

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u>B-4544</u>
W.B.S. No.	<u>38406.1.2</u>
Federal Project No.	<u>BRZ-1722(7)</u>

A. Project Description:

The purpose of this project is to replace Harnett County Bridge Nos. 133 and 134 carrying SR 1722 (Three Bridge Road) over the Black River and Black River Overflow (see **Figures 1-4**). Bridge No. 133 is 54 feet long with three spans carrying one 10-foot travel lane in each direction and has a two-foot shoulder on each side. Bridge No. 134 is 54 feet long with three spans carrying one 10-foot travel lane in each direction with a two-foot shoulder on each side.

The replacement structures for Bridge Nos. 133 and 134 will be 33-foot wide, 33-inch deep box beam bridges with a clear roadway width of 30-feet 10-inches. The proposed length of Bridge No. 133 is 80 feet and will consist of one span. The proposed length of Bridge No. 134 is 90 feet and will have one span. The proposed typical section includes one 11-foot travel lane in each direction with a 4-foot, 5-inch shoulder on each side. The typical sections and preliminary roadway design are included in **Figures 5 and 6**. Traffic will be maintained by an off-site detour during construction (see **Figure 1**). The roadway will be designed with a 60 mph design speed. The roadway grade of the new structure will be approximately nine inches higher than the existing grade.

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 133 has a sufficiency rating of 26.7 (July 2014), and Bridge No. 134 has a sufficiency rating of 26.4 (June 2014) out of a possible 100 for a new structure.

Bridge No. 133 is considered structurally deficient due to the substructure condition appraisal of 3 out of 9 according to Federal Highway Administration (FHWA) standards.

Bridge No. 134 is considered structurally deficient due to the substructure condition appraisal of 3 out of 9 according to Federal Highway Administration (FHWA) standards.

Components of both the concrete superstructure and concrete and timber superstructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The bridges are approaching the end of their useful life. Replacement of the bridges will result in safer traffic operations.

Bridge Nos. 133 and 134 carry approximately 1,100 vehicles per day (2013). Bridge No. 133 has a posted weight limit of 21 tons (single vehicles) and 33 tons (trucks). Bridge No. 134 has a posted weight limit of 19 tons (single vehicles) and 28 tons (trucks).

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
  - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
  - b. Widening roadway and shoulders without adding through lanes
  - c. Modernizing gore treatments
  - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
  - e. Adding shoulder drains
  - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
  - g. Providing driveway pipes
  - h. Performing minor bridge widening (less than one through lane)
  - i. Slide Stabilization
  - j. Structural BMP's for water quality improvement
  
2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
  - a. Installing ramp metering devices
  - b. Installing lights
  - c. Adding or upgrading guardrail
  - d. Installing safety barriers including Jersey type barriers and pier protection
  - e. Installing or replacing impact attenuators
  - f. Upgrading medians including adding or upgrading median barriers
  - g. Improving intersections including relocation and/or realignment
  - h. Making minor roadway realignment
  - i. Channelizing traffic
  - j. Performing clear zone safety improvements including removing hazards and flattening slopes
  - k. Implementing traffic aid systems, signals, and motorist aid
  - l. Installing bridge safety hardware including bridge rail retrofit
  
3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
  - a. Rehabilitating, reconstructing, or replacing bridge approach slabs
  - b. Rehabilitating or replacing bridge decks
  - c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
  - d. Replacing a bridge (structure and/or fill)

4. Transportation corridor fringe parking facilities.
5. Construction of new truck weigh stations or rest areas.
6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7. Approvals for changes in access control.
8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.
13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

The estimated costs, based on the current federally approved STIP, are as follows:

Construction Cost	\$1,600,000
Right-of-Way Acquisition	\$160,000
Utilities	\$12,000
<b>Total Cost</b>	<b>\$1,772,000</b>

**Estimated Traffic:**

Current (2013)	-	1,100 vpd
Design Year (2035)	-	1,700 vpd
TTST	-	1%
Dual	-	5%

**Accidents:** Traffic Engineering has evaluated a recent ten year period (2002-2012) and found four accidents occurring in the vicinity of the project. None were associated with the geometry of the bridge or its approach roadways.

