

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 2014 prices, are as follows:

Structure	\$ 678,000
Roadway Approaches	\$ 259,000
Structure Removal	\$ 81,000
Misc. & Mob.	\$ 175,000
Eng. & Contingencies	\$ 211,000
Total Construction Cost	\$ 1,404,000
Right-of-way Costs	\$ 7,000
Right-of-way Utility Costs	\$ 55,000
Bridge No. 43 Improvements on Detour	\$ 200,000
Total Project Cost	\$ 1,666,000

Estimated Traffic:

Current	-	2400 vpd
Year 2035	-	3100 vpd
TTST	-	10%
Dual	-	8%

Accidents: Traffic Engineering has evaluated a recent five year period and found one accident occurring in the vicinity of the project. From the crash analysis, there does not appear to be identifiable crash patterns or obvious safety hazards in the vicinity of the structure.

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

Pedestrian and Bicycle Accommodations: This portion of NC 561 is not a part of a designated bicycle route nor is it listed in the Transportation Improvement Program (TIP) as a bicycle or pedestrian TIP request. There is no indication that there are unusual numbers of pedestrians or cyclists in this area. No permanent or temporary bicycle or pedestrian accommodations are required for this project.

Bridge Demolition: Bridge No. 29 is constructed of concrete 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 NC 561.

Rehabilitation – Bridge No. 29 was constructed in 1937 consisting of a concrete deck and concrete girders, bents and abutments. Rehabilitation of a concrete structure is generally practical only when a few members are damaged or prematurely deteriorated. However, past a certain degree of deterioration, concrete structures become impractical to maintain and upon eligibility are programmed for replacement. Bridge No. 29 is approaching the end of its useful life.

Offsite Detour - Bridge No. 29 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 NC 4 and SR 1315 (Williams Road). The majority of traffic on the road is through traffic. The detour for the average road user would result in 3 minutes

additional travel time (0.2 miles additional travel). Up to a 10-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. Halifax County Emergency Services along with Halifax County Schools Transportation have also indicated that the detour is acceptable. Closure during the summer months will minimize school bus impacts. NCDOT Division 4 has indicated that improvements to Bridge No. 43 will be required on the offsite detour. The improvements will be handled by Division. NCDOT Division 4 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 NC 561 is acceptable, a new alignment was not considered as an alternative.

Other Agency Comments:

The United States Department of the Interior USFWS, in a letter dated April 30, 2009, recommends mussel surveys for the federally endangered Tar River spiny mussel (*Elliptio steinstansana*) and dwarf wedgemussel (*Alasmidonta heterodon*).

Response: A survey was performed by Catena personnel in April 2014. Neither the Tar River spiny mussel nor the dwarf wedgemussel were found during the surveys and recent records of these species occur well upstream or downstream of the project area. However, appropriate habitat is present and an associate species (Notched Rainbow) was observed; thus there is the potential for these species to occur within the project area. While impacts are unlikely to occur in the project area, they cannot be completely discounted. Strict adherence to erosion control standards should minimize the potential for any adverse impacts to occur. The biological conclusion for the Tar River spiny mussel and the dwarf wedgemussel is “May Affect- Not Likely to Adversely Affect”. In a letter dated July 22, 2014, the U.S. Fish and Wildlife Service concurs with the conclusion that the proposed bridge replacement may affect, but is not likely to adversely affect the Tar River spiny mussel and the dwarf wedgemussel.

The N.C. Division of Water Quality, in a letter dated April 22, 2009, recommends that highly protective sediment and erosion control Best Management Practices be implemented to reduce the risk of nutrient runoff to Little Fishing Creek. NCDWQ requests that the road design plans provide treatment of the storm water runoff through BMPs as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*. NCDWQ also requests that Riparian buffer impacts be avoided and minimized to the greatest extent possible.

Response: NCDOT will implement BMPs for sedimentation and erosion control measures, as well as, BMPs storm water drainage. NCDOT will adhere to NC DWQ's Riparian Buffer rules for the Tar-Pamlico River Basin.

