



Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Living on Barrier Islands

## A Workshop for Real Estate Professionals

NFIP Overview  
Developing in Compliance w/ the NFIP

October 2, 2025

**Eryn Futral, AICP, CFM**

**NFIP Eastern Branch Planner**

NC Emergency Management, Hazard Mitigation Support Program





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY



# NATIONAL FLOOD INSURANCE PROGRAM



- Identifies & maps flood hazard areas
- Provides a framework for floodplain management regulations
- Makes flood insurance available in Communities that participate in the NFIP





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# NFIP Goals

- Reduce loss of life & property
- Reduce rising disaster relief costs & taxpayer-funded disaster costs
- Communicate the importance of hazard mitigation (flood resistant construction, guide future development, & prohibit development in floodplains that would increase flood levels)
- Make Federally backed insurance coverage available to property owners
- Restore & protect natural resources & functions of floodplains





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY



# Community Participation in the NFIP

A **VOLUNTARY** program based on a mutual agreement between the Federal government and the local community:

In exchange for adopting, implementing and enforcing a Floodplain Management Ordinance

- Federally-backed flood insurance is made available to property owners throughout the community.
- Federal disaster assistance and mitigation grant programs made available.



# Role of NFIP Participating Community

- Review floodplain development permit applications and issue/deny floodplain development permits for **ALL development** in the SFHA
- Inspect development to ensure compliance with local ordinances
- Maintain floodplain development records
- Assist in preparation & revision of floodplain maps
- Help citizens obtain information on flood hazards, floodplain map data, flood insurance, & proper construction measures





## What is Floodplain Development?

“Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.”





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

National Flood Insurance Program

# Elevation Certificate

and Instructions

2022 EDITION



FEMA

## Elevation Certificate Form

- Verify Regulatory Compliance
- Supporting documentation for map revision & amendment applications
- Provide better/recent data to insurance companies to see if a better rate is available
- **NOTE:** Data collected on this form is for the construction & utility service to a single STRUCTURE only – not the lot or other improvements.





# The Community's EC Review

Community Officials MUST review Elevation Certificate's (ECs) before accepting them to ensure:

- **Completeness**
- **Reasonableness/Accuracy**
- **Compliance**

NFIP requires the Finished Construction EC for all:

- **New Construction**
- **Additions**
- **Substantial Improvements**

To structures located in the Special Flood Hazard Area.





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Question????????

A property owner needs a copy of the elevation certificate for their structure.





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Answer...

- ✓ The local permitting jurisdiction
- ✓ Surveyor
- ✓ Previous/Current Owner
- ✓ Insurance Agent

State NFIP staff do NOT have a database of ECs.





## Online Resources

FRIS – <http://fris.nc.gov>

ReadyNC – <http://readync.gov>

Flood.NC.gov – <http://flood.nc.gov>

FIMAN – <http://fiman.nc.gov>

FloodSmart - <http://floodsmart.gov>

FEMA – <http://fema.gov>

Rready – <https://www.ready.gov>



Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

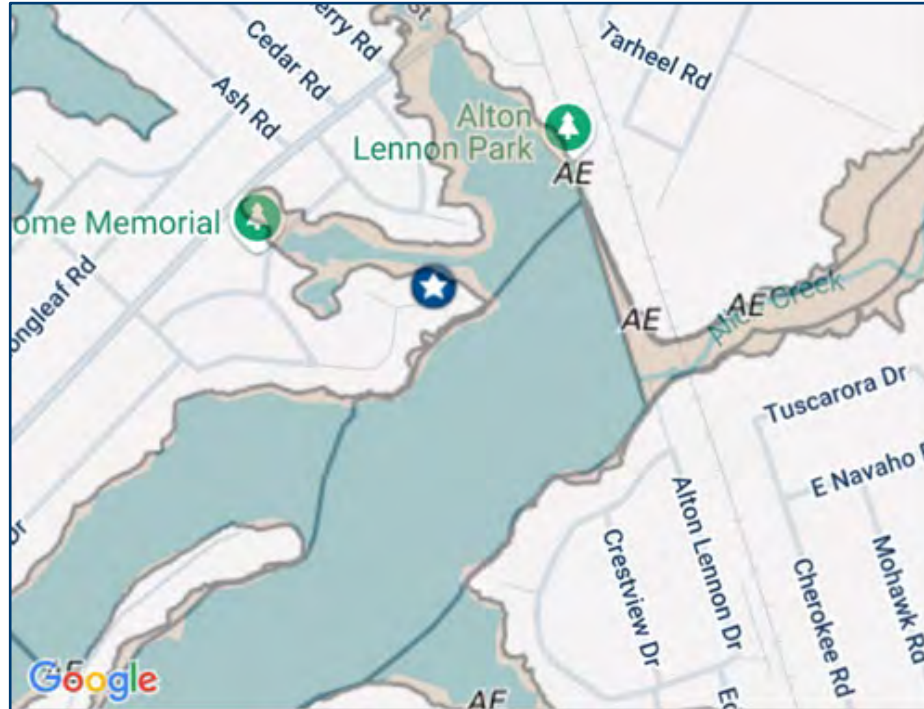
If you need flood zone/risk information  
for a property, where do you personally  
go to find that information?





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# MLS Flood Mapping?



## Welcome to the North Carolina Flood Risk Information System (FRIS)

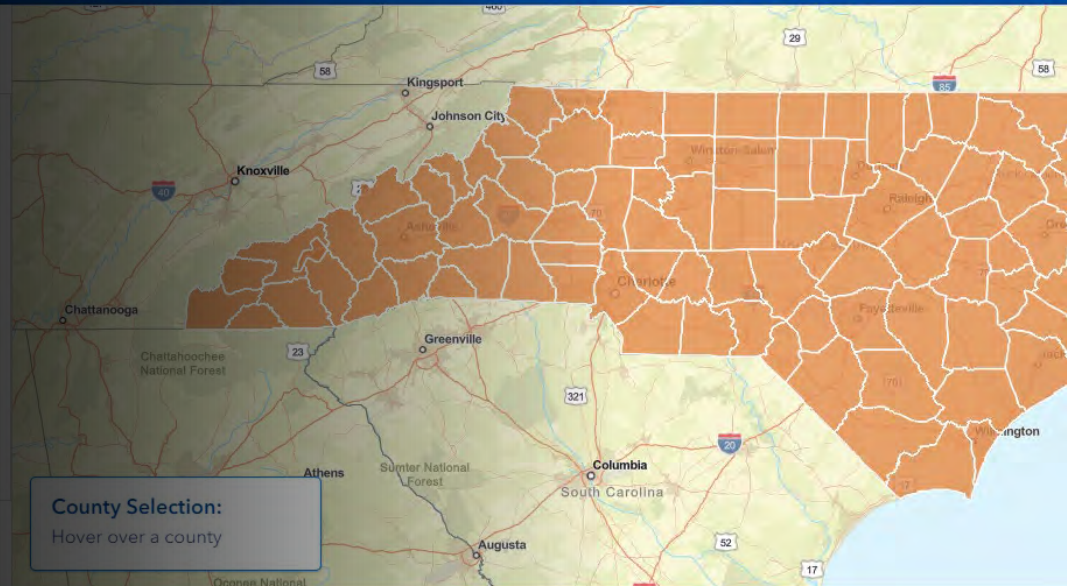
# Flood Risk Information System

Guiding?

(5) can tell you!

County on the map, or  
started.

GO



## About FRIS

provides this website as a public service to the citizens of North Carolina. The Flood Risk Information System (FRIS) contains digital flood risk assessments, and reports that are database driven. This site also provides geospatial data, along with hydraulic and hydrologic data. The North Carolina Floodplain Mapping Program has made every effort to ensure accuracy of this information. Contact information for the Floodplain Mapping Program is available at [flood.nc.gov](http://flood.nc.gov) under the Contacts Menu, [frishelp@ncdps.gov](mailto:frishelp@ncdps.gov) or (919) 715-5711.





Hover over a county

The State of North Carolina provides this website as a public service to the citizens of North Carolina. The Flood Risk Information System (FRIS) contains digitally accessible flood hazard data, models, maps, risk assessments, and reports that are database driven. This site also provides geospatial data, along with hydraulic and hydrologic models that are available for download and use. The North Carolina Floodplain Mapping Program has made every effort to ensure accuracy of this information. Contact information for the North Carolina Floodplain Mapping Program is available at [flood.nc.gov](http://flood.nc.gov) under the Contacts Menu, [frishelp@ncdps.gov](mailto:frishelp@ncdps.gov) or (919) 715-5711.

