

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	<u><b>B-4770</b></u>
W.B.S. No.	<u><b>38542.1.1</b></u>
Federal Project No.	<u><b>BRZ-1185(2)</b></u>

A. Project Description:

The purpose of this project is to replace Johnston County Bridge No. 32 on SR 1185 (Joyner Bridge Rd.) over Hannah Creek (see Figure 1). The project is included in the federally-approved 2016-2025 North Carolina State Transportation Improvement Program (STIP). Bridge No. 32 is 150 feet long with a deck width of 25 feet. The replacement structure will be a bridge approximately 165 feet long providing a minimum 27-foot clear deck width (see Figure 2). The new bridge will include two 10-foot lanes with a minimum of 3-foot shoulder on each side. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately the same as the existing structure.

The approach roadway will extend approximately 517 feet from the southern end of the new bridge and 348 feet from the northern end of the new bridge (see Figure 3). The approaches will be widened to include a 20-foot pavement width providing two 10-foot lanes and 4-foot shoulders on each side; the shoulders will include three additional feet where guardrail is required. The roadway will be designed as a local route using Sub-regional tier guidelines with a 60 mile per hour design speed. There is a statutory speed limit of 55 miles per hours in the project area.

Traffic will be detoured off-site during construction (see Figure 1).

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 32 has a sufficiency rating of 28.71 out of a possible 100 for a new structure.

The bridge is considered structurally deficient due to a superstructure appraisal of 4 out of 9 and a substructure appraisal of 3 out of 9 according to Federal Highway Administration (FHWA) standards. The bridge also meets the criteria for functionally obsolete due to structural appraisal of 3 out of 9.

Bridge No. 32 is forty-nine years old. Components of the concrete superstructure and timber substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The bridge is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

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 2016 prices, are as follows:

Structure	\$ 458,000
Roadway Approaches	\$ 206,000
Structure Removal	\$ 56,000
Misc. & Mob.	\$ 130,000
Eng. & Contingencies	\$ 134,000
Total Construction Cost	\$ 984,000
Right-of-Way Costs	\$ 30,000
Utility Costs	\$ 66,000
Total Project Cost	\$ 1,080,000

**Estimated Traffic:**

Current	-	440 vpd
Year 2037	-	620 vpd
TTST	-	2%
Dual	-	3%

**Accidents:** Analysis of a recent ten year period found no accidents occurring in the vicinity of the project.

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

**Pedestrian and Bicycle Accommodations:** This portion of SR 1185 is not part of a designated bicycle route nor is it listed in the Transportation Improvement Program (TIP) as a bicycle project. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

**Bridge Demolition:** Bridge No. 32 is constructed of concrete and timber and should be possible to remove with no resulting debris in the water based on standard demolition practices.

**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 1185.

**Rehabilitation** – The bridge was constructed in 1967 and the timber materials within the bridge are reaching the end of their useful life. Rehabilitation would require replacing the timber components which would constitute effectively replacing the bridge.

**Offsite Detour** - Bridge No. 32 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers 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 would include SR 1009 (Devil's Racetrack Rd.), SR 1179 (Stewart Rd.), US 701 and SR 1148 (Peach Orchard Rd.). The majority of traffic on the road is through traffic. The detour for the average road user would result in seven minutes additional travel time (5.6 miles additional travel). Up to a six-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone, the detour is acceptable. Johnston County Emergency Services along with Johnston County Schools Transportation have also indicated that the detour is acceptable. NCDOT Division 4 has indicated that the condition of all roads, bridges and intersections along the detour are acceptable without improvement and concurs with the use of the detour.

**Onsite Detour** – An onsite detour was not evaluated due to the presence of an acceptable offsite detour.

**Staged Construction** – Staged construction was not considered because of the availability of an acceptable offsite detour.

**New Alignment** – Given that the alignment for SR 1185 (Joyner Bridge Rd.) is acceptable, a new alignment was not considered as an alternative.

#### **Other Agency Comments:**

The N.C. Department of Environment and Natural Resources (NCDWR, formally NCDWQ), in a letter dated March 12, 2013, states that Hannah Creek is class C; NSW; 303(d) impaired waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that the most protective sediment and erosion control best management practices (BMP's) be implemented to reduce the risk of nutrient runoff to Hannah Creek. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of N.C. DWQ *Stormwater Best Management Practices*.