**Design Exceptions:** There are no anticipated design exceptions for this project.

**Pedestrian and Bicycle Accommodations:** This portion of SR 1722 (Three Bridge Road) is not located on a designated bicycle route, nor is there an indication of significant bicycle or pedestrian use. The NCDOT Bicycle and Pedestrian Division does not recommend special considerations for this project.

**Bridge Demolition:** Bridges No. 133 and 134 are constructed entirely of timber, concrete, and steel. Based on standard demolition practices, bridge removal is not expected to leave debris in the water.

**Utilities:** Utility impacts are considered medium. A water line and overhead utilities are present on the south side of the structures.

**Alternatives Discussion:**

**No Build** – The no build alternative would result in eventually closing the road, which is unacceptable given the volume of traffic served by SR 1722 (Three Bridge Road).

**Rehabilitation** – Bridge Nos. 133 and 134 were constructed in 1957, and the concrete and timber materials within the bridges are reaching the end of their useful life. Temporary repairs were made to both bridges, as indicated in the Bridge Inspection Reports dated June 2012 and June 2014. Rehabilitation would require replacing the timber components, effectively replacing the bridge.

**Offsite Detour** – Bridge Nos. 133 and 134 will be replaced on the existing roadway alignment. NCDOT *Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects* consider multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project will

include SR 1703 (Red Hill Church Rd), SR 1704 (Tilghman Rd), and SR 1705 (Fairground Rd). The detour for the average motorist would result in additional travel of approximately 5.5 additional miles. Division 6, Harnett County Public Schools, and Harnett County EMS concur that the proposed detour route is acceptable. The duration of construction is expected to be 12 months for this project.

**New Alignment/Onsite Detour** – Constructing the proposed bridge on new alignment would result in substantially higher stream and wetland impacts, as the existing bridges and roadway approaches are surrounded by wetlands in most quadrants. This would also increase the estimated costs by requiring longer bridges and/or mitigation. Given that the alignment for SR 1722 (Three Bridge Road) is acceptable, a new alignment was not considered a viable alternative.

**Structure Type:** Bridge No. 133, built in 1957, is a three-span bridge. The superstructure consists of a reinforced concrete deck and timber joists. The vertical end bents and interior bents are constructed of timber caps and timber piles with steel crutch bents. The bridge roadway deck is situated approximately 16 feet above the river bed. A normal water depth of approximately seven feet was observed at the existing bridge. The existing chord is 6.7 feet above the normal water depth. The current 100-year water surface elevation at this crossing of the Black River Overflow does not overtop the existing roadway.

Bridge No. 134, built in 1957, is a three-span bridge. The superstructure consists of a reinforced concrete deck and timber joists. The vertical end bents and interior bents are constructed of timber caps and timber piles with steel crutch bents. The bridge roadway deck is situated approximately 13 feet above the river bed. A normal water depth of approximately three feet was observed at the existing bridge. The existing chord is 8.1 feet above the normal water depth. The current 100-year water surface elevation at this crossing of the Black River does not overtop the existing roadway.

Bridge Nos. 133 and 134 are designed as 33-foot-wide, box beam bridges with a clear roadway width of 30 feet, 10 inches. The proposed length of Bridge No. 133 is 80 feet, and the proposed length of Bridge No. 134 is 90 feet.

#### **Agency Comments:**

The **US Army Corps of Engineers** recommends that:

- All bridges be replaced with bridges that have hydraulic openings as large as or larger than the existing bridges.
- Off-site detours be used.
- If any underground utility lines will have to be relocated as a result of the project, they should be directionally drilled under all waters of the United States, including wetlands. If overhead utility lines will have to be relocated within wetland areas, the new corridors should be cleared in a way that does not disturb the root mat or result in re-deposition of soil.

- The CE should include a bridging alternative.

*Response: Comments noted. The proposed bridges will have hydraulic openings as large as or larger than the existing bridges. Off-site detours will be used. Utility relocation and redesign, if needed, will be completed during final design. The CE includes one Build Alternative that proposes to replace the existing bridges with bridges. An alternative to bridge the area between the bridges was not studied.*

The **US Coast Guard** determined the proposed bridges are exempt and will not require a Coast Guard Bridge Permit based on the Coast Guard Authorization Act of 1982.

*Response: Comment noted.*

The **US Department of the Interior Fish and Wildlife Service** has provided general comments, stating there are no specific concerns for this project.