Tools

Map View:

Effective

Preliminary

## TOOLS

Overview

Layers

☐ Building Selection

**130 Short St, Wrightsville Beach, North  
Carolina, 28480**

*Address locations are approximate.*

**This panel's status is Effective.**

**A portion of this building intersects the special flood  
hazard area.**

Flood Zone: i

**VE**

*Map marker is inside of the special flood hazard area.*

Flood Source: Atlantic Ocean

Base Flood Elevation: i 14 ft

[Show Annual Events](#) ▼

LIMWA Area: No

County: New Hanover

Political Area: Town Of Wrightsville Beach

CID: 375361

Panel: 3157 ↓

Map Number: 3720315700K

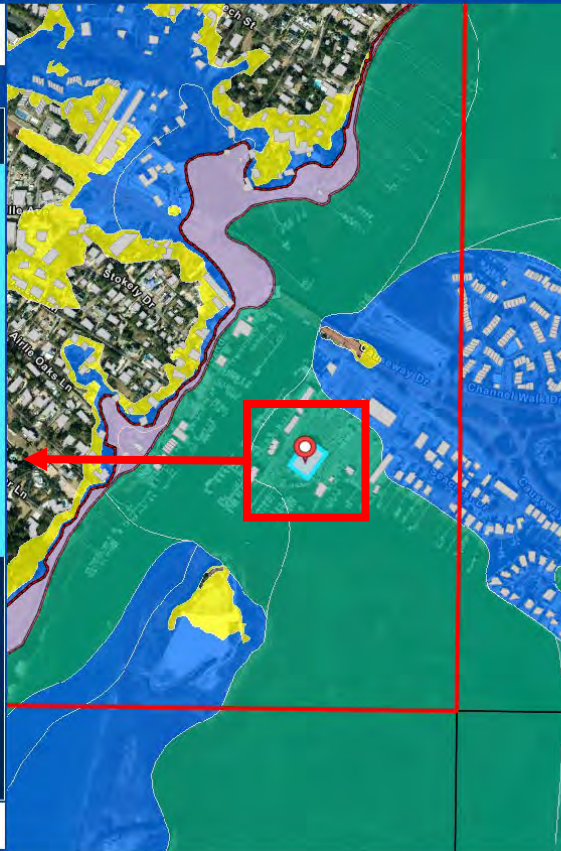
Panel Effective Date: 8/28/2018

Latitude: 34.215710

Longitude: -77.812663

Download Options

Deselect



## TOOLS



Overview

Layers

Base Flood Elevation: i 14 ft

[Show Annual Events](#) ▼

LIMWA Area: No

County: New Hanover

Political Area: Town Of Wrightsville Beach

CID: 375361

Panel: 3157 ↓

Map Number: 3720315700K

Panel Effective Date: 8/28/2018

Latitude: 34.215710

Longitude: -77.812663

Flood Risk Information +

FIS Tables & Reports +

Engineering Models & Reports +

LOMR +

Cross Section +

Geodetic Monuments +

CBRS Area +

Hydraulic Structures +

Download Options

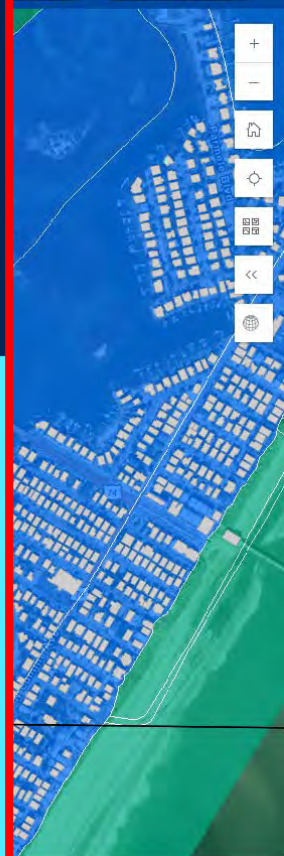
Deselect

Download

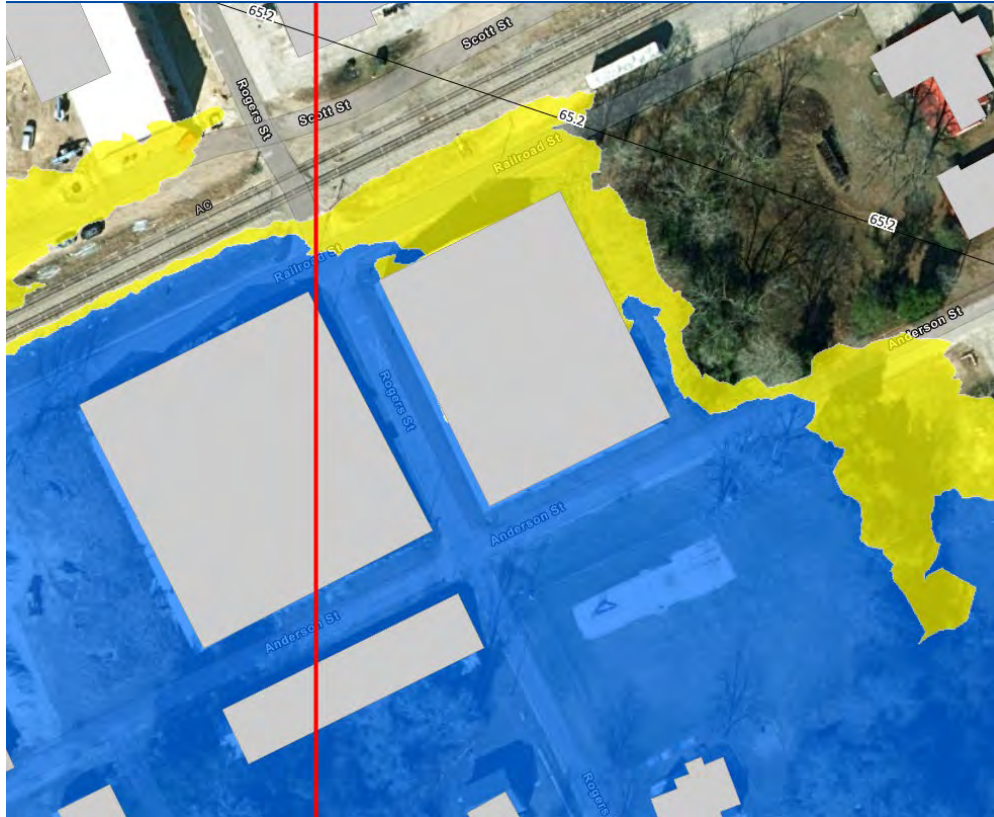
Help

Map

Draw & Export







## Structures that cross 2 different flood zones...

- You must click in both zones to get that zones information under the Overview tab.
- The most restrictive flood zone applies to the structure.

**Always contact your local jurisdictions to learn about their development requirements!!!**








# TOOLS



Overview

Overview

Layers

-  1% Future Conditions Contained In Channel: Community Encroachment Area
-  Zone X: Protected By Levee
-  Zone D
-  Open Water
-  Zone X
-  Stream Centerlines
-  Limit of Study

☐ Geodetic Monuments

☒ Levee Seclusion Area

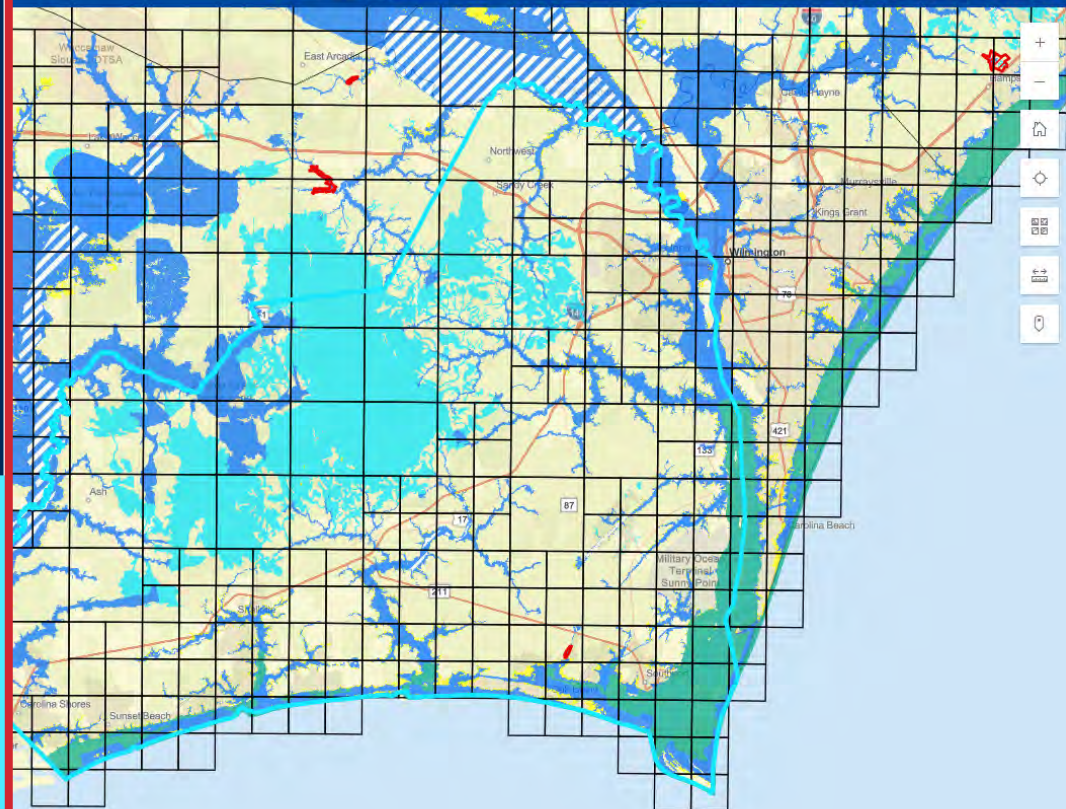


☒ Letter of Map Revision (LOMR)



Riverine

Coastal





Overview Layers

## Map Selection

### Flood Information

Supply, North Carolina, 28462

This panel's status is Effective.