**Response:** This portion of Hannah Creek is not included on the 2014 Final 303(d) list, so there are no 303(d) issues for this project. Hannah Creek is subject to the Neuse River Riparian Buffer Rules, so sedimentation and erosion control measures shall adhere to the Design Standards in Sensitive Watersheds.

The N.C. Wildlife Resources Commission, in a letter dated March 20, 2013, states that anadromous species are found in Hannah Creek and NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 30. NCWRC recommends replacing a bridge with a bridge.

**Response:** Bridge No 32 will be replaced with a new bridge. Stream Crossing Guidelines for Anadromous Fish will be implemented in the design and construction of this project. An in-water work moratorium will be in effect from February 15 to June 30 (see attached Project Commitment Sheet).

The N.C. Department of Cultural Resources, U.S. Fish & Wildlife Service and U.S. Environmental Protection Agency have no specific concerns or special conditions for this project.

**Public Involvement:**

A letter was sent to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

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 checked="" type="checkbox"/>	_____
(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?	<u><b>X</b></u>	<input 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?   X

(9) Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?   X

PERMITS AND COORDINATION

YES      NO

(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)?   X

(11) Does the project involve Coastal Barrier Resources Act resources?   X

(12) Will a U. S. Coast Guard permit be required?   X

(13) Could the project result in the modification of any existing regulatory floodway?       

(14) Will the project require any stream relocations or channel changes?   X

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

YES      NO

(15) Will the project induce substantial impacts to planned growth or land use for the area?   X

(16) Will the project require the relocation of any family or business?   X

(17) Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?   X

(18) If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?  X

(19) Will the project involve any changes in access control?   X

(20) Will the project substantially alter the usefulness and/or land use of adjacent property?   X

(21) Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?   X

- |      |   |                          |                          |
|------|---|--------------------------|--------------------------|
| (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>  X  </u>             | <input type="checkbox"/> |
| (23) | Is the project anticipated to cause an increase in traffic volumes?   | <input type="checkbox"/> | <u>  X  </u>             |
| (24) | Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?   | <u>  X  </u>             | <input type="checkbox"/> |
| (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>  X  </u>             | <input type="checkbox"/> |
| (26) | Is there substantial controversy on social, economic, or environmental grounds concerning the project?  | <input type="checkbox"/> | <u>  X  </u>             |
| (27) | Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?   | <u>  X  </u>             | <input type="checkbox"/> |
| (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>  X  </u>             |
| (29) | Will the project affect any archaeological remains which are important to history or pre-history?   | <input type="checkbox"/> | <u>  X  </u>             |
| (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)?             | <input type="checkbox"/> | <u>  X  </u>             |
| (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?  | <input type="checkbox"/> | <u>  X  </u>             |
| (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?   | <input type="checkbox"/> | <u>  X  </u>             |

F. Additional Documentation Required for Unfavorable Responses in Part E

**Response to Question 2:**

Suitable habitat for Michaux's sumac is present in the study area along roadside shoulders and agricultural field edges. Mulkey Engineers and Consultants (Mulkey)



completed surveys on August 7, 2013 and the biological conclusion is **No Effect** for Michaux's sumac.

The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) 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 Johnston County, where B-4770 is located. The level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

**Response to Question 3:**

Hannah Creek is designated as anadromous fish waters by the NC Wildlife Resources Commission (NCWRC). Anadromous fish species that could occur in the study area include hickory shad and American shad. As a result, an in-water work moratorium will be in effect from February 15 to June 30.

**Response to Question 13:**

Johnston County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). Based on the most current information available from the NC Floodplain Mapping Program (FMP), this stream crossing is in a designated flood hazard zone which is within a Redelineated Flood study reach, having a regulated 100-year floodway. The proposed bridge replacement will provide equivalent or greater conveyance than that of the existing bridge. The Hydraulics Unit will coordinate with FMP, the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT's Memorandum of Agreement with FMP, or approval of a conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This project involves construction activities on or adjacent to a FEMA-regulated stream. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

G. CE Approval

TIP Project No.	<u>B-4770</u>
W.B.S. No.	<u>38542.1.1</u>
Federal Project No.	<u>BRZ-1185(2)</u>

Project Description:

The purpose of this project is to replace Johnston County Bridge No. 32 on SR 1185 (Joyner Bridge Rd.) over Hannah Creek (see Figure 1).

