

# NEUSE RIVER BASIN FLOOD RISK MANAGEMENT FEASIBILITY STUDY

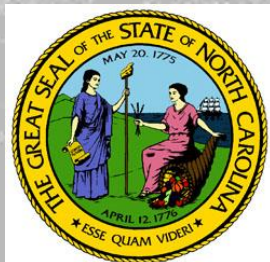
## PUBLIC INFORMATION MEETING

*Draft Integrated Feasibility Report and  
Environmental Assessment*

May 10, 2022



US Army Corps  
of Engineers®





# NEUSE RIVER BASIN PUBLIC INFORMATION MEETING

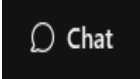


- 6pm Welcome/Questions and Comments Process
- 610pm Tonight's Presentation
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and Comments
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# HOW CAN YOU CONTRIBUTE?



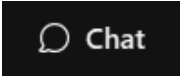


- *Welcome to the Neuse River Basin Flood Risk Management Feasibility Study Public Information Meeting*
- **During this meeting**, submit your questions via the  Chat function in WEBEX or verbally after the presentation
- **After the conclusion of this meeting**, questions and comments should be submitted by **Email** to: [nrbfrm@usace.army.mil](mailto:nrbfrm@usace.army.mil)
- **By mail:**
  - U.S. Army Corps of Engineers, Wilmington District
  - c/o: Neuse River Basin FRM Study, ATTN: CESAW-PM-DJ
  - 69 Darlington Ave
  - Wilmington, N.C. 28403
- All written comments requested no later than **May 26, 2022**





# QUESTIONS AND COMMENTS PROCESS



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# AGENDA

- Why are we here tonight?
- Where and what did we investigate?
- How did we conduct the study?
- Which structural and nonstructural flood risk reduction measures were evaluated?
- What is the draft Recommended Plan?
- What is the current study schedule?
- What are your questions and comments?