The N.C. Wildlife Resources Commission provided the following project-specific comments in a letter dated May 11, 2009:

Little Fishing Creek is one of the most diverse and unique waterways in the Tar River basin. The best known population of the Federally Endangered Tar River Spiny mussel, *E. steinstansana*, occurs in this stream. As well as Atlantic Pigtoe, *Fusconia masoni* (State Special Concern), the Notched Rainbow, *Villosa constricta* (State Special Concern), the Yellow lamp mussel, *L. cariosa* (State Special Concern), the Triangle floater, *A. undulate*, and Creeper, *S. undulates*. A mussel survey is recommended at this location and NCDOT should follow design standards for sensitive watersheds. NCDOT should coordinate closely with the NCWRC Eastern Aquatic Wildlife Diversity Biologists to aid with surveys at this site.

Response: Design standards for sensitive watersheds will be implemented. Mussel surveys were conducted on April 30, 2014 by Catena personnel.

This project will impact Brinkleyville game land. The N.C. Wildlife Resources Commission and FHWA determined that the impacts to the game land will not be a 4(f) resource.

Public Involvement:

A letter was sent by the Location & Surveys Unit 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>X</u>
(2) Does the project involve habitat where federally listed endangered or threatened species may occur?	<input checked="" type="checkbox"/>	<u> </u>
(3) Will the project affect anadromous fish?	<input type="checkbox"/>	<u>X</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?	<u>X</u>	<input type="checkbox"/>
(5) Will the project require the use of U. S. Forest Service lands?	<input type="checkbox"/>	<u>X</u>
(6) Will the quality of adjacent water resources be adversely impacted by proposed construction activities?	<input type="checkbox"/>	<u>X</u>
(7) Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?	<input type="checkbox"/>	<u>X</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>X</u>
(9) Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?	<input type="checkbox"/>	<u>X</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>X</u>
(11) Does the project involve Coastal Barrier Resources Act resources?	<input type="checkbox"/>	<u>X</u>
(12) Will a U. S. Coast Guard permit be required?	<input type="checkbox"/>	<u>X</u>
(13) Could the project result in the modification of any existing regulatory floodway?	<input checked="" type="checkbox"/>	<u> </u>

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

		<u> YES </u>	<u> NO </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> X </u>
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(16)	Will the project require the relocation of any family or business?	<input type="checkbox"/>	<u> X </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> X </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> X </u>	<input type="checkbox"/>
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(19)	Will the project involve any changes in access control?	<input type="checkbox"/>	<u> X </u>
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(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?	<input type="checkbox"/>	<u> X </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> X </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> X </u>	<input type="checkbox"/>
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(23)	Is the project anticipated to cause an increase in traffic volumes?	<input type="checkbox"/>	<u> X </u>
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(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	<u> X </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> X </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> X </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> X </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> X </u>
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- | | | | |
|------|---|--------------------------|---------------------|
| (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 the federally endangered Red cockaded woodpecker (*Picoides borealis*) does not exist in the study area. Forests in the study area are comprised of a closed hardwood canopy and sub-canopy. Where pine trees occur in maintained or disturbed areas, they are not of sufficient age or density to provide suitable nesting or foraging habitat. A review of NC Natural Heritage Program records, updated July 2014, indicates no known Red cockaded woodpecker occurrences within 1.0 mile of the study area. The Biological Conclusion is **No Effect**.

A survey was performed by Catena personnel in April 2014. Neither the Tar River spiny mussel nor the dwarf wedgemussel were found during the surveys and recent records of these species occur well upstream or downstream of the project area. However, appropriate habitat is present and an associate species (Notched Rainbow) was observed; thus there is the potential for these species to occur within the project area. While impacts are unlikely to occur in the project area, they cannot be completely discounted. Strict adherence to erosion control standards should minimize the potential for any adverse impacts to occur. The biological conclusion for the Tar River spiny mussel and the dwarf wedgemussel is **May Affect- Not Likely to Adversely Affect**.