Categorical Exclusion Action Classification:

<u>      </u>	TYPE II(A)
<u>  X  </u>	TYPE II(B)

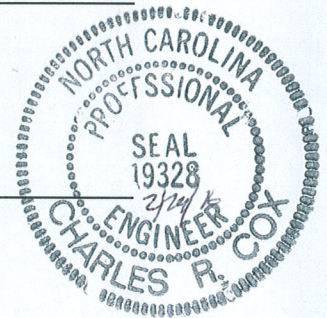
Approved:

2/29/16  
Date

April Onnis  
Project Planning Engineer  
Project Development & Environmental Analysis Unit

2/29/16  
Date

Charles R. Cox  
Project Engineer  
Project Development & Environmental Analysis Unit



2/29/16  
Date

Robert J. Hann  
Eastern Project Development Section Head  
Project Development & Environmental Analysis Unit

For Type II(B) projects only:

2/29/16  
Date

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

**PROJECT COMMITMENTS:**

**Johnston County  
Bridge No. 32 on SR 1185 (Joyner Bridge Road)  
Over Hannah Creek  
Federal Aid Project No. BRZ-1185(2)  
W.B.S. No. 38542.1.1  
T.I.P. No. B-4770**

**Division 4 Construction, Resident Engineer's Office – Offsite Detour**

In order to allow Emergency Services adequate time to prepare for road closure, the NCDOT will notify Johnston County EMS at (919) 989-5050 thirty days prior to road closure.

In order to allow Johnston County Schools Transportation Services time to prepare for road closure the NCDOT will notify the Transportation Director at (919) 934-6031 thirty days prior to road closure.

**Division 4 Construction - FEMA**

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

**Hydraulics Unit - FEMA**

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

**All Design Groups, Division 4 Resident Construction Engineer – Anadromous Fish**

Hannah Creek is designated as anadromous fish waters. A moratorium prohibiting in-water work will be in place from February 15 – June 30.

Stream Crossing Guidelines for Anadromous Fish will be implemented in the design and construction of this project.

**Natural Environment Section, Division 4 Construction – Northern long-eared bat**

After project completion, the contract administrator for construction must submit the actual amount of tree clearing reported in tenths of acres. This information should be submitted at:

<https://connect.ncdot.gov/site/construction/biosurveys/Lists/Northern%20Long%20Eared%20Bat/AllItems.aspx>