# WHY ARE WE HERE TONIGHT?



witn.com



abc7.com



Glenwood Avenue Closure Near Crabtree Valley Mall



Photograph by Alex Wroblewski / Bloomberg / Getty



newsobserver.com



files.nc.gov





# WHERE DID WE INVESTIGATE?

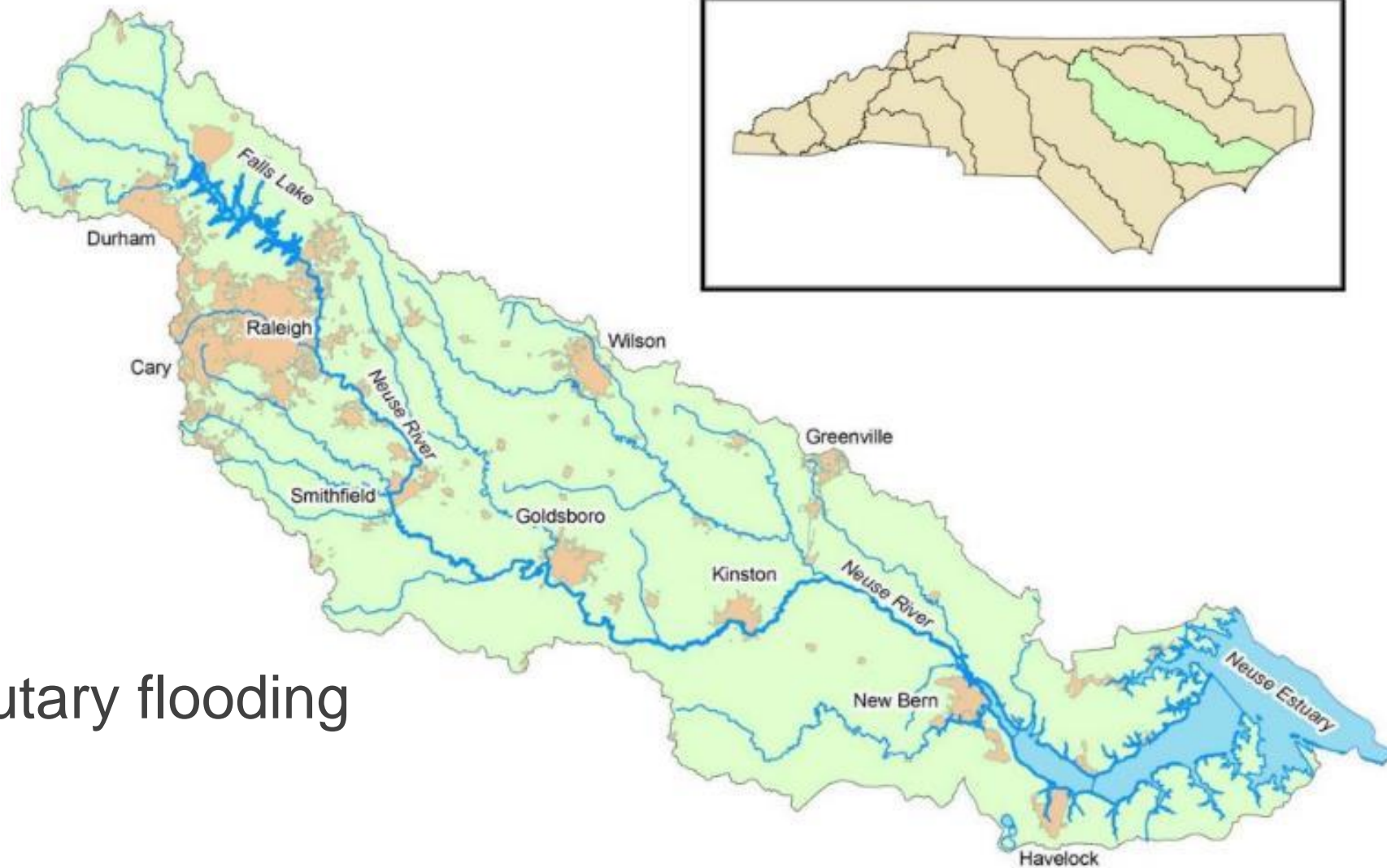


## Neuse River Basin

- Population >1.4 million
- 18 counties >8 population centers

## Flood Risks

- Riverine and tributary flooding





# WHAT DID WE INVESTIGATE?



1. Economic damages:
  - Residential and commercial structures
  - Impacts to industry and commerce
  - Public infrastructure
  
2. Life safety risks:
  - Inundation of structures
  - Impacts to critical infrastructure







# HOW DID WE CONDUCT THE STUDY?



## Planning Process

Identify  
problems &  
opportunities

- Charrette
- Information gathering meetings (2020)
- Public information meetings (March-April 2021)

Inventory &  
forecast  
conditions

- Hydrologic & hydraulic models
- Economic models
- Environmental conditions
- Current & future conditions