Flood Zone: **A**

Map marker is inside of the special flood hazard area.

Flood Source: Np  
Base Flood Elevation: n/a

Show Annual Events ▾

LIMWA Area: No  
County: Brunswick  
Political Area: Brunswick County  
CID: 370295  
Panel:



# FRIS symbology and what it means for development

- A = No Base Flood Elevations (BFE); usually 2-feet above highest adjacent grade
- AE = BFE; usually with a local adopted freeboard to top of finished floor
  - AE Non-encroachment Area (NEA) = No-Rise Analysis by Engineer \*
  - AE Floodway = No-Rise Analysis by Engineer \*

\* No-Rise Analyses - Required for **ALL** development including fill, grading, storage of materials, etc.



## TOOLS

### Overview

### Layers

Stream Centerlines

Limit of Study

☐ Geodetic Monuments

☒ Levee Seclusion Area



☒ Letter of Map Revision (LOMR)



Riverine

Coastal

☐ Coastal Transects

☐ Coastal Barrier Resources System (CBRS)

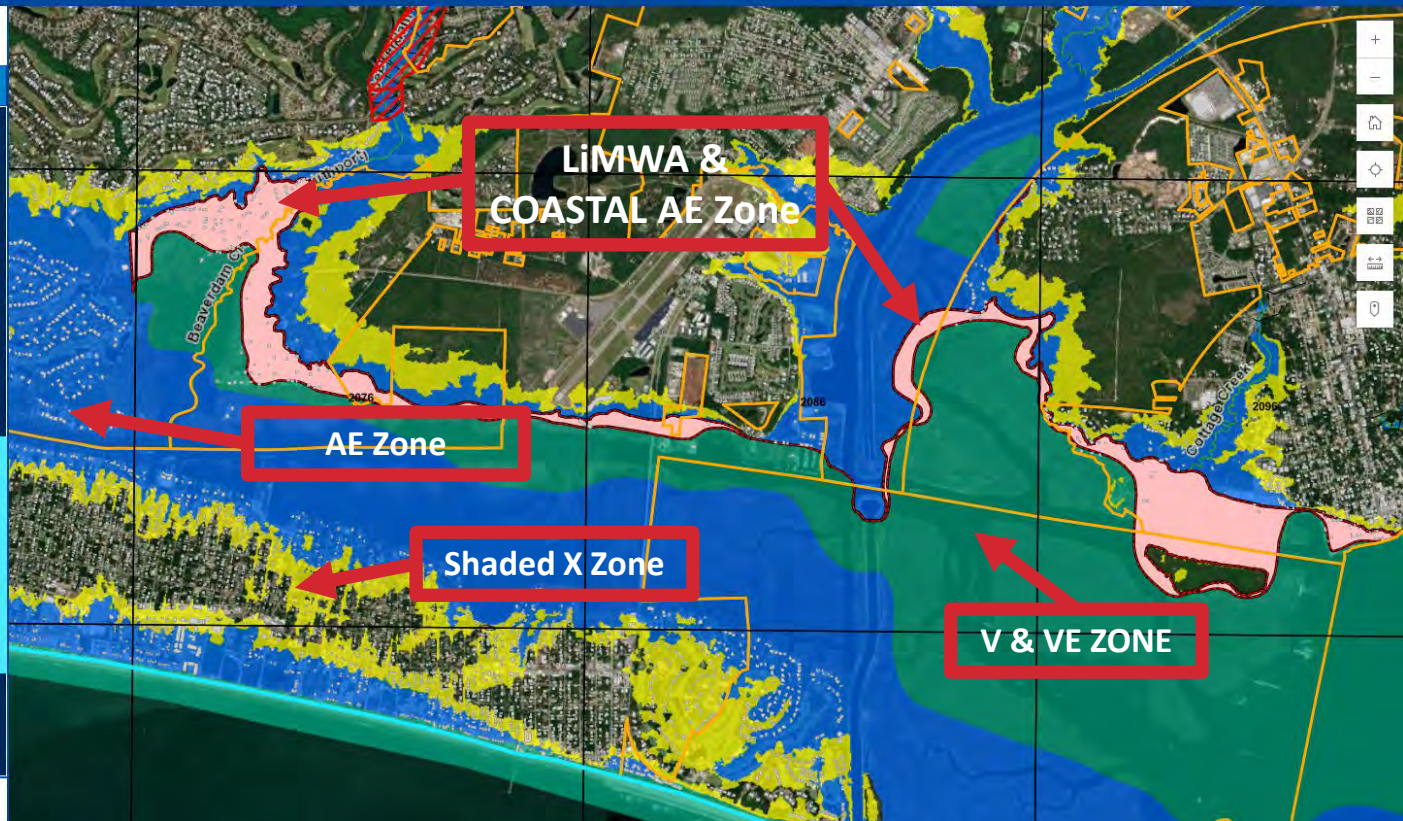
☒ Limit of Moderate Wave Action (LIMWA)

☒ LIMWA Polygon



☐ Primary Frontal Dune

Reset Default Layers



**Coastal AE = adhere to VE zone development standards \*\***

**VE = BFE; usually with local adopted freeboard to bottom of lowest horizontal structural member \*\***

**\*\*Coastal effects from wave action (Coastal AE 1.5'-3' wave heights; VE 3' plus wave heights)**



Tools

Map View:

Effective

Preliminary

## TOOLS

Overview

Layers

Regulatory Flood Map Layers

Flood Risk Datasets

Base Map Layers

Reset Default Layers

## TOOLS



Overview

Layers

### Flood Risk Datasets

#### Building Risk

☐ Building Footprints

☒ Building Footprints with Risk

☐ Building Footprints with Depth

☐ Damage Hotspots Riverine

☐ Damage Hotspots Coastal

#### Coastal Enhanced Risk Products

☐ 1-percent Plus 1, 2 and 3-ft

#### Water Surface Elevation Rasters

☐ 10 Percent Annual Chance

☐ 4 Percent Annual Chance

☐ 2 Percent Annual Chance

☐ 1 Percent Annual Chance

☐ 1 Percent Annual Chance Future Conditions

☐ 0.2 Percent Annual Chance

Home

Map

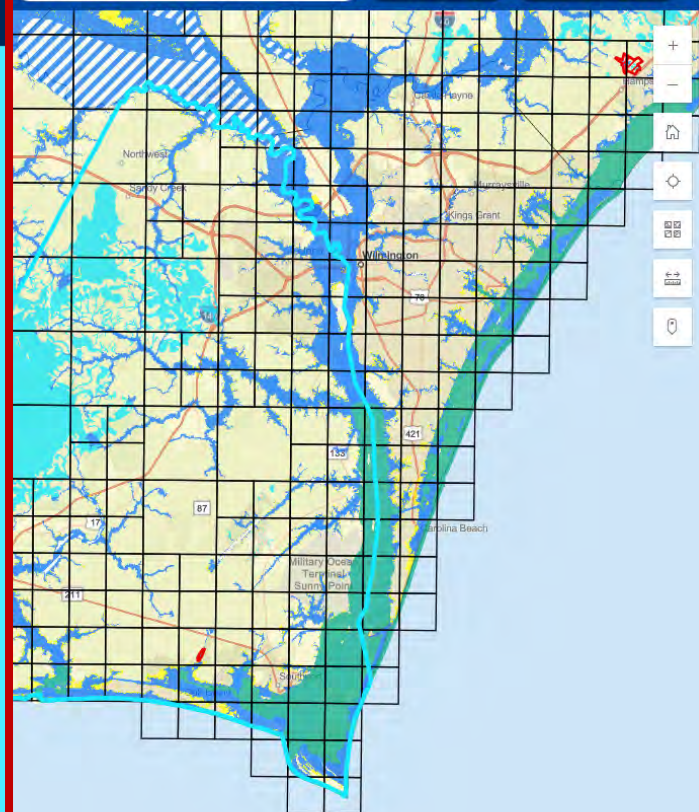
Download

Help

Search Brunswick County, North Carolina

Create Map

Draw & Export



Tools

Map View:

Effective

Preliminary

## TOOLS

Overview

Layers

Regulatory Flood Map Layers

Flood Risk Datasets

Base Map Layers

Reset Default Layers

## TOOLS

Overview

Layers

Regulatory Flood Map Layers

Flood Risk Datasets

Base Map Layers

☐ Political Areas

☐ Parcels

☒ County Boundaries

Reset Default Layers

Home

Map

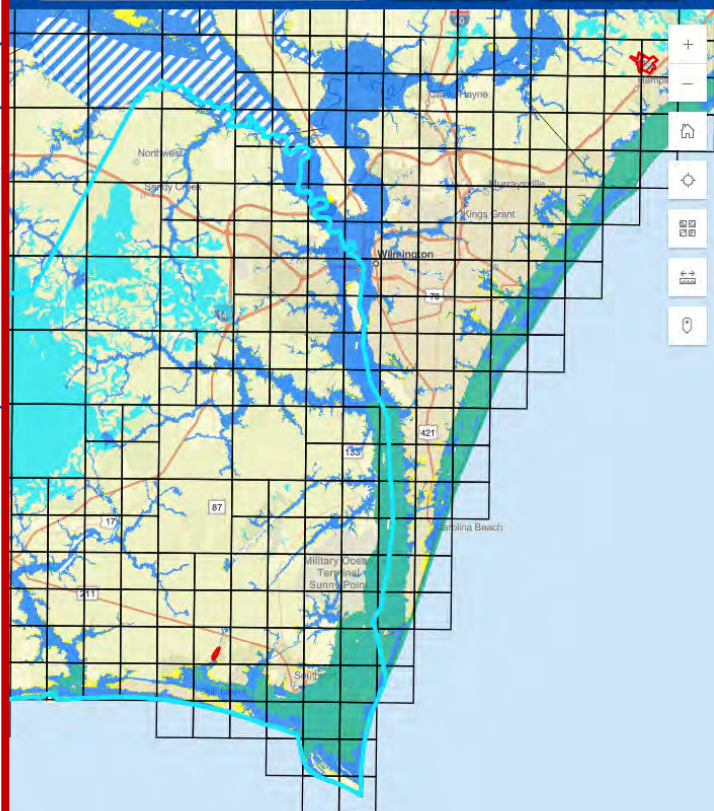
Download

Help

Search Brunswick County, North Carolina

Create Map

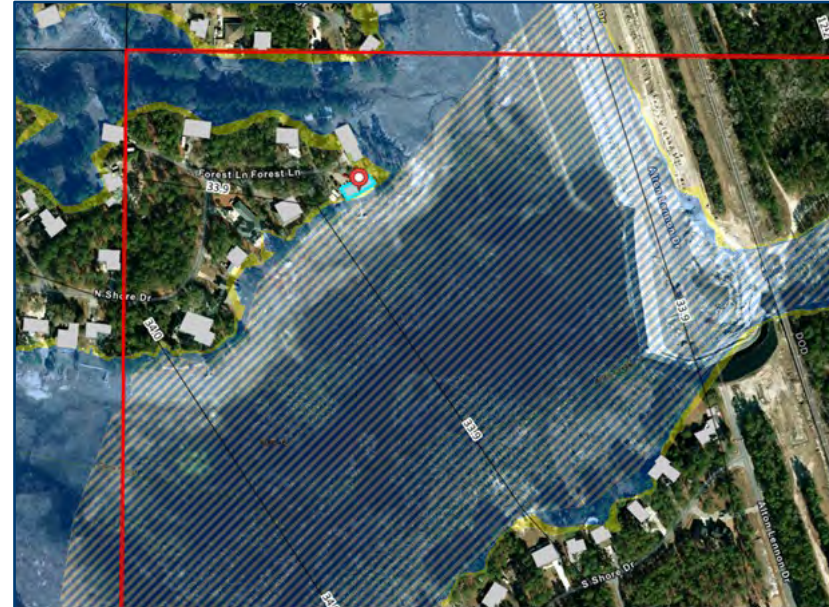
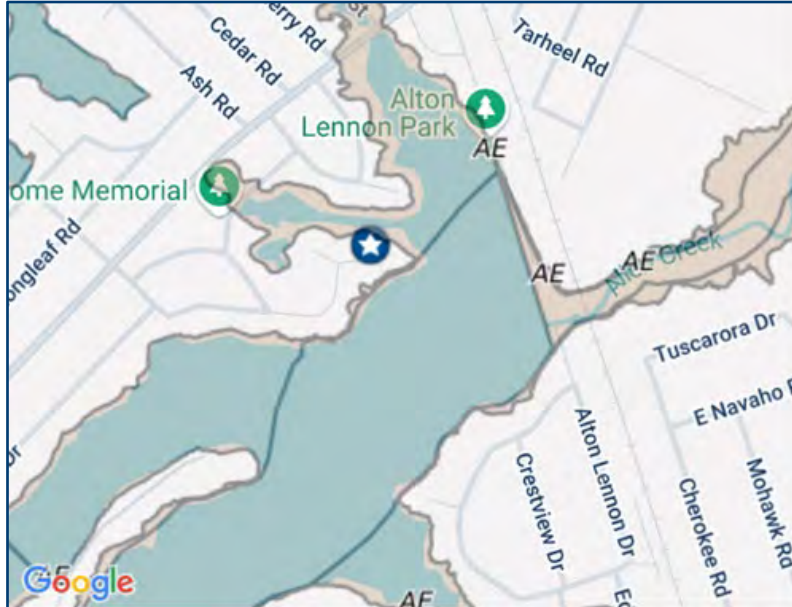
Draw & Export







# MLS Detail Vs. NC FRIS





Road Conditions

Power Outages

Shelters

Flood Gauges - FIMAN

Disaster Assistance

Re-entry Registration

## Get Prepared



### PLAN

Discuss with your family what to do before, during, and after an emergency. The more prepared you are, the better you will be.



### PREPARE

Make an emergency supplies kit before a disaster with basic items your family may need in or after an emergency. Be sure everyone knows where the kit is



### STAY INFORMED

Know the hazards where you live. Have a way to monitor severe weather and receive emergency alerts for your location.

Nuclear Emergencies

Hurricane Guide





# Flood.NC.gov

flood.NC.gov

[Go to FRIS site](#)

[Go to FIMAN site](#)

[Go to Flood Advisory site](#)

[Go to NCCNMS site](#)

[Home](#) [Mapping Program](#) [Find a Document](#) [Events](#) [Floodplain Management](#) [LOMC](#) [Mitigation](#) [Flood Warning](#) [Industries](#) ▾

[PRELIMINARY FLOOD STUDY INFORMATION](#) - [more info](#)

[DR-4827-HELENE FLOODPLAIN MANAGEMENT RESOURCES](#) - [more info](#)

Property Risk  
ESTIMATOR



Calculate Risk Level



Events & Training

[See More >](#)

## Real Estate Agents

For Real Estate Agents Working with Buyers and Sellers in North Carolina

[More Answers from the Quick Guide](#)

[See All >](#)

### Important Links:

[Flood Risk Information System \(FRIS\)](#)

[Residential Property and Owners' Association Disclosure  
\(Form REC 4.22\)](#)



## Frequently Asked Questions

- 1 How do I determine if the structure is in the SFHA?  
Check the Flood Risk Information System Website: [FRIS](#)
- 1 Will an elevation certificate be required?  
A Post-FIRM structure should have an elevation certificate completed at the time of construction. An EC is required for rating the flood insurance policy.
- 1 Do Pre-FIRM structures require an elevation certificate?  
No, but it is strongly encouraged. Pre-FIRM subsidized rates are increasing up to 18% per year (25% in some cases), and an elevation certificate will help an owner decide when to convert to an actuarially-rated policy instead of a subsidized policy. Some owners may save money by converting to an actuarial policy now.
- 1 How do I know if the property has been removed from the SFHA?