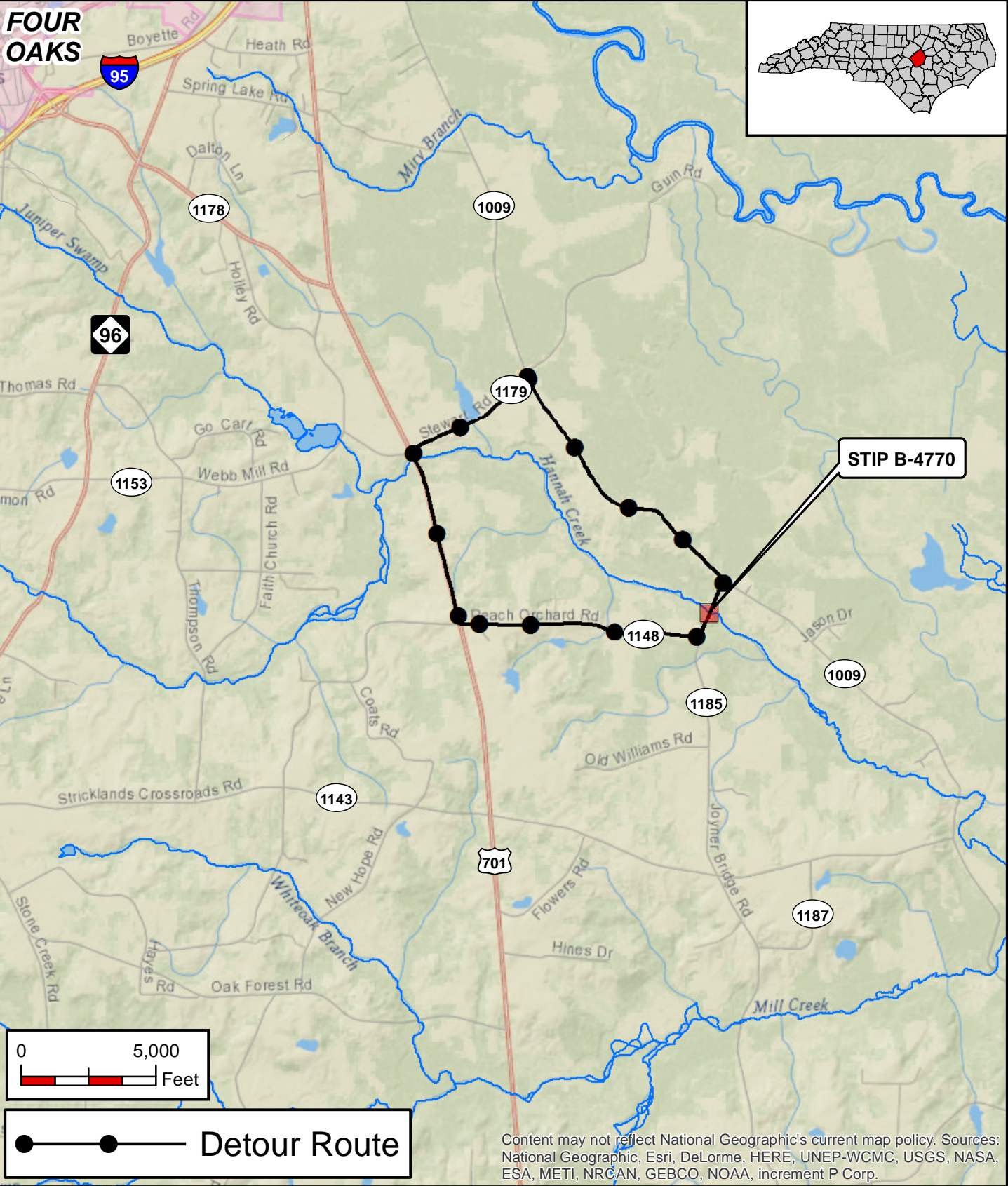
*Please contact Cheryl Gregory ([clgregory1@ncdot.gov](mailto:clgregory1@ncdot.gov)), Natural Environment Section-Biological Surveys with any questions.*

**Hydraulics Unit, Natural Environment Section – Buffer Rules**

This project is in the Neuse River Basin, and is subject to the Neuse River Riparian Buffer Rules.

**Roadside Environmental Unit, Division Resident Engineer – Sensitive Watersheds**

Design Standards in Sensitive Watersheds apply to this project.



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT

**REPLACE BRIDGE  
 No. 32 on SR 1185  
 (JOYNER BRIDGE RD)  
 OVER HANNAH CREEK**  
 JOHNSTON COUNTY  
 TIP PROJECT B-4770