Develop  
alternative  
plans

- Identify & screen management measures
- Combine into basin-wide alternatives

Evaluate &  
compare  
alternatives

- Economic impact
- Life safety
- Environmental quality
- Draft Recommended Plan



# WHICH STRUCTURAL/NONSTRUCTURAL MEASURES WERE EVALUATED?



## Structural Measures:



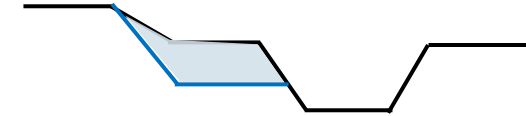
Detention



Floodwall



Levee



Channel Widening

## Nonstructural Measures:



Acquisition



Elevation



Floodproofing



Flood Warning

## Natural/Nature-Based Measures:

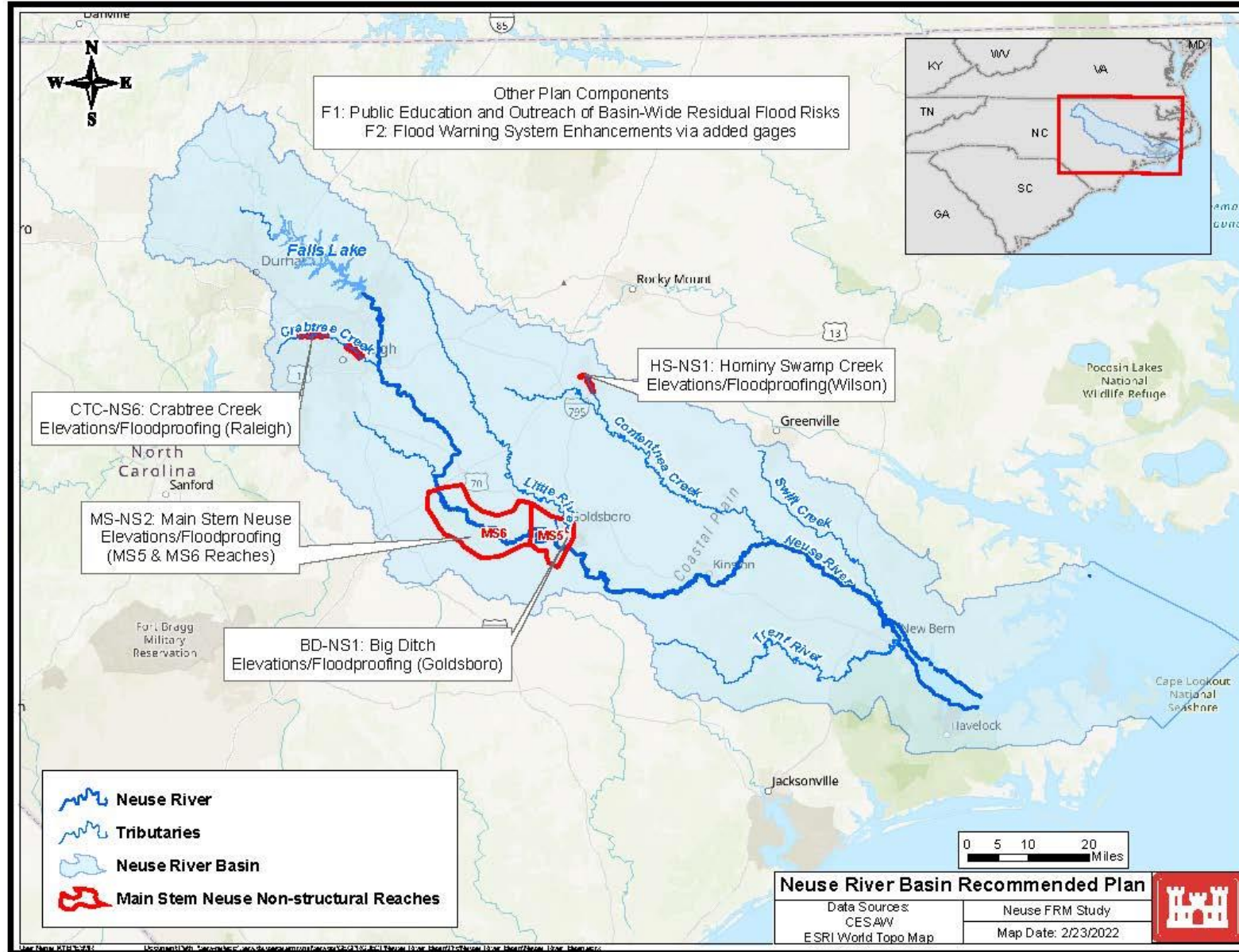
- Green infrastructure/floodplain restoration
- Dispersed water storage
- Overbank detention
- Dam removal (Lassiter Mill)



Dispersed Water Storage



# DRAFT RECOMMENDED PLAN







# NATIONAL ECONOMIC DEVELOPMENT BENEFITS



Neuse River Basin (Basinwide)						
	Final Array of Alternatives	Net Benefits (Average Annual Benefits less Average Annual Costs)	Total Project Cost (Millions)	BCR @ 2.25%	Screening	Reason
1	No Action				Retain	
2	Draft Recommended Plan - Structure Elevation/Floodproofing Plan	<b>\$2,791,000</b>	\$133.0	1.6	Retain	Maximizes Net Benefits
3	Property Buyout Plan	\$2,155,000	\$45.9	2.4	Retain	