*Response: Comment noted.*

The **US Environmental Protection Agency** recommends considering a longer bridge to span HQ wetlands/floodplain.

*Response: Comment noted. The proposed bridges are longer than the existing bridges.*

The **NC Department of Environmental Quality** provided general comments, stating their preference for any replacement structure to span the waterbody, avoid any wetlands or aquatic resources in the project area, replace the bridge in the same location with staged construction, remove and restore the approach fills from the old structure to natural ground elevation, avoid placing bridge supports in the stream if possible, avoid bridge deck drains discharging directly into the stream, and include pre-treatment of stormwater.

The **NC Wildlife Resources Commission** provided general comments, stating their preference to replace these bridges with bridges and standard recommendations apply.

The **NCDOT Archaeology Group** provided their review comments, stating that no archaeological survey was required for this project.

The **NCDOT GeoEnvironmental Section** provided a Hazardous Materials Report indicating no petroleum sites, hazardous waste sites, apparent landfills, contaminated properties or other geoenvironmental concerns were identified within the project limits.

The **NC Department of Natural and Cultural Resources** provided a memo indicating no survey was needed for this project.

The **NCDOT Historic Architecture Group** provided their review comments on a No Survey Required form, stating no National Register-listed or eligible properties within the Area of Potential Effects, and no survey is required.

**Public Involvement:**

A notification letter was sent out to each adjacent property owner in February of 2013. No comments have been received to date. Therefore, it was determined that a newsletter and workshop were not necessary.

E. Threshold Criteria

The following evaluation of threshold criteria must be completed for Type II actions

<u>ECOLOGICAL</u>	<u>YES</u>	<u>NO</u>
(1) Will the project have a substantial impact on any unique or important natural resource?	<input type="checkbox"/>	<u><b>X</b></u>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur?	<input checked="" type="checkbox"/>	_____
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<u><b>X</b></u>
(4) If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?	_____	<input checked="" type="checkbox"/>
(5) Will the project require the use of U. S. Forest Service lands?	<input type="checkbox"/>	<u><b>X</b></u>
(6) Will the quality of adjacent water resources be adversely impacted by proposed construction activities?	<input type="checkbox"/>	<u><b>X</b></u>
(7) Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?	<input type="checkbox"/>	<u><b>X</b></u>
(8) Will the project require fill in waters of the United States in any of the designated mountain trout counties?	<input type="checkbox"/>	<u><b>X</b></u>
(9) Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?	<input type="checkbox"/>	<u><b>X</b></u>
<u>PERMITS AND COORDINATION</u>	<u>YES</u>	<u>NO</u>
(10) If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?	<input type="checkbox"/>	<u><b>X</b></u>
(11) Does the project involve Coastal Barrier Resources Act resources?	<input type="checkbox"/>	<u><b>X</b></u>
(12) Will a U. S. Coast Guard permit be required?	<input type="checkbox"/>	<u><b>X</b></u>
(13) Could the project result in the modification of any existing regulatory floodway?	<input type="checkbox"/>	<u><b>X</b></u>

(14)	Will the project require any stream relocations or channel changes?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

		<u>  <b>YES</b>  </u>	<u>  <b>NO</b>  </u>
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(15)	Will the project induce substantial impacts to planned growth or land use for the area?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(16)	Will the project require the relocation of any family or business?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	<u>  <b>X</b>  </u>	<input type="checkbox"/>
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(19)	Will the project involve any changes in access control?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	<u>  <b>X</b>  </u>	<input type="checkbox"/>
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(23)	Is the project anticipated to cause an increase in traffic volumes?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	<u>  <b>X</b>  </u>	<input type="checkbox"/>
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(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	<u>  <b>X</b>  </u>	<input type="checkbox"/>
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(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	<u>  <b>X</b>  </u>	<input type="checkbox"/>
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(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?	<input type="checkbox"/>	<u>  <b>X</b>  </u>
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- (29) Will the project affect any archaeological remains which are important to history or pre-history?    X
- (30) Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?    X
- (31) Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?    X
- (32) Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?    X

F. Additional Documentation Required for Unfavorable Responses in Part E

**Response to Question 2:** Although not specifically listed for Harnett County, the northern long-eared bat (NLEB) has been listed as threatened by the US Fish and Wildlife Service. The Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration, the US Army Corps of Engineers and NCDOT for the NLEB in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is “May Affect, Likely to Adversely Affect.” The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Harnett County.