[Menu](#)☐ Weather Radar

Showing 628 Gauges



## FIMAN TOOLS

[Overview](#)[Layers](#)[Legend](#)

### Find Gauges

[By Area of Interest](#)[By Location](#)[Go](#)[Clear](#)

### Gauge Overview

[Current](#)[Forecasted](#)

↑ Rising: 0  
● Constant: 0  
↓ Falling: 0



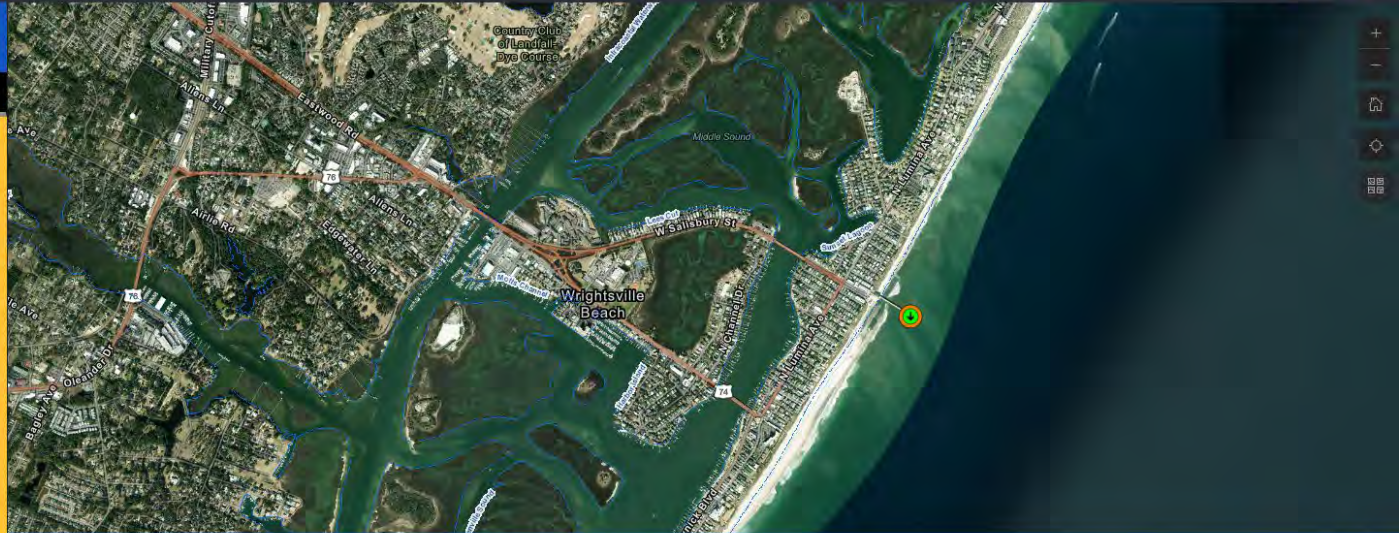
↑ Rising: 0  
● Constant: 0  
↓ Falling: 0



↑ Rising: 0  
● Constant: 0  
↓ Falling: 0



↑ Rising: 2  
● Constant: 0  
↓ Falling: 2



### Wrightsville Beach - Johnny Mercer Pier - SITE ID: 8658163

[Current](#)[Scenario](#)[Forecast](#)[Photos](#)[Subscribe](#)[Get Report](#)

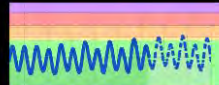
#### General Info

Site ID: 8658163  
Last updated: Jul 22 2025 8:24AM  
Gauge datum: -2.7 ft NAVD 88  
Owner: NOAA

#### Stream Elevation

Water Elevation: 0.1 ft  
NAVD 88

#### Trend: Falling



#### TWL Forecast

Peak Elevation: 3.5 ft  
07/23/2025 7:00 PM

#### Buildings Impacted

No Buildings Impacted





For Insurance Agents

Search FloodSmart



Know Your Risk ▾

Get Insured ▾

Prepare for a Flood ▾

Recover from a Flood ▾

Flood Zones and Maps ▾

Get a Quote

### Texas Flooding

Please take action to protect yourself during the Texas flooding. Information on how to stay safe can be found on this [resource](#) page. If you are a flood insurance policyholder, visit [Recovering After a Flood](#) for more.

\$ Get a Quote

### Tropical Storm Chantal

While Tropical Storm Chantal is passing through, remember to stay inside and follow local officials' instructions. If you are a policyholder and have been affected by the storm, learn how to [Start Your Flood Insurance Claim](#).

## Flooding Happens Everywhere

Don't wait until it happens to you.

Almost anyone can protect their property with flood insurance.

Get started today.

Get a Quote

Start a Claim

# FloodSmart.gov

Chat with an Agent





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

NATIONAL FLOOD INSURANCE PROGRAM

## QUESTIONS & ANSWERS

# FLOOD INSURANCE FOR REAL ESTATE PROFESSIONALS



## Emergency Financial First Aid Kit (EFFAK)

Strengthen Your Financial Preparedness  
for Disasters and Emergencies

*September 2019*

FEMA P-1075





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY



[About Ready](#) | [Contact Us](#)



[Disasters and Emergencies](#) ▾

[Make a Plan](#) ▾

[Ready Business](#) ▾

[Ready Kids](#)

[Resources](#) ▾

## Prepare for Flooding

Floods are the most common disaster in the United States. Learn how to prepare.

[Get Flood Tips](#)



### Flooding

If you approach a flooded road or walkway, follow this rule: turn around, don't drown!

[Prepare for Flooding Now](#)



### Thunderstorms & Lightning

Lightning is a leading cause of injury and death from weather-related hazards.

[Get Thunder and Lightning Tips](#)

<https://www.ready.gov/>

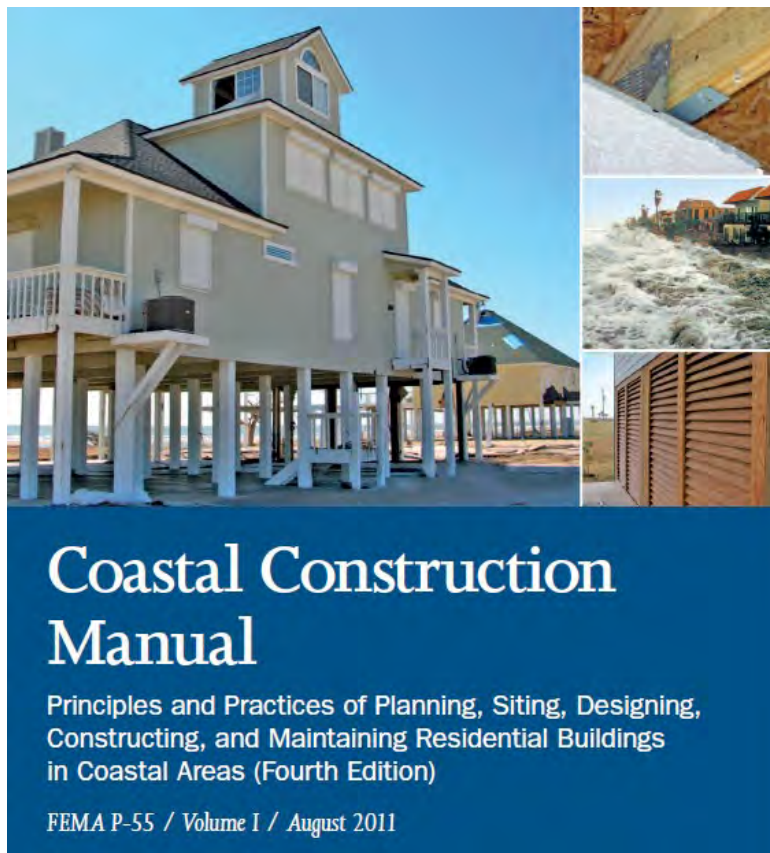






Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Development Standards



# Mitigation Measures





# Regulatory Flood Protection Elevation (RFPE)

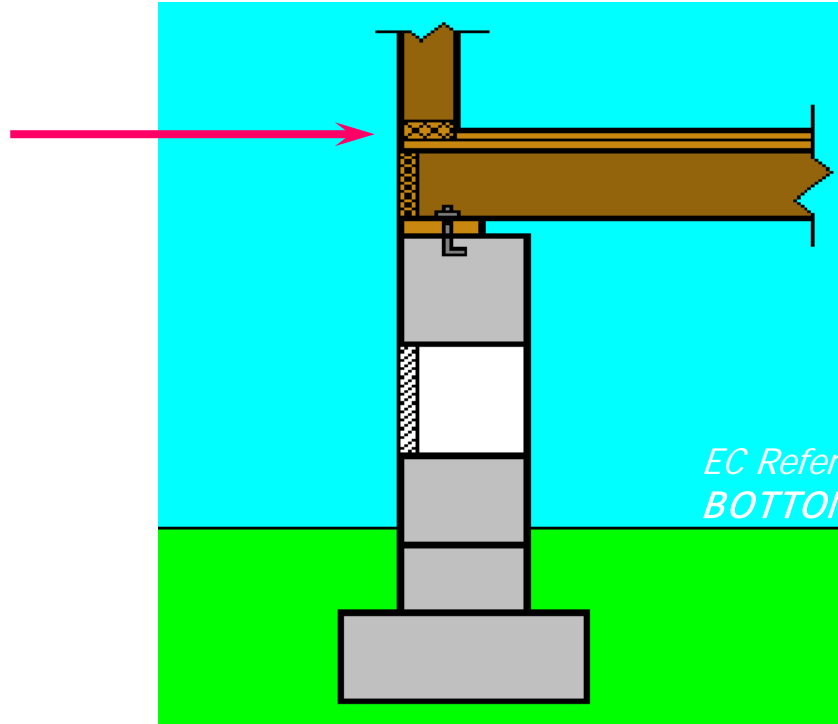
- Base Flood Elevation PLUS Freeboard (BFE + Freeboard)
- Freeboard – the elevation required by a local jurisdiction above the base flood elevation
- Higher standard adopted by the local jurisdiction
  - Higher level of protection for structures
  - Community Rating System (CRS) Points = increased flood insurance discounts (in the SFHA and out)