# COMPREHENSIVE BENEFITS ANALYSES



Neuse River Basin (Basinwide)					
	Final Array of Alternatives	Net Benefits (Average Annual Benefits less Average Annual Costs)	Regional Economic Development	Environmental Quality	Other Social Effects
1	No Action				
2	Draft Recommended Plan - Structure Elevation/Floodproofing Plan	X – Greatest net benefit	X – Enhances jobs and labor income		X – Enhances community cohesion
3	Property Buyout Plan			X – Offers return of vegetative buffers	



# DRAFT RECOMMENDED PLAN



## Alternative 2: Nonstructural – Structure Elevation and Floodproofing

**Total Project  
Cost: \$133M**

**Benefit to  
Cost Ratio: 1.6**

**Current  
Working  
Estimate:  
\$151M**

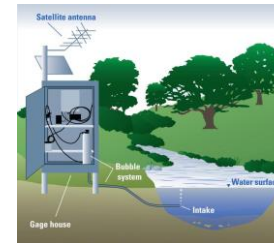
Location	Nonstructural				
	Total Estimated Number of Structures	Elevation of Structures (Estimated Number)	Floodproofing of Structures (Estimated Number)	Flood Warning System Enhancement	Public Outreach and Education of Residual Flood Risks
Hominy Swamp Creek, Wilson	20	14	6		
Crabtree Creek, Raleigh	59	38	21		
Big Ditch, Goldsboro	9	2	7		
Neuse River, Main Stem, Johnston and Wayne Counties	680	365	315		
Basin-Wide				X	X
<b>TOTAL # OF FEATURES</b>	<b>768</b>	<b>419</b>	<b>349</b>	<b>2 gages</b>	<b>NA</b>



Structure Elevation



Floodproofing



Flood Warning Enhancements



Education & Outreach





# ENVIRONMENTAL AND CULTURAL RESOURCES SUMMARY OF DRAFT RECOMMENDED PLAN



## **Environmental:**

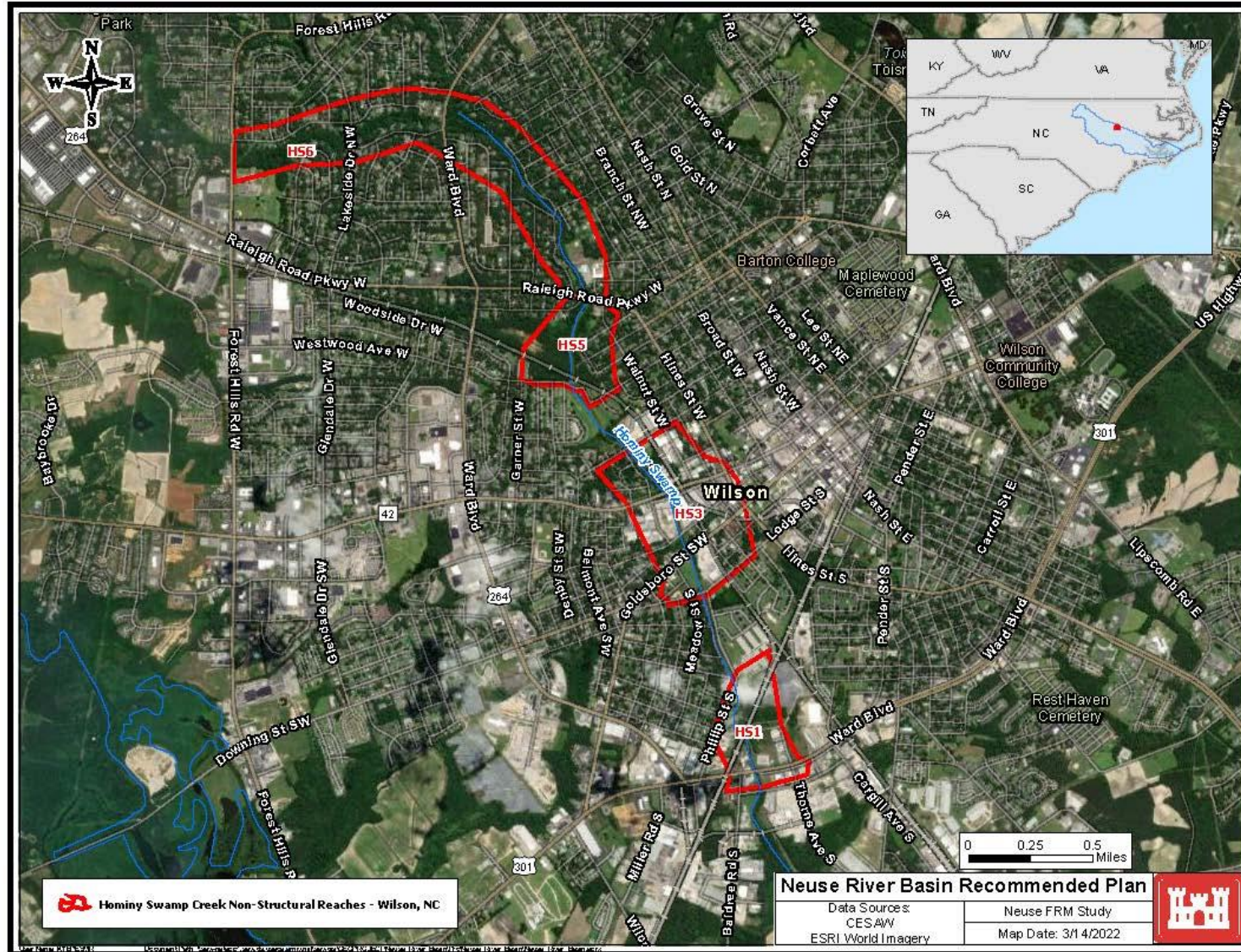
- Impacts expected to be minor, temporary and will occur in previously disturbed areas
- Implementation of the draft Recommended Plan will not result in environmental impacts requiring mitigation