**Response to Question 4:** Approximately 0.15 acres of wetlands will be impacted as a result of the project. The proposed bridge replacements incorporate wider shoulders than the existing bridge and roadway, a slightly higher profile to accommodate a deeper structure, and will change the fill slope from 2:1 to 3:1, the maximum allowable slope given the soil type in the project area. The bridge will be replaced in place, with an off-site detour. All practicable measures to reduce wetland impacts have been evaluated.

G. CE Approval

TIP Project No.	<u>B-4544</u>
W.B.S. No.	<u>38406.1.2</u>
Federal Project No.	<u>BRZ-1722(7)</u>

Project Description:

The purpose of this project is to replace Harnett County Bridge Nos. 133 and 134 carrying SR 1722 (Three Bridge Road) over the Black River and Black River Overflow (see **Figures 1-4.**) Bridge No. 133 is 54 feet long with three spans carrying one 10-foot travel lane in each direction and has a two-foot shoulder on each side. Bridge No. 134 is 54 feet long with three spans carrying one 10-foot travel lane in each direction with a two-foot shoulder on each side.

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Categorical Exclusion Action Classification:

<u>          </u>	TYPE II(A)	NO BOXES Checked
<u>  X  </u>	TYPE II(B)	ANY BOX is Checked



Prepared By:

8/26/16  
Date

Meredith H. Van Duyn  
Meredith H. Van Duyn, PE, Project Manager  
RS&H Architects-Engineers-Planners, Inc.

Approved:

8/29/16  
Date

Michelle James  
Michelle James, Project Planning Engineer  
NCDOT Project Development and Environmental Analysis

8/29/16  
Date

Charles R. Cox  
Charles R. Cox, PE, Project Engineer  
NCDOT Project Development and Environmental Analysis

For Type II(B) Projects:

8-31-16  
Date

John F. Sullivan, III  
John F. Sullivan, III, PE, Division Administrator  
Federal Highway Administration

**PROJECT COMMITMENTS:**

**Harnett County  
Bridges No. 133 and 134 on SR 1722 (Three Bridge Road)  
over Black River and Black River Overflow  
Federal Aid Project No. BRZ-1722(7)  
WBS No. 38406.1.2  
TIP Project No. B-4544**

