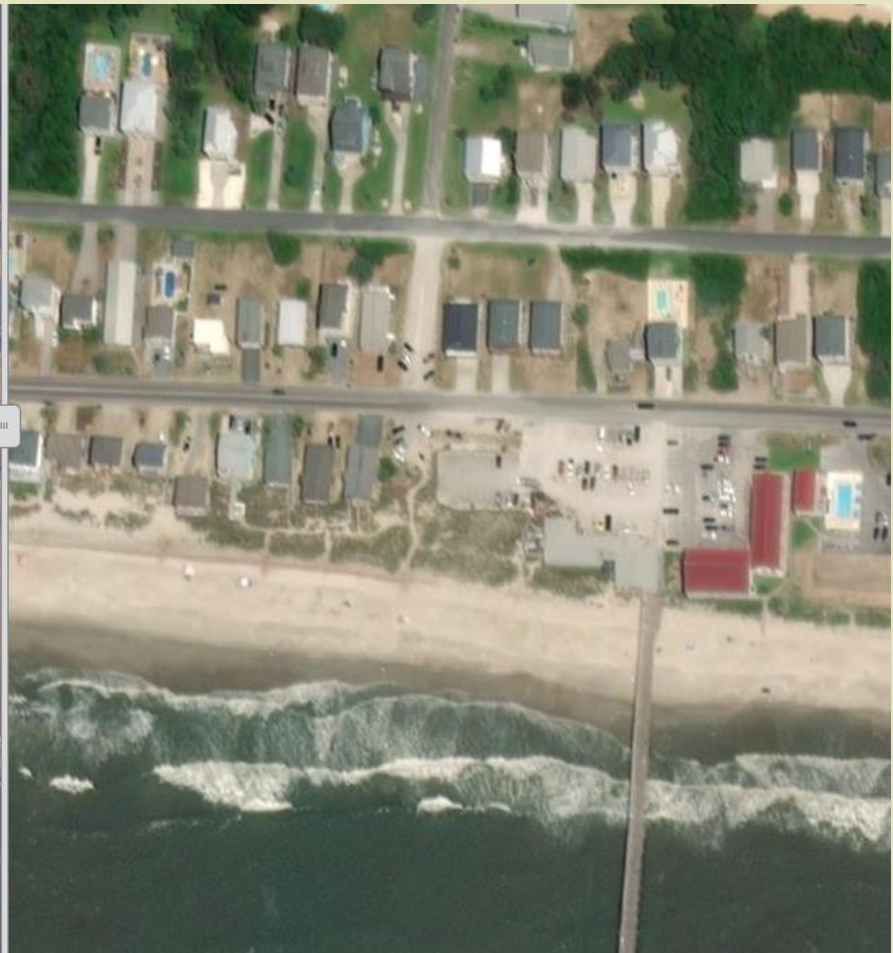
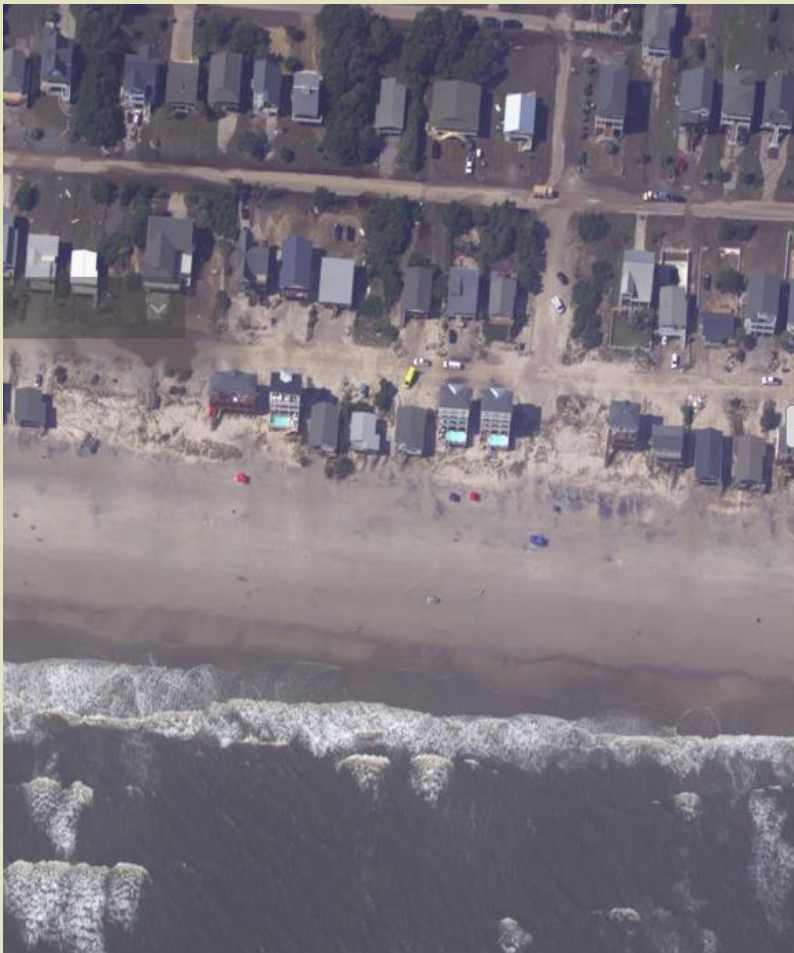