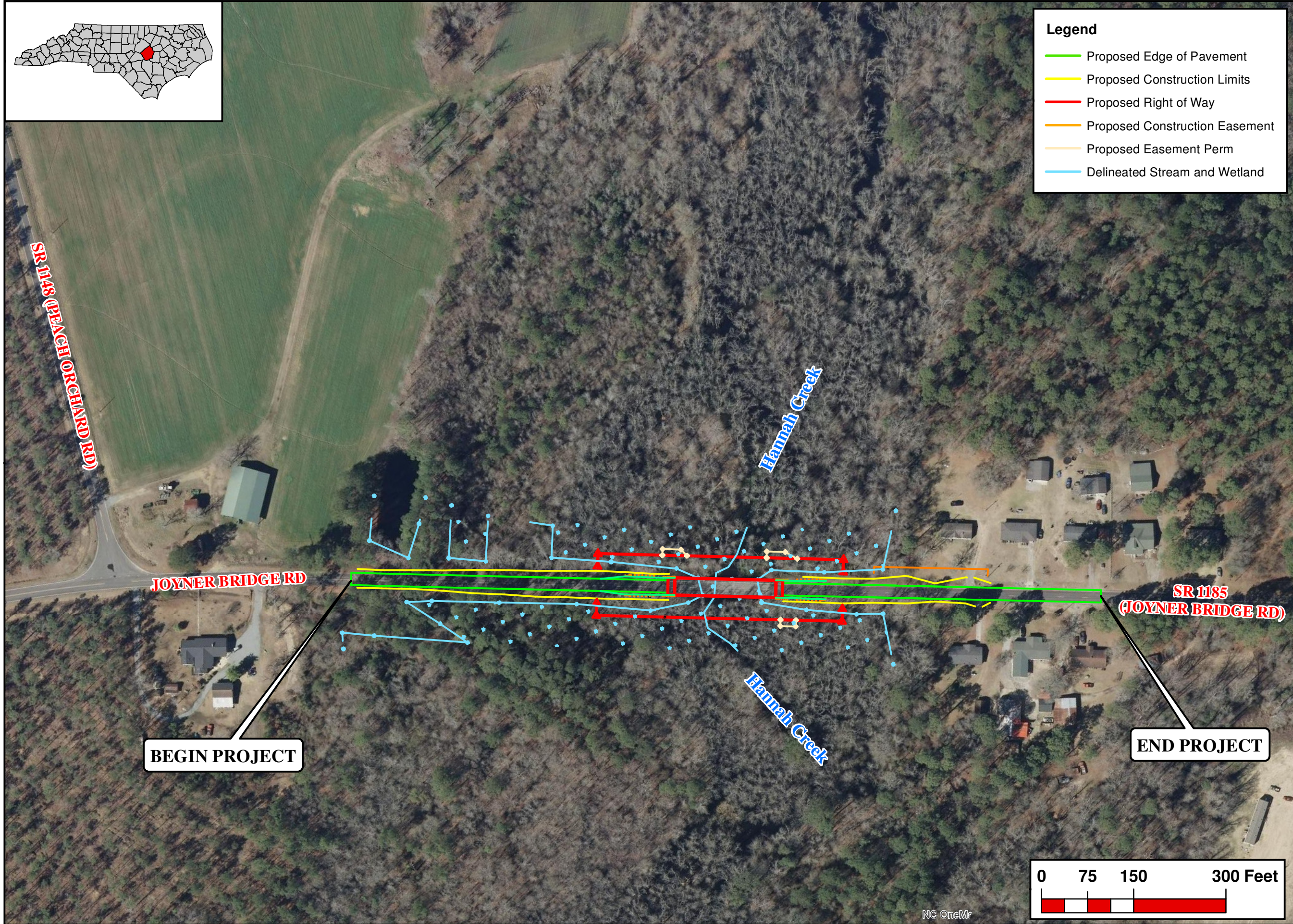
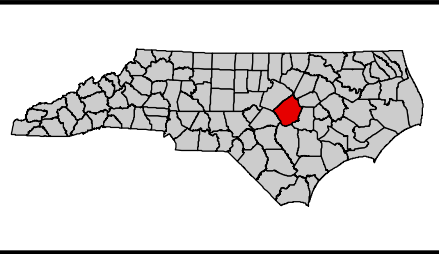


County:	Johnston
Div:	4
TIP#	B-4770
WBS:	38542.1.1
Date:	January 2016

**Figure  
 1**

By: J.TORTORELLA

Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.



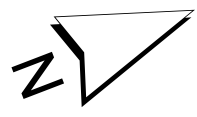
**Legend**

- Proposed Edge of Pavement
- Proposed Construction Limits
- Proposed Right of Way
- Proposed Construction Easement
- Proposed Easement Perm
- Delineated Stream and Wetland



NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS UNIT

**REPLACE BRIDGE**  
No. 32 on SR 1185  
**(JOYNER BRIDGE RD)**  
**OVER HANNAH CREEK**  
JOHNSTON COUNTY  
TIP PROJECT B-4770