**Example: BFE of 9' + 2' local freeboard =  
RFPE of 11'**



## Lowest Floor in ZONE A, AE, AH, & AO

The lowest floor is measured at the top of the sub-floor, slab or grade for regulatory & flood insurance purposes







Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY



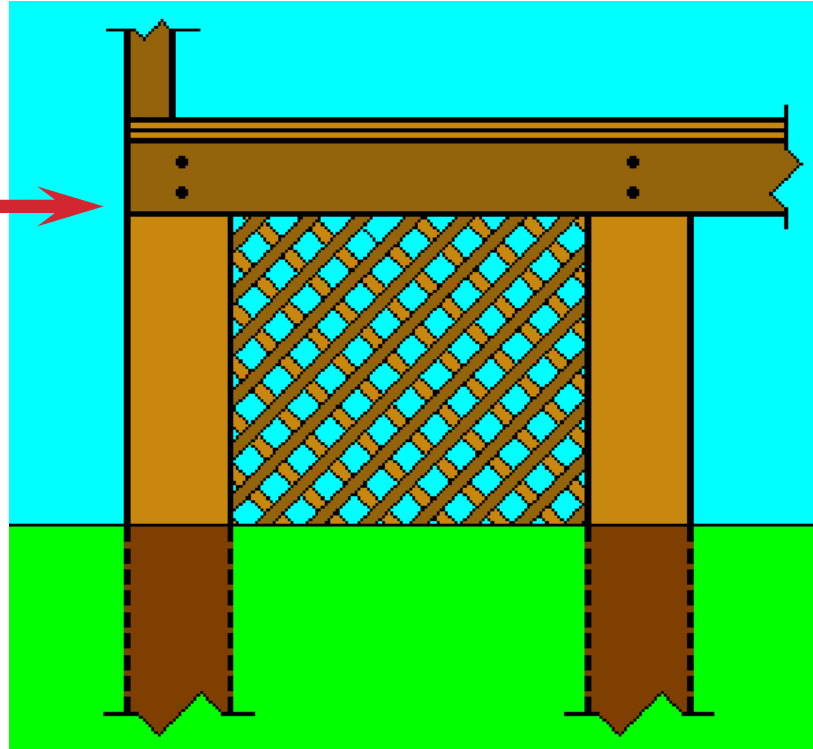
**A-Zones: 1<sup>st</sup> finished  
floor elevation**



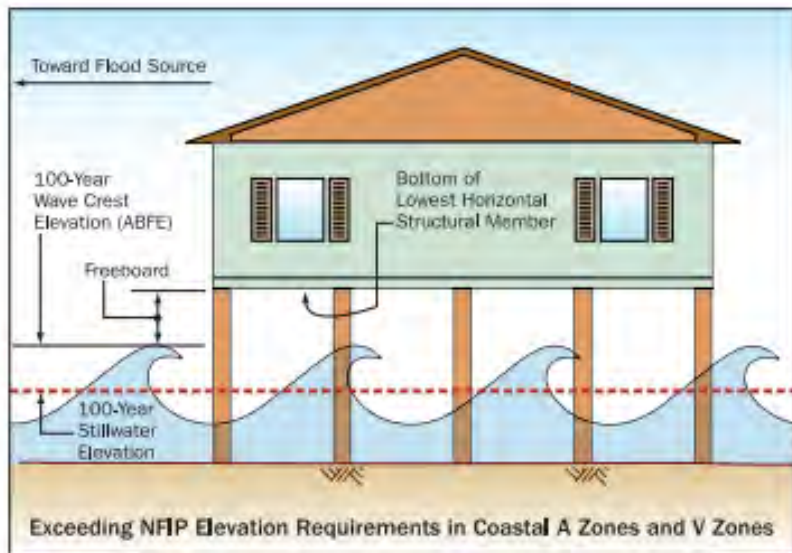


## Lowest Floor in ZONE V, VE & Coastal AE

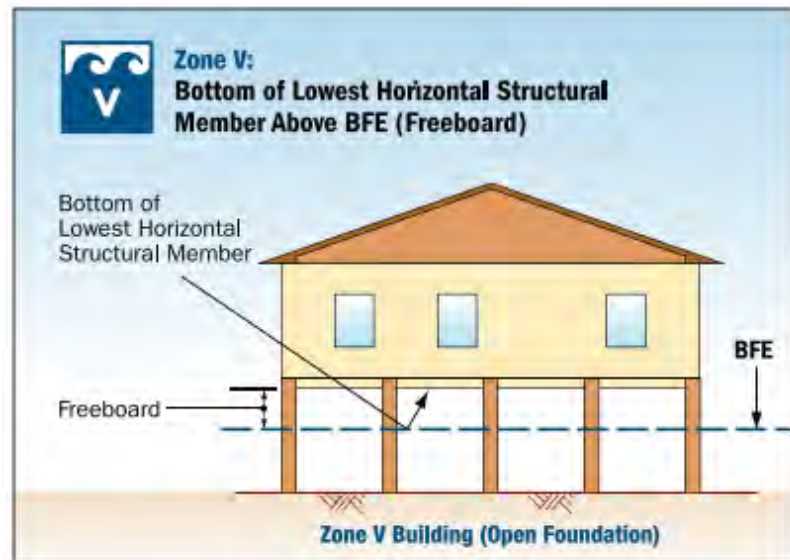
Bottom of the  
lowest horizontal  
structural  
member  
supporting the  
lowest floor







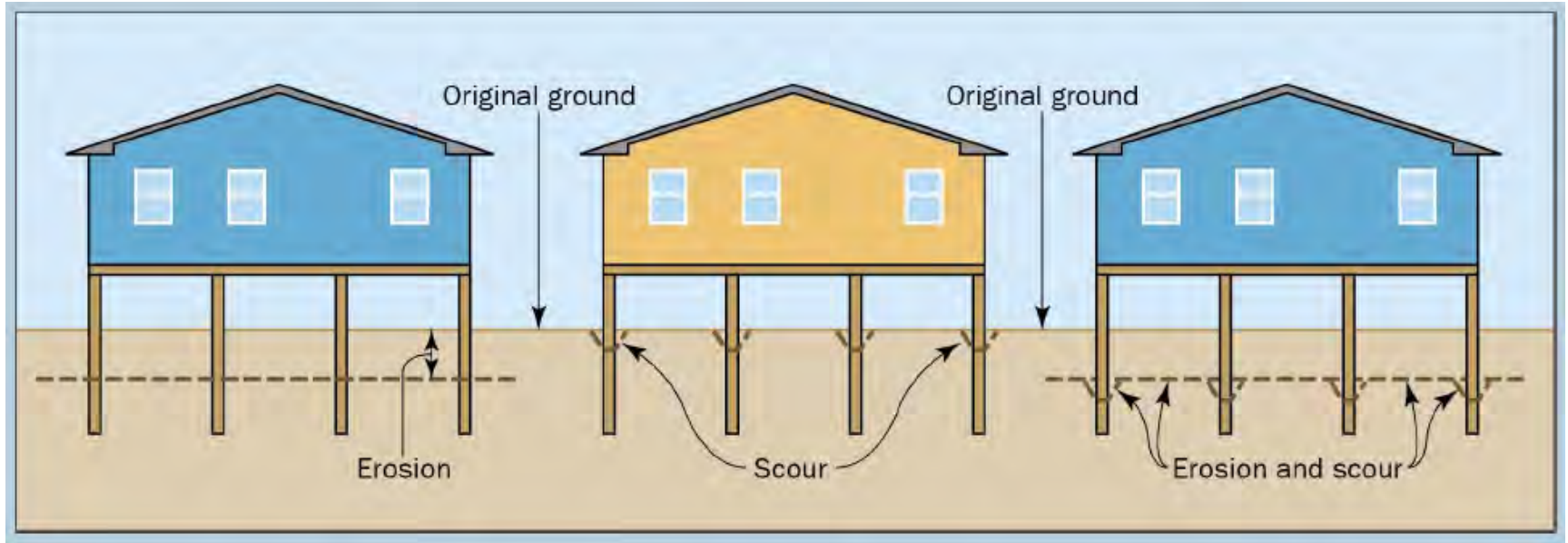
**Figure 7. Recommended construction in Coastal A zones and V zones.**







Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY



## Scour and Erosion





**Figure 1: Three neighboring buildings with varying degrees of elevation and damage on Fort Myers Beach, Florida, after Hurricane Ian. The right-most building has the lowest elevation of the three and the most damage to the lower levels, whereas the middle building has the highest elevation and minimal damage to the lower levels.**



**Bonita Springs, FL  
Hurricane Ian**





## Designing for Flood Levels Above the Minimum Required Elevation After Hurricane Ian

Recovery Advisory 1

July 2023



FEMA

DR-4673-FL RA 1

# BUT WAIT.....

Where do the regulations and guidance come from?