## **Cultural:**

- Avoid impacts to historic properties where possible
- Corps of Engineers will abide by the Section 106 Programmatic Agreement



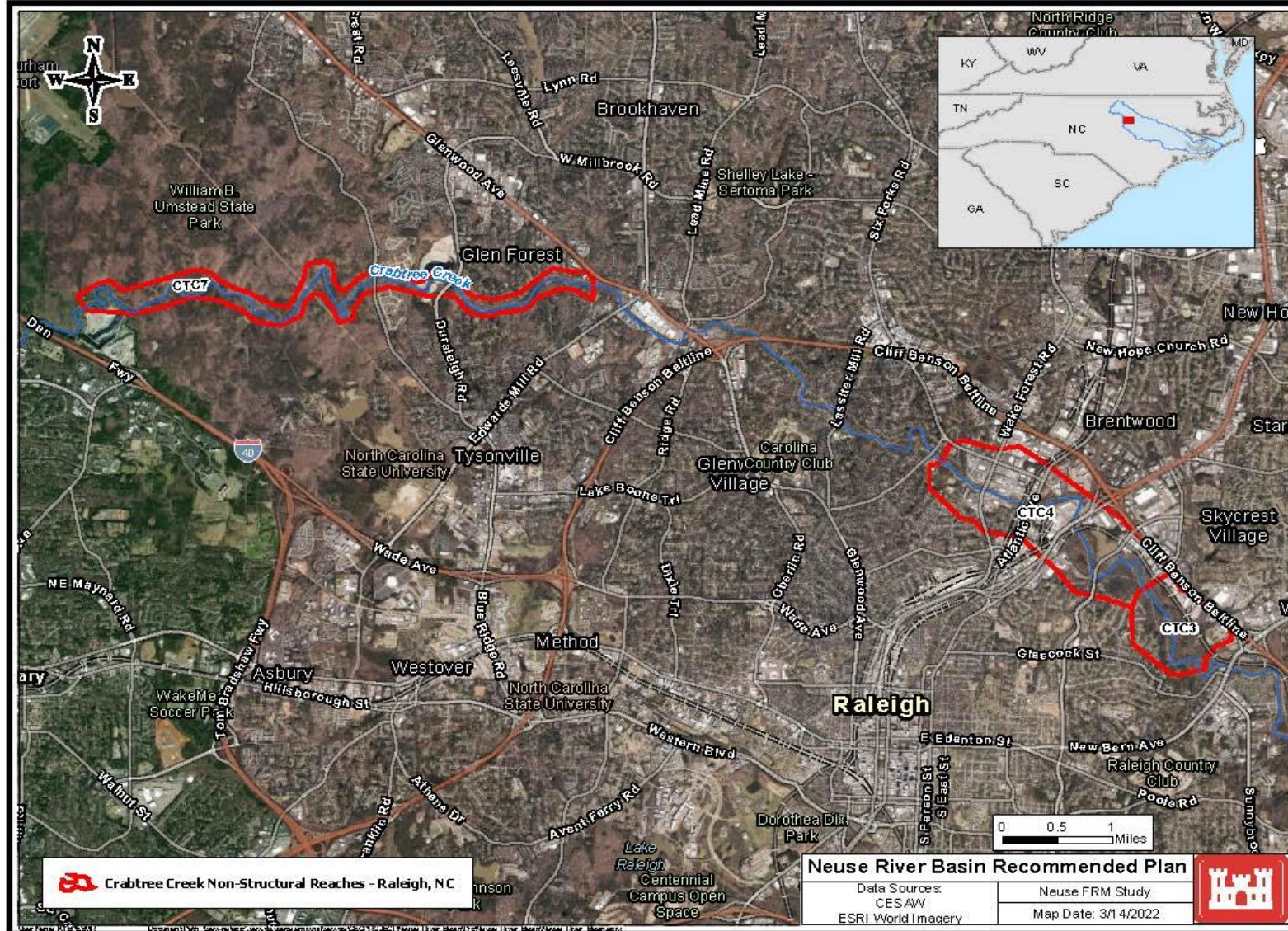
# DRAFT RECOMMENDED PLAN: HOMINY SWAMP CREEK AT WILSON, NC