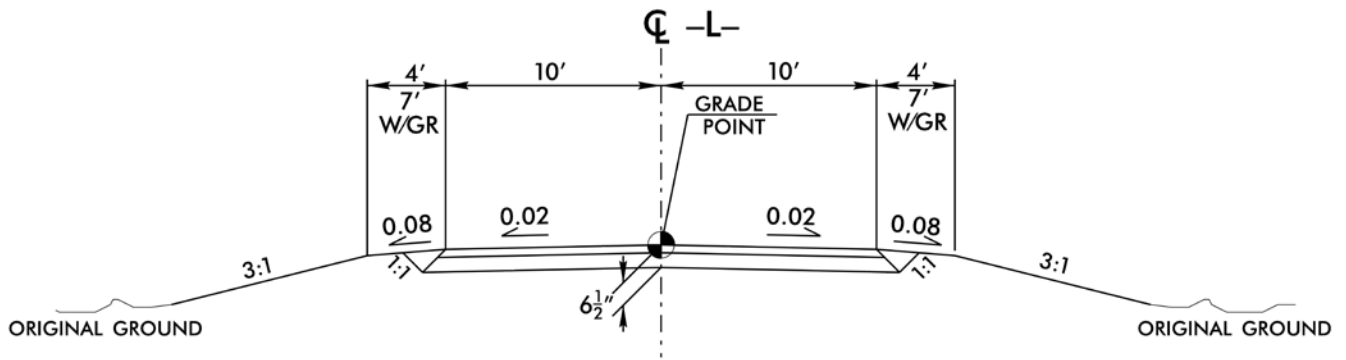
County:  
Johnston

Div: 4      TIP# B-4770

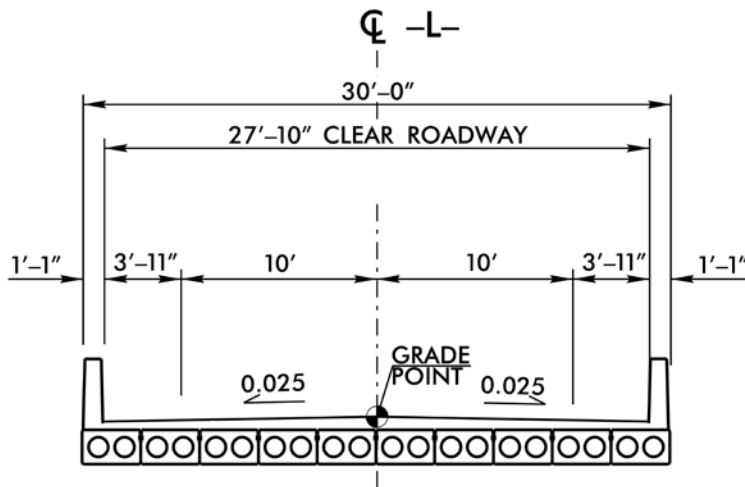
WBS:  
38542.1.1

Date:  
February 2016

**Figure**  
**2**




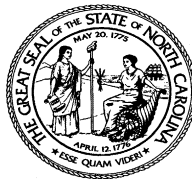
**TYPICAL SECTION NO. 1**



**TYPICAL SECTION ON STRUCTURE**

-L- STA. 15 + 27.50 TO -L- STA. 16 + 92.50

	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT &amp; ENVIRONMENTAL ANALYSIS UNIT</p>
<p><b>JOHNSTON COUNTY REPLACE BRIDGE NO. 32 ON SR 1185 OVER HANNAH CREEK B-4770</b></p>	
<p>Figure 3</p>	



**North Carolina Department of Cultural Resources**  
**State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory  
Secretary Susan Kluttz

Office of Archives and History  
Deputy Secretary Kevin Cherry

March 28, 2014

MEMORANDUM

TO: Tracy Walter  
Project Development and Environmental Analysis  
NC Department of Transportation

FROM: Ramona M. Bartos *RMB for Ramona M. Bartos*

SUBJECT: Replace Bridge 32 on SR 1185 over Hannah Creek, B-4770, Johnston County, ER 14-0563

Thank you for your letter of March 18, 2014, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Mary Pope Furr, NCDOT  
Matt Wilkerson, NCDOT





## ⊠ North Carolina Wildlife Resources Commission ⊠

---

Gordon Myers, Executive Director

### MEMORANDUM

TO: Tracy Walter  
Bridge Project Planning Engineer, PDEA

FROM: Travis Wilson, Highway Project Coordinator  
Habitat Conservation Program

DATE: March 20, 2013

SUBJECT: Bridge Replacements

Biologists with the N. C. Wildlife Resources Commission (NCWRC) have reviewed the information provided and have the following preliminary comments on the subject project. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

Our standard recommendations for bridge replacement projects of this scope are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.
2. Bridge deck drains should not discharge directly into the stream.
3. Live concrete should not be allowed to contact the water in or entering into the stream.
4. If possible, bridge supports (bents) should not be placed in the stream.
5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary

structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.