- Research following past events
- Field investigations post event
- Collaboration among engineers, researchers, home builders, Institute for Business and Home Safety, International Code Council, National Association of Home Builders, US Dept. of Housing and Urban Development, local community officials, etc.

# Protecting Existing Structures

## Purchase Flood Insurance Lower Your Flood Risk

- ✓ Elevate utilities (include duct work)
- ✓ Install flood openings
- ✓ Elevate building
- ✓ Flood proof (non-residential only)
- ✓ Relocate





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Flood Openings

**Permanent Opening** in a Wall that Allows the Free Passage of Water in Both Directions, **AUTOMATICALLY**, without Human Intervention.

A Window, a Door, or a Garage Door is **NOT** Considered an Opening.

Vents **MAY** be installed into a door or garage door.



## Requirements for Flood Openings in Foundation Walls and Walls of Enclosures

Below Elevated Buildings in Special Flood Hazard Areas  
In Accordance with the National Flood Insurance Program

NFIP Technical Bulletin 1 / March 2020



FEMA



# Minimum Requirements for Foundation Openings

- Minimum of two openings on different sides of EACH enclosed area.
- The total net area of all openings must be at least one (1) square inch for each square foot of enclosed area.
- The bottom of all required openings shall be no higher than one foot above the adjacent grade at each opening.
- Openings may be equipped with screens, louvers, or other "automatic" coverings or devices, provided they permit the automatic flow of floodwaters in both directions.

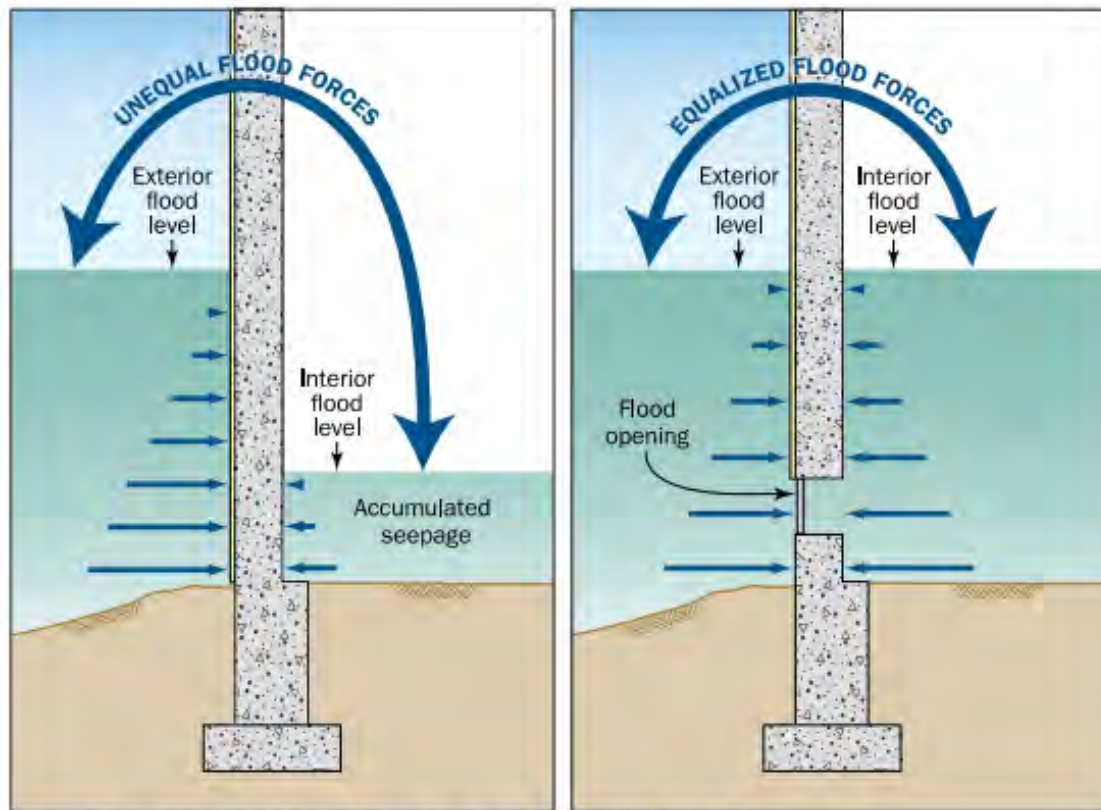


Figure 1: Equalizing flood forces (hydrostatic loads) on exterior walls





# Is the Standard Air Vent acceptable to be used as a flood opening or flood vent?





# Standard Air Vent



Figure 17: Standard air vent that is unacceptable as a flood opening because it is not disabled in the open position

- × Can be closed manually
- × Does not allow the automatic entry and exit of water
- = Not acceptable as a flood opening UNLESS disabled in the OPEN position



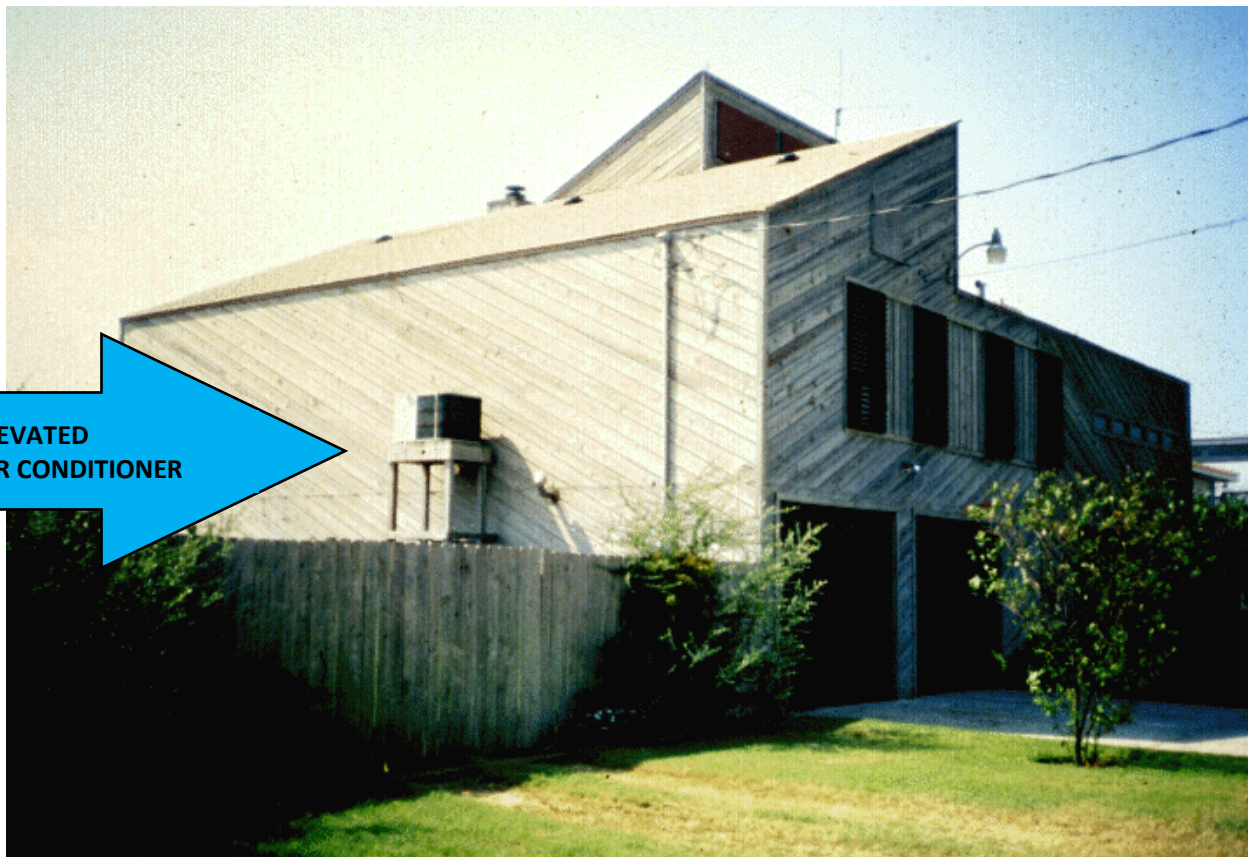
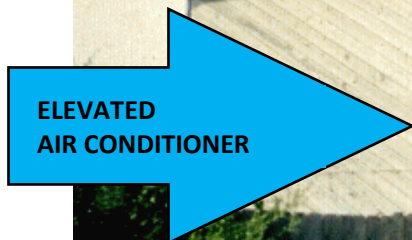
Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Flood Proofing (Non-residential Only)