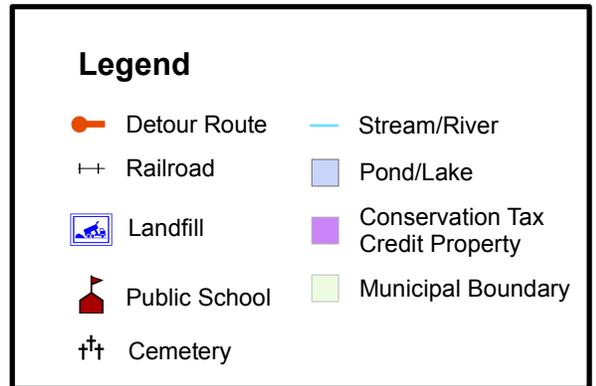
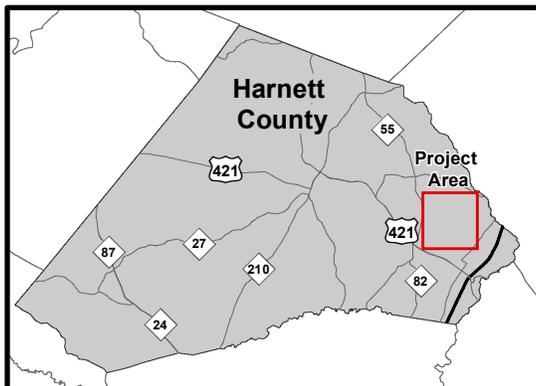
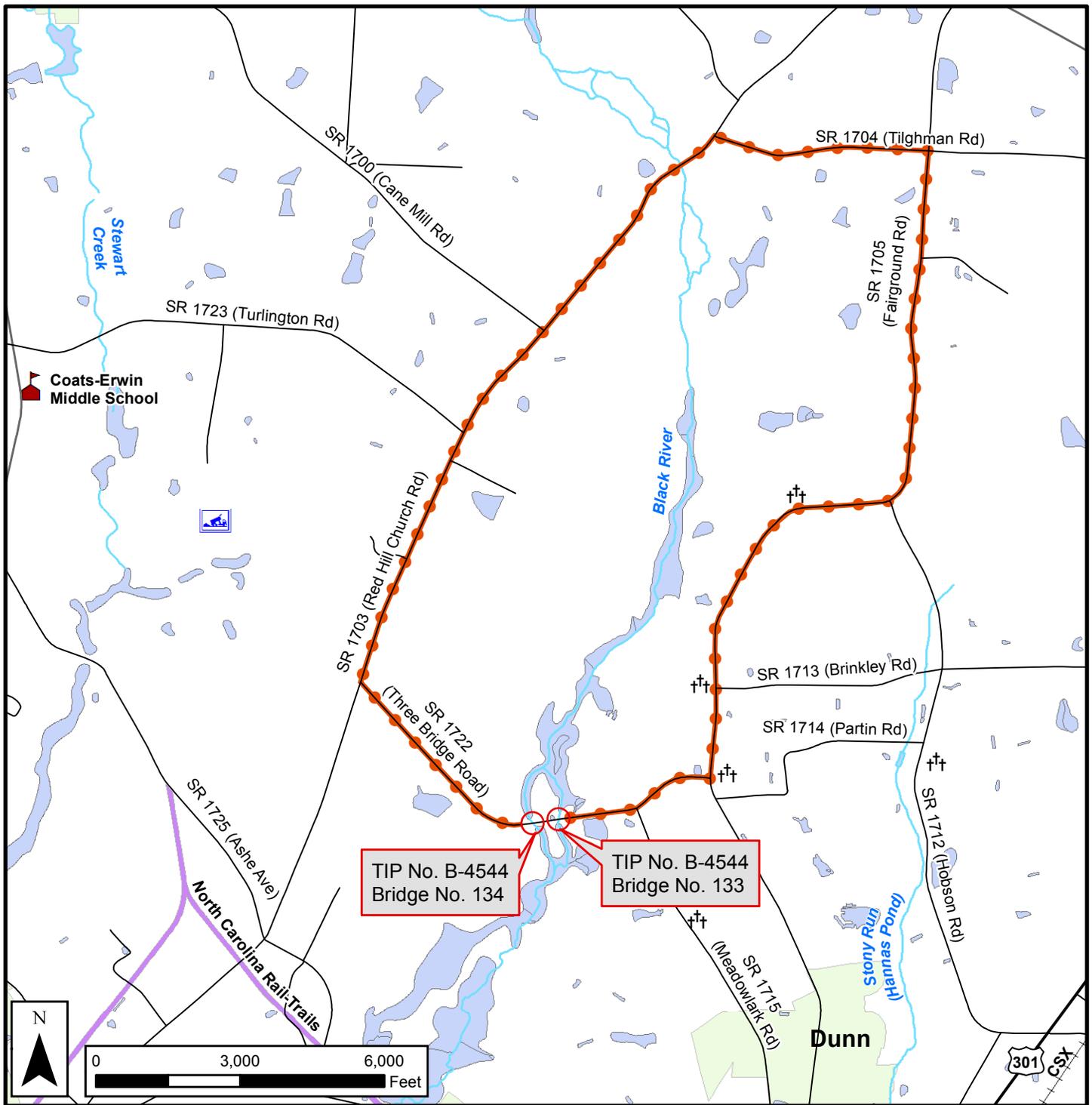
**NCDOT Division 6**