# DRAFT RECOMMENDED PLAN: CRABTREE CREEK AT RALEIGH, NC



Crabtree Creek Non-Structural Reaches - Raleigh, NC

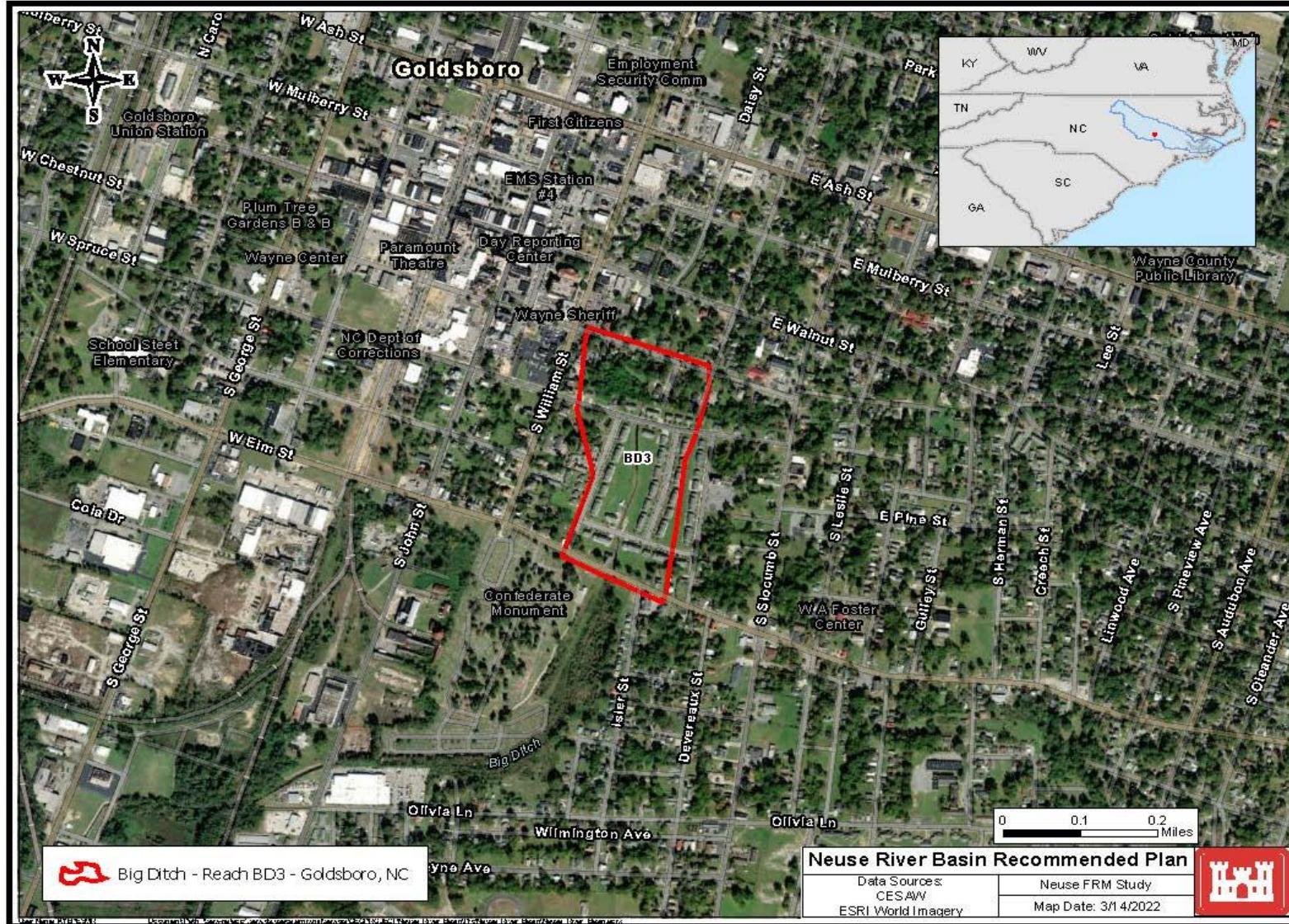
Neuse River Basin Recommended Plan