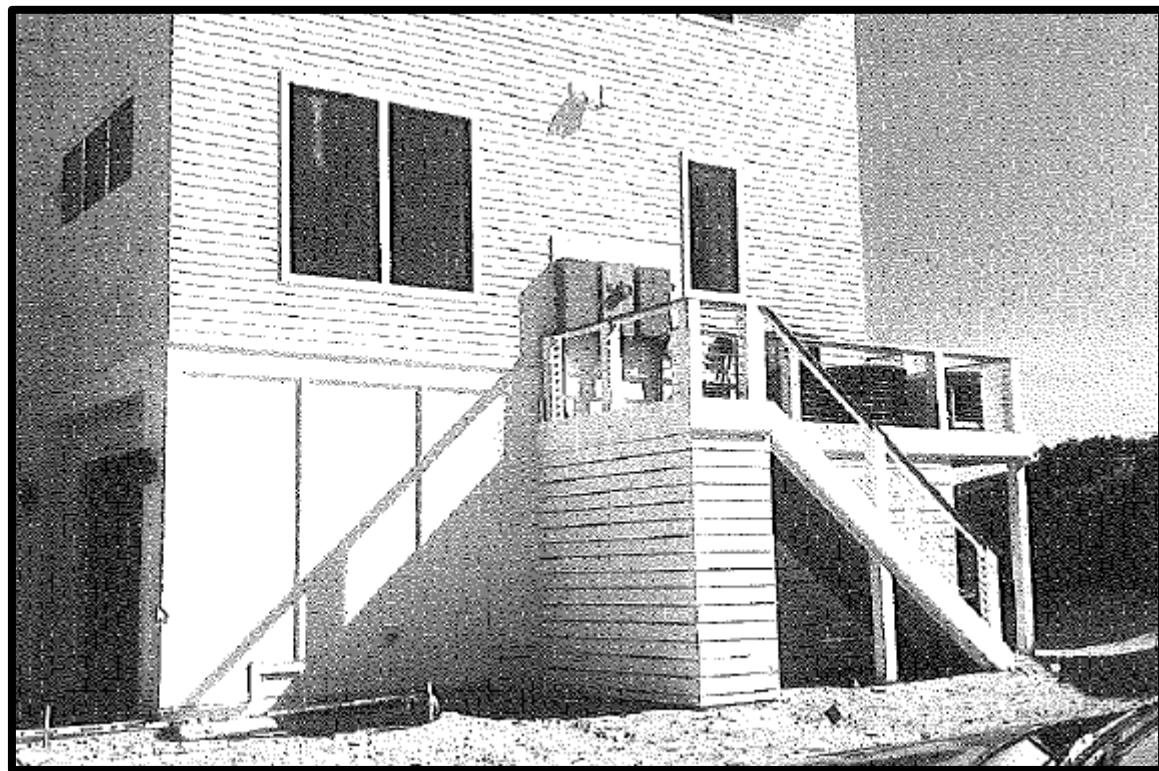


Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY





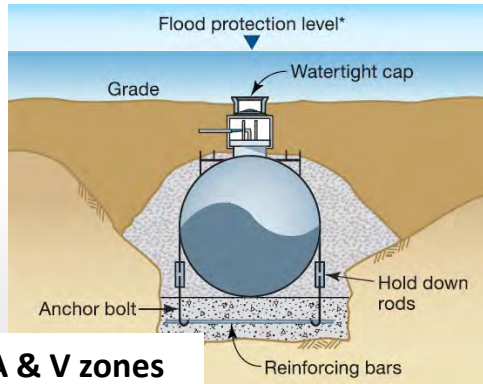
Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# Other Development

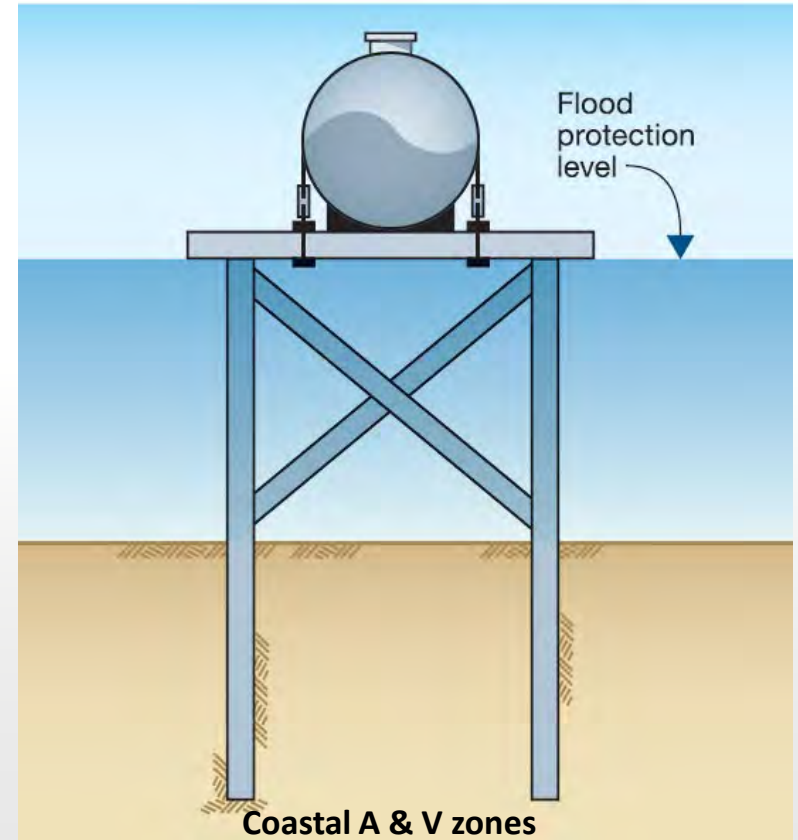
## Fuel Tanks



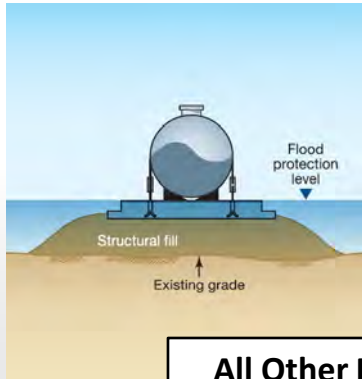




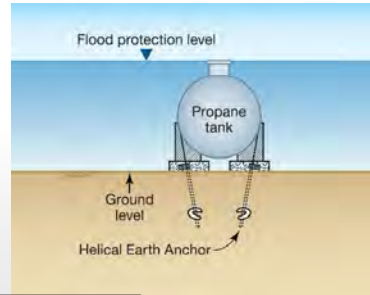
**Coastal A & V zones**



**Coastal A & V zones**



**All Other Flood Zones**





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

# NFIP Lapsed

*[What Happens If the National Flood Insurance Program \(NFIP\) Lapses? / Congress.gov / Library of Congress](#)*

**<https://www.congress.gov/crs-product/IN10835>**



# NC NFIP Contact Information

**Steve Garrett**  
**NC NFIP Coordinator**  
(919) 825-2316  
[Steve.Garrett@ncdps.gov](mailto:Steve.Garrett@ncdps.gov)

**Eryn Futral**  
**Eastern Branch NFIP Planner**  
(919) 819-1734  
[Eryn.futral@ncdps.gov](mailto:Eryn.futral@ncdps.gov)

**Milton Carpenter**  
**Community Development Planner**  
(919) 825-2302  
[Milton.carpenter@ncdps.gov](mailto:Milton.carpenter@ncdps.gov)

**Matthew Stillwagon**  
**Central Branch NFIP Planner**  
(919) 825-2289  
[Matthew.Stillwagon@ncdps.gov](mailto:Matthew.Stillwagon@ncdps.gov)

**Stacey Fuller, CFM**  
**Community Development Planner**  
(919) 825-2315  
[Stacey.fuller@ncdps.gov](mailto:Stacey.fuller@ncdps.gov)

**Terry Foxx**  
**Western Branch NFIP Planner**  
(828) 228-8526  
[Terry.foxx@ncdps.gov](mailto:Terry.foxx@ncdps.gov)

**Jintao Wen**  
**NFIP Engineer**  
(919) 825-2317  
[Jintao.Wen@ncdps.gov](mailto:Jintao.Wen@ncdps.gov)





Emergency Management  
NC DEPARTMENT OF PUBLIC SAFETY

**Questions?**  
**Thank You for having me!**