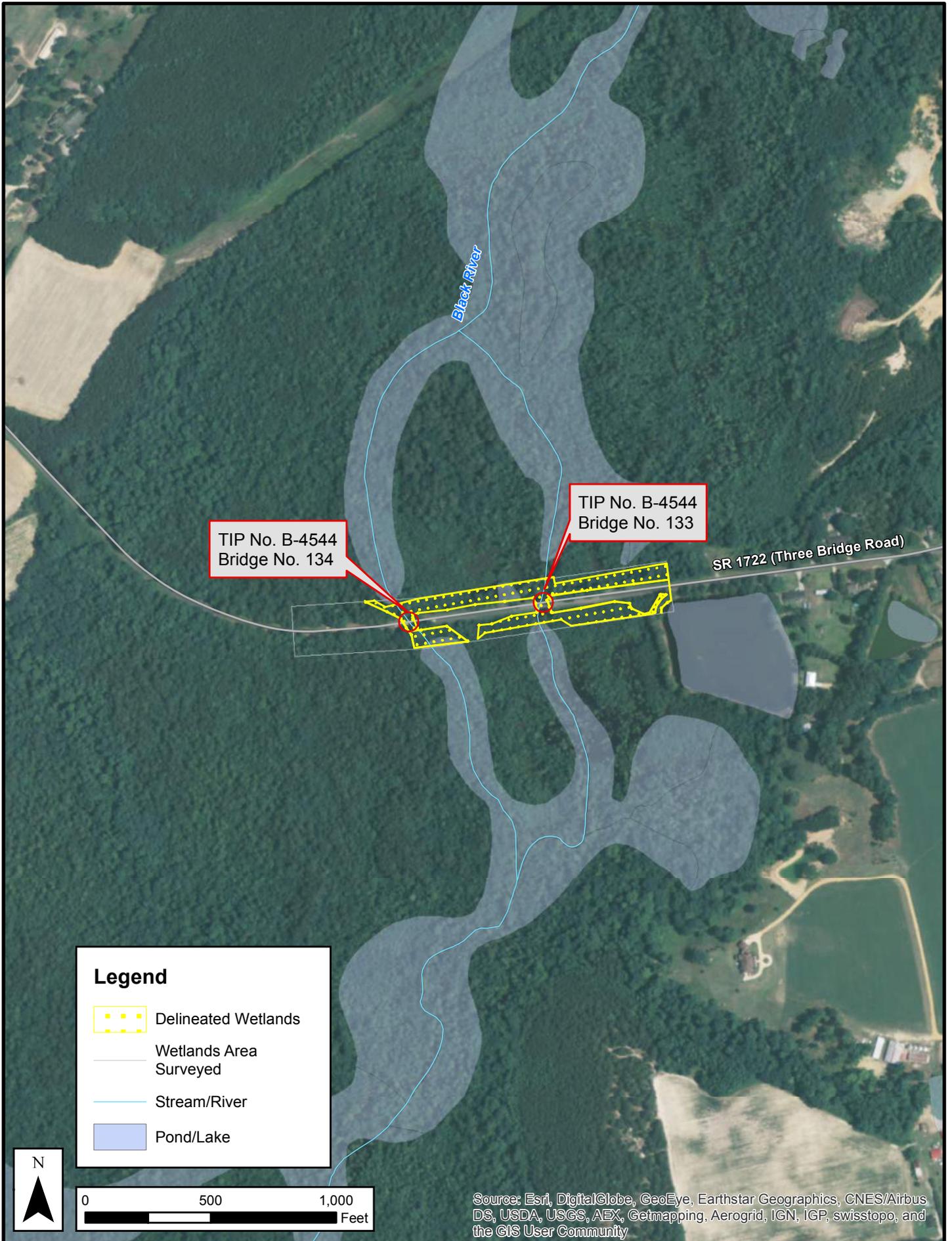
The Division will coordinate with Harnett County Public Schools and local emergency response officials at least one month prior to road closure to allow time for alternate route planning.