Why have setbacks?





Vegetation lines can change overnight...



DCM
Division of
Coastal Management



Hurricane FLORENCE September 2018



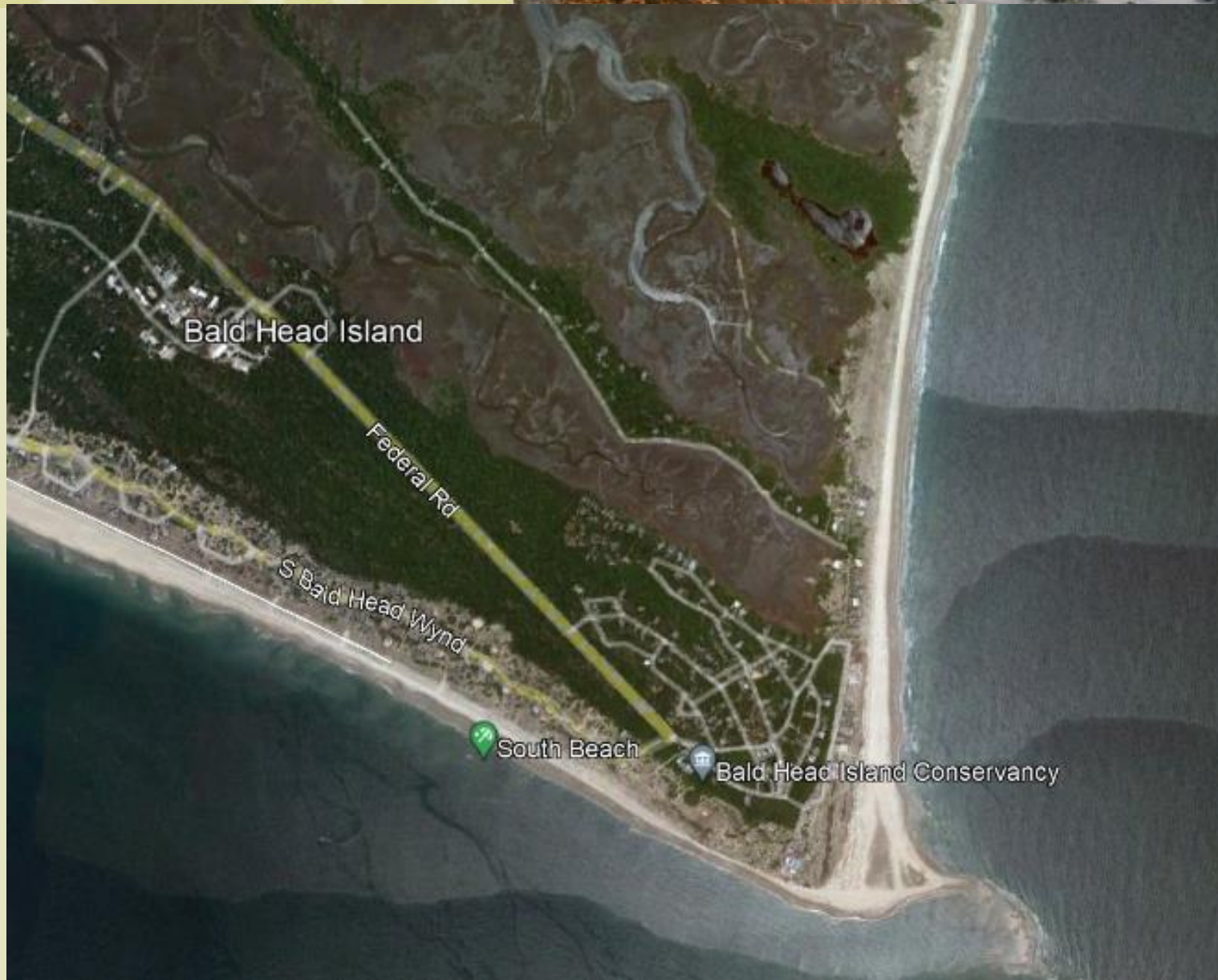
**Topsail Island
9. 27.18**



DCM Division of Coastal Management



Division of Coastal Management





Exceptions to the Setback

- Campsites
- Parking areas w/clay, packed sand, gravel
- Elevated decks- 500 sf (structurally detached)
- Beach accessways
- Unenclosed, uninhabitable gazebos- up to 200sf
- Single story sheds <200sf
- Temp. amusement stands
- Sand fencing
- Swimming pools



Permitting



3 Categories of CAMA Permits

- **Minor permits** issued by local governments consistent w/CRC-established standards **for non-water dependent projects only.**
- **General permits** issued by DCM field staff - streamlined for routine projects (docks, piers, bulkheads).
- **Major permit** applications issued by Morehead City office after review by 10 state & 4 fed. Agencies.



“Umbrella Permitting”

Federal Agencies	State Agencies
U.S. Army Corps of Engineers	Division of Water Quality
U.S. Fish and Wildlife Service	Division of Marine Fisheries
Environmental Protection Agency	Division of Transportation
National Marine Fisheries Service	Division of Land Resources
	Wildlife Resources Commission
	Department of Cultural Resources
	Division of Public Health
	State Property Office
+ Local Government	Community Assistance



Maintenance and Repair

Maintenance and Repair : If proposed work is less than 50% of the total structure or project a Certificate of Exemption from requiring a CAMA permit may be issued. (Does not alleviate the necessity of obtaining other state, federal or local authorization).

****All work must be done within the original project footprint.**



When does development on a Barrier Island trigger a CAMA Permit??

- 1. Is the proposed project in one of the 20 coastal counties???**
- 2. Is the proposed project in an AEC?**
- 3. Does the proposed project fit the definition of development?**



Wilmington Regional Office

DCM

- Tara MacPherson – District Manager**
Permitting - BHI, Caswell Beach and Southport
tara.macpherson@ncdenr.gov
- Jason Dail – Pender County and Topsail Island**
jason.dail@ncdenr.gov
- Kelsey Beachman– Northern NHCo- kelsey.beachman@ncdenr.gov**
- Bryan Hall- Southern NHCo- bryan.l.hall@ncdenr.gov**
- Patrick Amico- E. Brunswick County- patrick.amico@ncdenr.gov**
- Brendan Brock– W. Brunswick Co.- brendan.brock@ncdenr.gov**