In a letter dated July 22, 2014, the U.S. Fish and Wildlife Service concurs with the conclusion that the proposed bridge replacement may affect, but is not likely to adversely affect the Tar River spiny mussel and the dwarf wedgemussel. USFWS concurrence letter is attached.

Response to Question 13:

Halifax County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The effective FEMA floodplain mapping indicates that the subject crossing is located within a flood hazard zone designated as Zone AE, where 100-year base flood elevations were established in a “Limited Detailed Flood Study”. The Hydraulic Unit will coordinate with FEMA to determine if a Conditional Letter of Map Revision (CLOMR) and a subsequent final Letter of Map Revision (LOMR) are required for this project. If required, the Division will submit sealed as-built construction plans to the Hydraulic Unit upon project completion certifying the project was built as shown on the construction plans.

G. CE Approval

TIP Project No.	<u>B-4761</u>
State Project No.	<u></u>
W.B.S. No.	<u>38533.1.1</u>
Federal Project No.	<u>BRSTP-561(18)</u>

Project Description:

The purpose of this project is to replace Halifax County Bridge No. 29 on NC 561 over Little Fishing Creek. Bridge No. 29 is 200 feet long. The replacement structure will be a bridge approximately 210 feet long providing a minimum 34-foot clear deck width. The bridge will include two 12-foot lanes and 5-foot offsets. 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 356 feet from the western end of the new bridge and 334 feet from the eastern end of the new bridge. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes. Six-foot grass shoulders with two-foot full depth paved shoulders will be provided on each side (11-foot shoulders where guardrail is included). The roadway will be designed as a Minor Arterial using Regional Tier design guidelines with a 60 mile per hour design speed.

Categorical Exclusion Action Classification:

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

Approved:

<u>9/30/14</u> Date	<u><i>April Annis</i></u> Project Planning Engineer Project Development & Environmental Analysis Unit
<u>9-30-14</u> Date	<u><i>Byran D. Kluck</i></u> Project Engineer Project Development & Environmental Analysis Unit
<u>9/30/14</u> Date	<u><i>Rob P. Hann</i></u> Eastern Project Development Section Head Project Development & Environmental Analysis Unit

For Type II(B) projects only:

<u>9/30/14</u> Date	fo <u><i>John F. Sullivan III</i></u> John F. Sullivan, III, PE, Division Administrator Federal Highway Administration
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PROJECT COMMITMENTS:

**Halifax County
Bridge No. 29 on NC 561
Over Little Fishing Creek
Federal Aid Project No. BRSTP-561(18)
W.B.S. No. 38533.1.1
T.I.P. No. B-4761**

Division Four Construction, Resident Engineer's Office – Offsite Detour

In order to have time to adequately reroute school busses, Halifax County Schools will be contacted at (252) 583-5111 at least one month prior to road closure.

Halifax County Emergency Services will be contacted at (252) 583-2088 at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Hydraulic Unit – FEMA Coordination