Harnett County Schools: 910.893.3270 or 910.893.8151

Harnett County Emergency Services: 910.862.6704

Harnett County Fire Marshall/Emergency Management: 910.893.7580





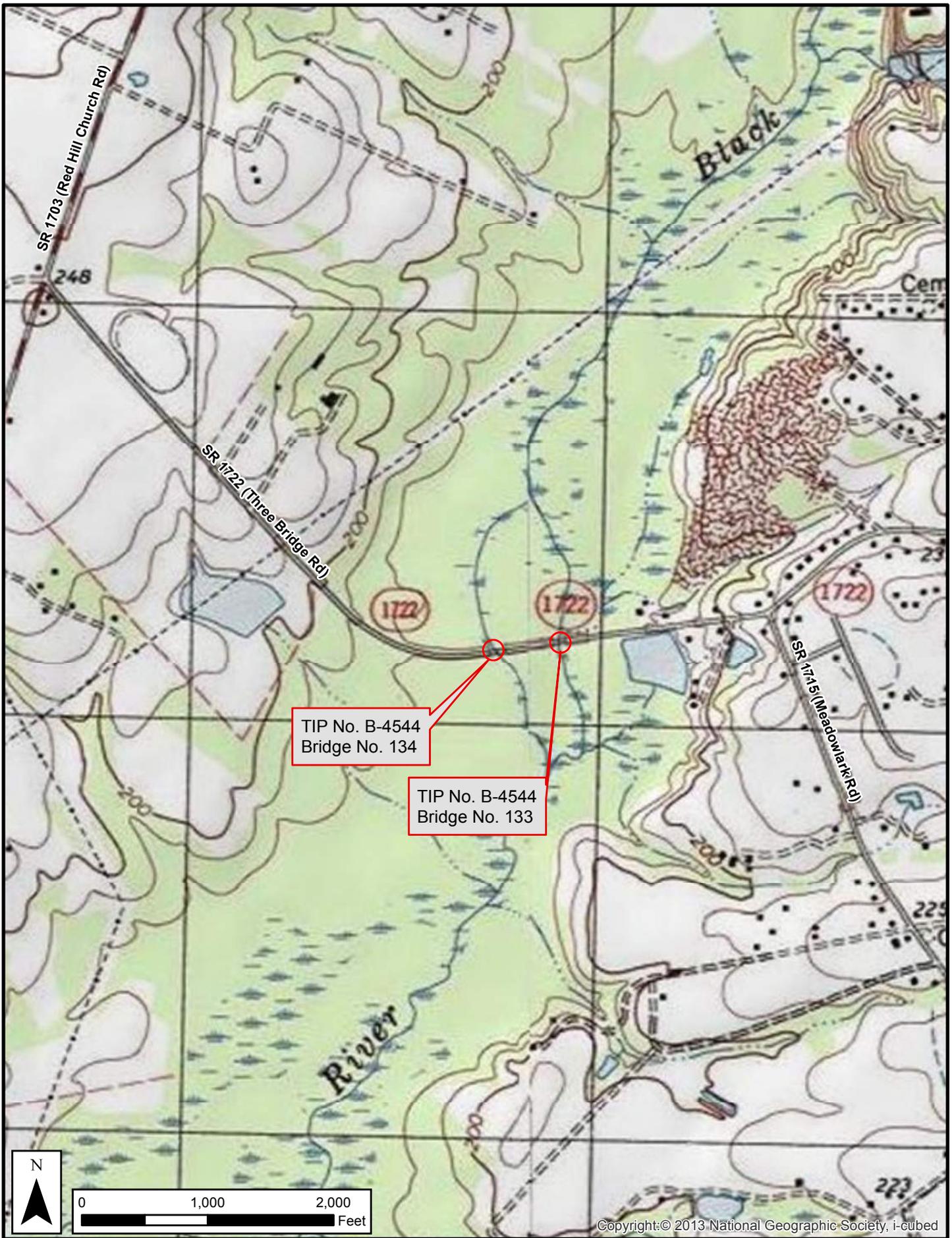
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Replacement of Bridge Nos. 133 and 134 on SR 1722 (Three Bridge Rd) over Black River and Black River Overflow

TIP No. B-4544  
Division: 6

**Figure: 2**  
**Aerial Map**





Bridge No. 133 facing East



Bridge No. 134 facing East



Bridge No. 133 facing West



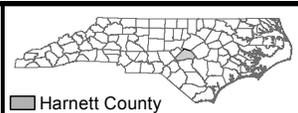
Bridge No. 134 facing West



Bridge No. 133 bridge signage



Bridge No. 134 facing North toward Black River



Replacement of Bridge Nos. 133 and 134 on SR 1722 (Three Bridge Rd) over Black River and Black River Overflow