6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.
7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.
8. In streams that contain threatened or endangered species, NCDOT biologist should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.
9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.
10. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.
11. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.
12. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.
13. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.
14. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.
15. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for aquatic life and fish passage. Generally, the culvert or pipe invert should be buried at least 1 foot below the natural streambed (measured from the natural thalweg depth). If multiple barrels are required, barrels other than the base flow barrel(s) should be placed on or near stream bankfull or floodplain bench elevation (similar to Lyonsfield design). These should be

- reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream and downstream ends to restrict or divert flow to the base flow barrel(s). Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel(s) during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, base flow barrel(s) should provide a continuum of water depth and channel width without substantial modifications of velocity.
2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
  3. Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
  4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. If the area reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be utilized as mitigation for the subject project or other projects in the watershed.

Project specific comments:

B-5302, Beaufort County, replace bridge No. 3 on US 17 Business over Norfolk Southern Railroad: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4770, Johnston County, replace bridge No. 32 on SR 1185 over Hannah Creek: Anadromous species are found in Hannah Creek. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 30. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4789, Pitt County, replace bridge No. 164 on SR 1424 over Grindle Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4487, Craven County, replace bridge No. 2 on SR 1715 over Fork Clubfoot Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4771, Johnston County, replace bridge No. 11 on SR 1201 over Mill Creek: Our records indicate the potential for state and federally listed species to be present at this site including: Triangle floater (*Alasmidonta undulata*: state T), Yellow lance (*Elliptio lanceolata*: state E, FSC), Roanoke slabshell (*Elliptio roanokensis*: state T), and Eastern lampmussel (*Lampsilis radiata*: state T); furthermore, Mill Creek is also listed as a Significant Natural Heritage Area aquatic habitat by the Natural Heritage Program and carries a designation as an Anadromous Fish Spawning Area. We recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project, and follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 30. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4838, Wayne County, replace bridge No. 20 on US 70 over CSX Railroad: We recommend replacing this bridge with a bridge. Standard recommendations apply.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 707-0370. Thank you for the opportunity to review and comment on this project.



North Carolina Department of Environment and Natural Resources

Division of Water Quality  
Charles Wakild, P. E.  
Director

Pat McCrory  
Governor

John E. Skvarla, III  
Secretary

March 12, 2013

**MEMORANDUM**

---

TO: Tracy Walter, NCDOT Bridge Project Planning Engineer

FROM: Rob Ridings, NC Division of Water Quality, Transportation Permitting Unit

SUBJECT: **Scoping Review of NCDOT's Proposed Bridge Replacement Projects: B- 4770 (Johnston County), B-4771 (Johnston County) and B-4838 (Wayne County).**

In reply to your correspondence in which you requested comments for the above referenced projects, the NC Division of Water Quality offers the following comments:

**Project-Specific Comments**

**B-4770, Bridge No. 32 Over Hannah Creek, Johnston County**

Hannah Creek is class C; NSW; 303(d) impaired waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Hannah Creek. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

**B-4771, Bridge No. 11 Over Mill Creek, Johnston County**

Mill Creek is class; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Mill Creek. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

**B-4838, Bridge No. 20 Over railroad [Nearest waterbody: Little River], Wayne County**

The Little River is class C;NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to any nearby streams or tributaries. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*.

**All three projects:** These projects are within the Neuse River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B .0233.

### **General Comments Regarding Bridge Replacement Projects**

1. DWQ is very concerned with sediment and erosion impacts that could result from this project. NC DOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
2. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.
3. If a bridge is being replaced with a hydraulic conveyance other than another bridge, DWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).
4. If the old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.
5. Whenever possible, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the stream banks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.
6. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NC DWQ *Stormwater Best Management Practices*.
7. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
8. Bridge supports (bents) shall not be placed in the stream when possible.
9. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
10. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
11. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by NC DWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
12. Heavy equipment shall be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

13. In most cases, the DWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour shall be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills shall be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.
14. Any anticipated bank stabilization associated with culvert installations or extensions should be addressed in the Categorical Exclusion (CE) document. It is understood that final designs are not determined at the time the CE is developed. However, the CE should discuss the potential for bank stabilization necessary due to culvert installation.
15. Any anticipated dewatering or access structures necessary for construction of bridges should be addressed in the CE. It is understood that final designs are not determined at the time the CE is developed. However, the CE should discuss the potential for dewatering and access measures necessary due to bridge construction.