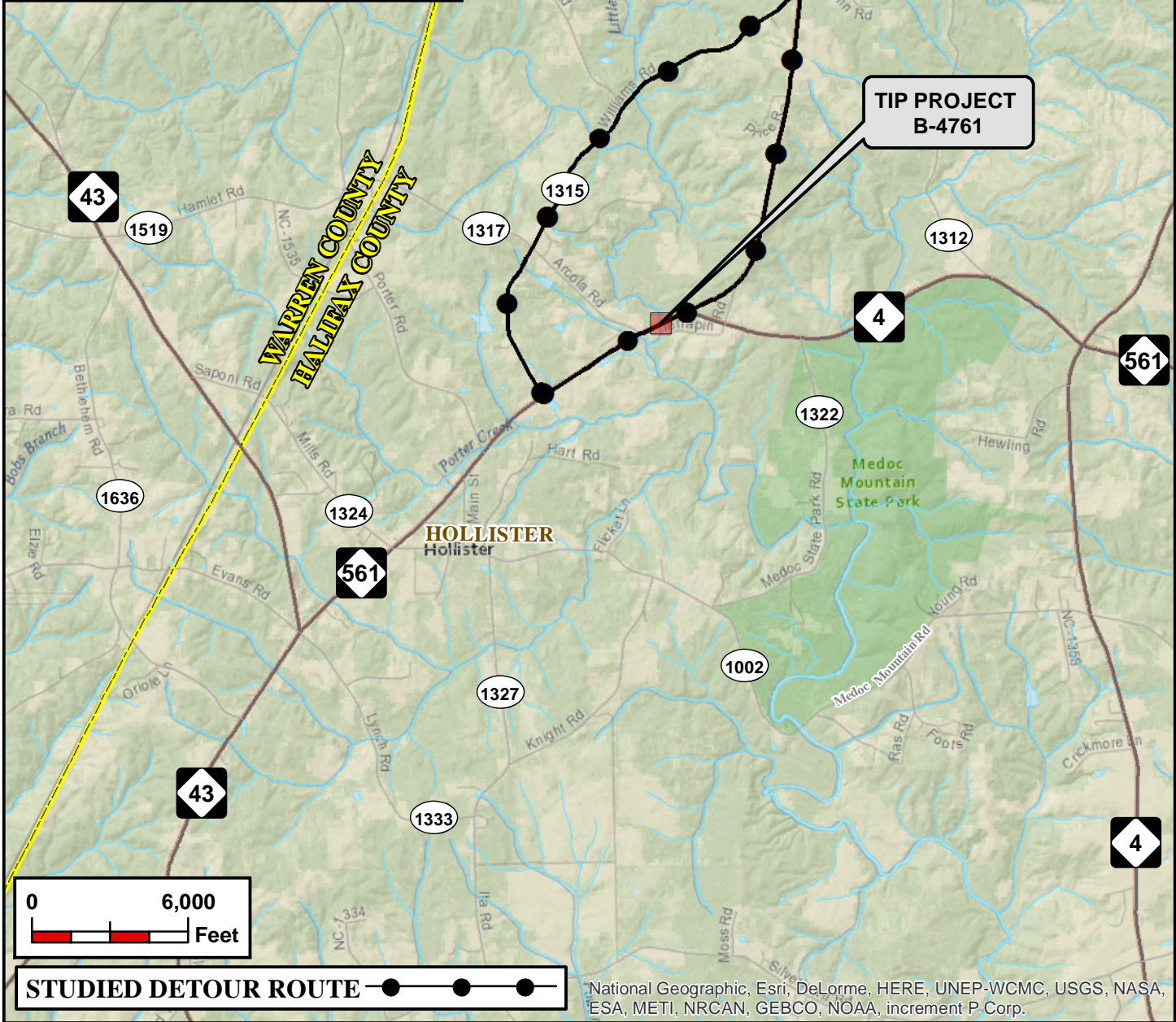
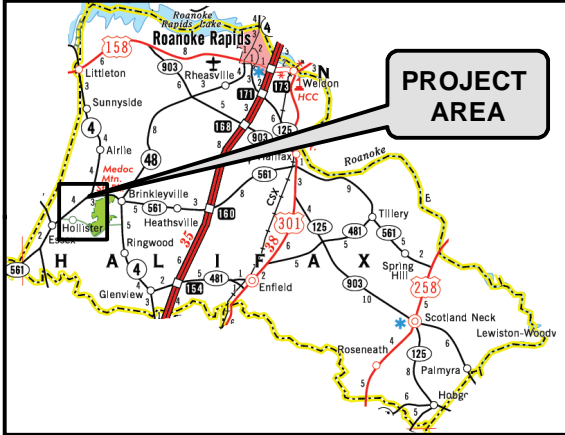
The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Division 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.

Roadside Environmental Unit –Sensitive Watersheds

There is the potential for the Tar River spiny mussel and the dwarf wedgemussel to occur in the project area. To minimize any adverse impacts, sediment and erosion control measures shall adhere to *Design Standards in Sensitive Watersheds*.