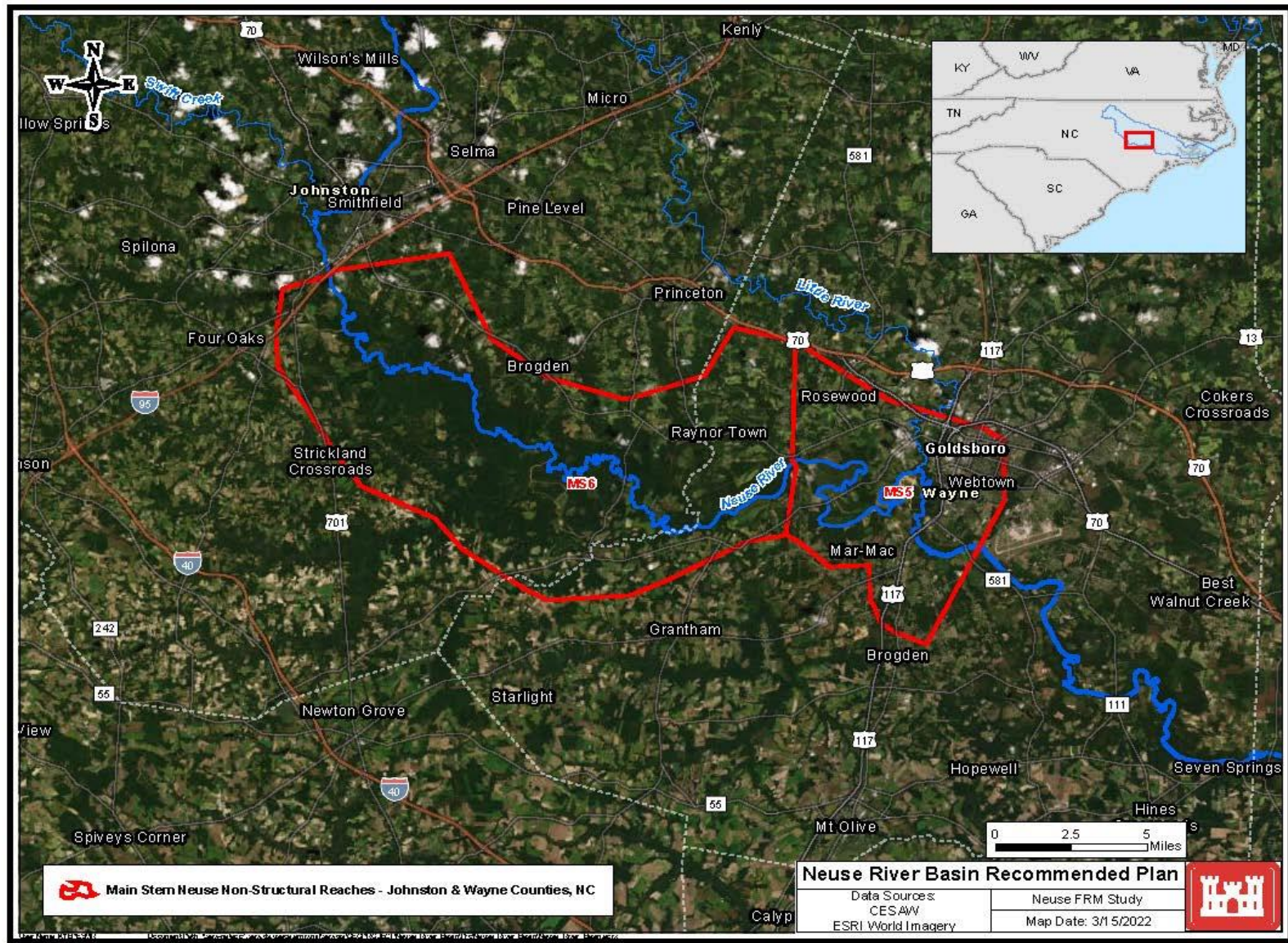
# DRAFT RECOMMENDED PLAN: BIG DITCH AT GOLDSBORO, NC







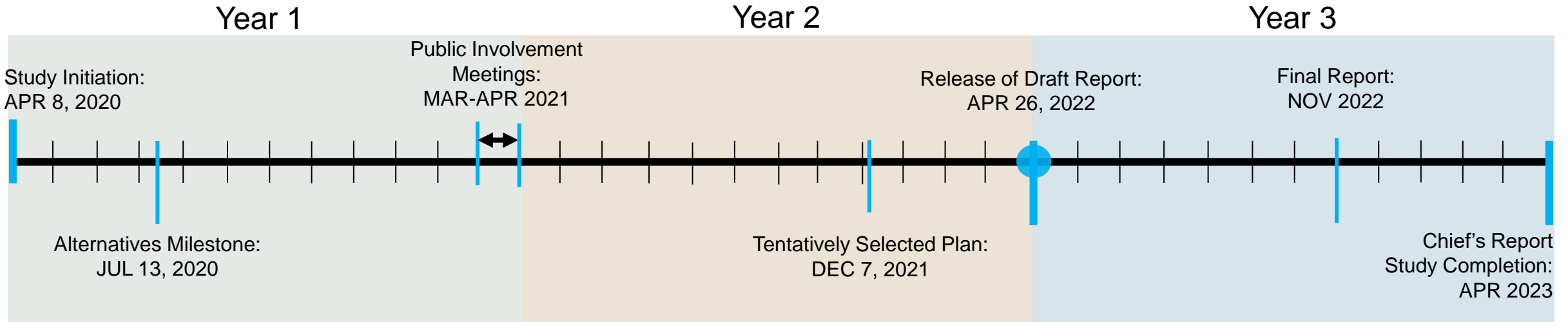
# DRAFT RECOMMENDED PLAN: NEUSE RIVER IN WAYNE AND JOHNSTON COUNTIES



Main Stem Neuse Non-Structural Reaches - Johnston & Wayne Counties, NC



# CURRENT SCHEDULE AND PLANNING PROCESS



**Washington-level review**





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