TIP No: B-4544

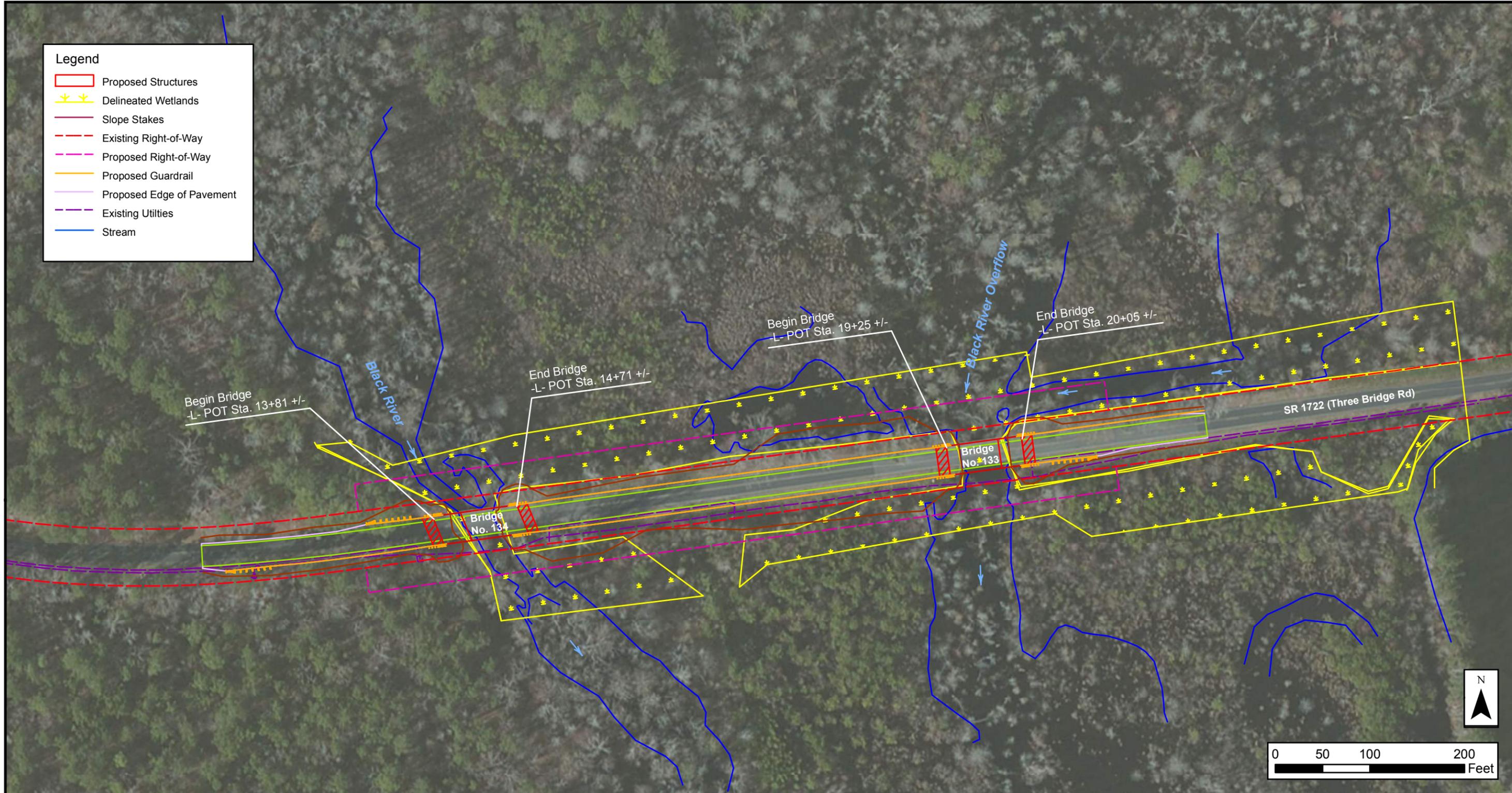
Division: 6

**Figure: 4**  
Project Area Photos



**Legend**

- Proposed Structures
- ✦✦ Delineated Wetlands
- Slope Stakes
- Existing Right-of-Way
- Proposed Right-of-Way
- Proposed Guardrail
- Proposed Edge of Pavement
- Existing Utilities
- Stream



**Preliminary Roadway Design**

		 <p>Harnett County</p>
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**TIP No. B-4544**  
 Division 6  
 Replacement of Bridge Nos. 133 and 134  
 on SR 1722 (Three Bridge Road)  
 over Black River and Black River Overflow

**Figure 6**  
 August 2016

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA Community