STUDIED DETOUR ROUTE —●—●—●—

National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

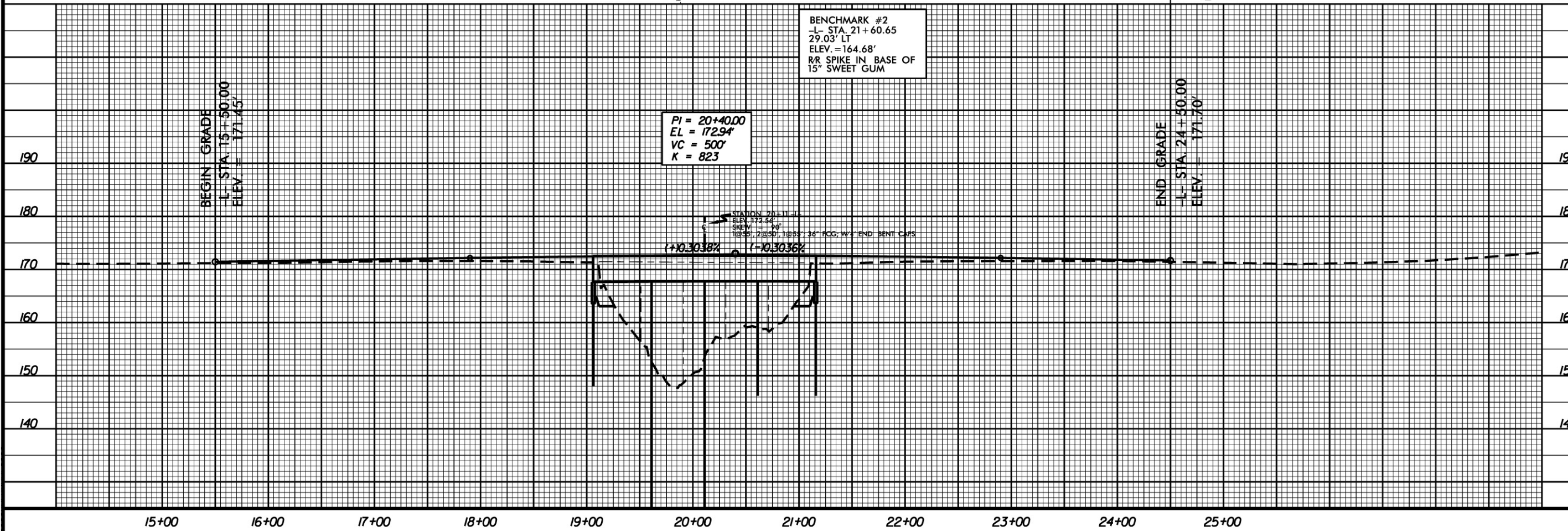
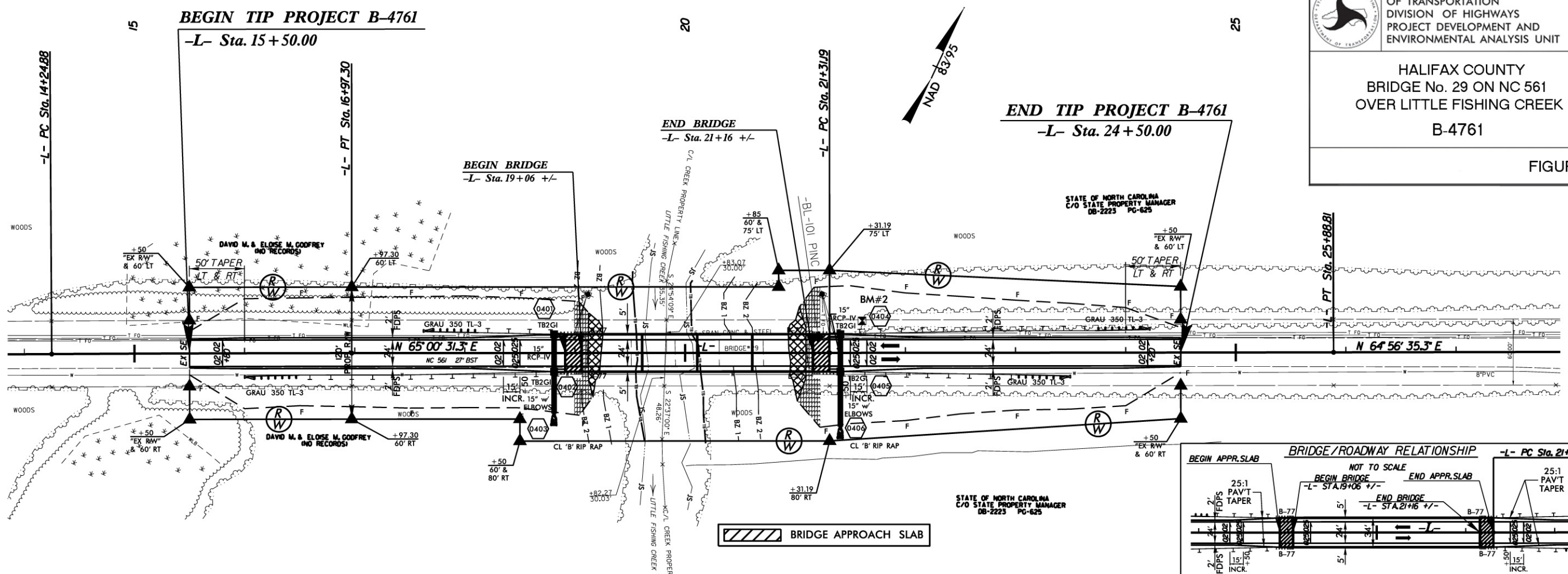


NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT

VICINITY MAP
REPLACE BRIDGE No. 29 ON
NC 561 OVER
LITTLE FISHING CREEK
HALIFAX COUNTY
TIP PROJECT B - 4761

County:	HALIFAX
Div:	4
TIP#:	B-4761
WBS:	38533.1.1
Date:	September 2014

Figure
1



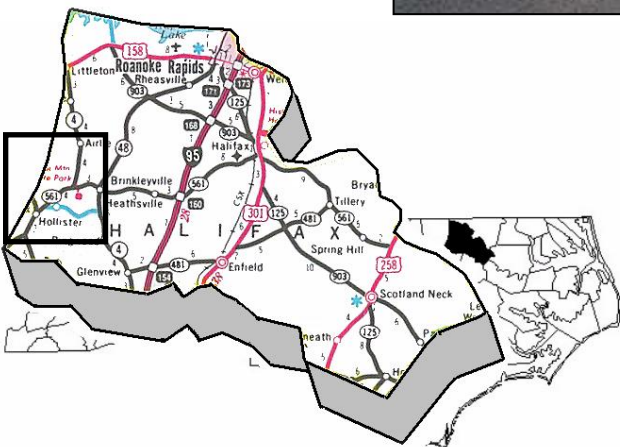
**Bridge No. 29 over
Little Fishing
Creek**

Looking east



**Bridge No. 29 over
Little Fishing
Creek**

Looking west



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

**HALIFAX COUNTY
REPLACE BRIDGE NO. 29 ON NC 561
OVER LITTLE FISHING CREEK
B-4761**

Figure 3



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

July 22, 2014

Richard W. Hancock, P.E.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Hancock:

This letter is in response to your letter of July 14, 2014 which provided the U.S. Fish and Wildlife Service (Service) with the biological conclusion of the North Carolina Department of Transportation that the replacement of Bridge No. 29 on NC-561 over Little Fishing Creek in Halifax County (TIP No. B-4761) may affect, but is not likely to adversely affect the federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar River spiny mussel (*Elliptio steinstansana*). These comments are provided in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, a mussel survey was conducted at the project site on April 24, 2014. The survey extended 100 meters upstream and 400 meters downstream of NC-561. Although five species of mussels were observed, neither of the federally listed species was found. While suitable habitat was present in the survey reach, the habitat in the immediate vicinity of the bridge was poor. However, the Tar River spiny mussel has recently been observed in Little Fishing Creek approximately 10.5 miles downstream. While not known to occur in Little Fishing Creek, the dwarf wedgemussel has been recently observed in a tributary to Little Fishing Creek approximately 5.0 miles upstream of NC-561.