#### **General Comments if Replacing the Bridge with a Culvert**

1. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
2. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
3. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures shall be properly designed, sized and installed.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Rob Ridings at 919-807-6403.

cc: Tom Steffens, US Army Corps of Engineers, Washington Field Office  
Chad Coggins, Division 4 Environmental Officer  
File Copy



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Raleigh Field Office  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

December 20, 2012

Tracy Walter  
North Carolina Department of Transportation  
Project Development and Environmental Analysis  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Mr. Walter:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the proposed replacement of Bridge No. 32 on SR 1185 over Hannah Creek, Johnston County, North Carolina (TIP No. B-4770). These comments provide information in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

The Service does not have any specific concerns for this project. We recommend the following general conservation measures to avoid or minimize impacts to fish and wildlife resources:

1. Wetland, forest and designated riparian buffer impacts should be avoided and minimized to the maximum extent practical;
2. If unavoidable wetland or stream impacts are proposed, a plan for compensatory mitigation to offset unavoidable impacts should be provided early in the planning process;
3. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along the side of the existing structure which has the least and/or least quality of fish and wildlife habitat. At the completion of construction, the detour area should be entirely removed and the impacted areas be replanted with appropriate tree species;
4. In streams utilized by anadromous fish, the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage" should be implemented;
5. New bridges should be long enough to allow for sufficient wildlife passage along stream corridors;
6. On each side of the stream bank underneath bridges, at least 10 feet of the bank should remain clear of riprap;
7. "Best Management Practices (BMP) for Construction and Maintenance Activities" should be implemented;



8. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;
9. Bridge designs should not alter the natural stream and stream-bank morphology or impede fish passage. To the extent possible, piers and bents should be placed outside the bank-full width of the stream; and
10. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approach to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected area.

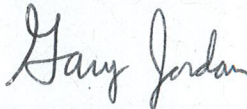
Section 7(a)(2) of the Endangered Species Act requires that all federal action agencies (or their designated non-federal representatives), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally threatened or endangered species. To assist you, a county-by-county list of federally protected species known to occur in North Carolina and information on their life histories and habitats can be found on our web page at <http://www.fws.gov/nc-es/es/countyfr.html> .

Although the North Carolina Natural Heritage Program (NCNHP) database does not indicate any known occurrences of listed species near the project vicinity, use of the NCNHP data should not be substituted for actual field surveys if suitable habitat occurs near the project site. The NCNHP database only indicates the presence of known occurrences of listed species and does not necessarily mean that such species are not present. It may simply mean that the area has not been surveyed. If suitable habitat occurs within the project vicinity for any listed species, surveys should be conducted to determine presence or absence of the species.

If you determine that the proposed action may affect (i.e. likely to adversely affect or not likely to adversely affect) a listed species, you should notify this office with your determination, the results of your surveys, survey methodologies and an analysis of the effects of the action on listed species, including consideration of direct, indirect and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e. no beneficial or adverse, direct or indirect effect) on listed species, then you are not required to contact our office for concurrence.

The Service appreciates the opportunity to comment on this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,

*for*   
Pete Benjamin  
Field Supervisor

## Walter, Tracy A

---

**From:** Militscher.Chris@epamail.epa.gov  
**Sent:** Friday, December 14, 2012 9:59 AM  
**To:** Walter, Tracy A  
**Subject:** Bridge Scoping Notices

Tracy: EPA has reviewed the general scoping notices for the following proposed NCDOT bridge replacement projects and offers the following comments:

B-4770, Johnston Co.: No specific environmental issues identified.  
B-5302, Beaufort Co.: No specific environmental issues identified.  
B-4789, Pitt Co.: No specific environmental issues identified.  
B-4487, Craven Co.: EPA notes that the current bridge is located in close proximity to Croatan National Forest. EPA also notes that the existing bridge along SR 1715 only spans a small portion of the floodplain and adjacent wetland areas. There appears to be a long road causeway leading to the bridge that potentially acts as a hydraulic barrier to the larger braided stream system (Clubfoot Creek). EPA would recommend that NCDOT consider a longer structure than is currently in place and that it spans a greater portion of the floodplain and adjacent wetlands.

Thanks for the opportunity to comment.

Christopher A. Militscher, REM, CHMM  
USEPA Region 4 NEPA Program Office  
61 Forsyth Street, SW  
Atlanta, GA 30303

404-562-9512 (office)