Based on the mussel survey results and other available information, the Service concurs with your conclusion that the proposed bridge replacement may affect, but is not likely to adversely affect the dwarf wedgemussel and Tar River spiny mussel. We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under Section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

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

Sincerely,

Gary Jordan
for Pete Benjamin
Field Supervisor

Electronic copy:

Tom Steffens, USACE, Washington, NC
Travis Wilson, NCWRC, Creedmoor, NC
Ron Lucas, FHWA, Raleigh, NC



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 14, 2014

Pete Benjamin
US Fish and Wildlife Service
PO Box 33726
Raleigh, NC 27636-3726

Dear Mr. Benjamin:

Subject: **Section 7 Concurrence Request** for NCDOT's proposed replacement of Bridge No. 29 on NC 561 over Little Fishing Creek in Halifax County. Federal Aid Project No. BRSTP-561(18), WBS 38533.1.1, TIP Project No. B-4761

The purpose of this letter is to request concurrence from the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*) (ESA). Based on the information in the most recent survey (included), NCDOT concludes that the proposed project's Biological Conclusion for the federally protected species Dwarf Wedgemussel (*Alasmidonta heterodon*) and Tar River Spinymussel (*Elliptio steinstansana*) is "**May Affect, Not Likely to Adversely Affect**".

The remaining species listed for Halifax County [Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and red-cockaded woodpecker (*Picoides borealis*)] have a Biological Conclusions of No Effect due to lack of suitable habitat. Fritz Rohde responded on July 9th, 2014 via email to the fact that this project lacks habitat for the sturgeon. This project will also not affect the bald eagle (*Haliaeetus leucocephalus*) due lack of foraging and nesting habitat.

We believe that the requirements of Section 7(a)(2) of the ESA have been satisfied and hereby request your concurrence. If you have any questions or need additional information, please contact Chris Manley at 919-707-6135 or cdmanley@ncdot.gov.

Sincerely,

Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

cc:
w/attachments:
Gary Jordan, USFWS

w/o attachments:
Tom Steffens, USACE
Chris Rivenbark, Natural Environment Section, NCDOT
April Annis, PDEA Project Planning Engineer, NCDOT
Neil Medlin, Natural Environment Section, NCDOT

File: B-4761

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-707-6100
FAX: 919-212-5785
WEBSITE: WWW.NCDOT.ORG

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

April 30, 2009

Hank Schwab
North Carolina Department of Transportation
Bridge Project Development Unit
1598 Mail Service Center
Raleigh, North Carolina 27699-1551

Dear Mr. Schwab:

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. 29 on NC 561 over Little Fishing Creek in Halifax County (TIP No. B-4761). 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 (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

Although not previously observed at the project site, the federally endangered Tar River spiny mussel (*Elliptio steinstansana*) is known to occur in Little Fishing Creek a few miles downstream of this project site (downstream of Medoc Mountain State Park). The Little Fishing Creek population of the Tar River spiny mussel is likely the best remaining population of this critically imperiled North Carolina endemic species. There is the potential for Tar River spiny mussel and also the federally endangered dwarf wedgemussel (*Alasmodonta heterodon*) to occur within or near the project footprint. The Service recommends that a mussel survey be conducted at and near the project site. However, please note that due to the cryptic nature of the species and the very low numbers of individuals remaining, it is extremely difficult to detect the Tar River spiny mussel. Therefore, negative survey results do not necessarily equate to absence of the species.

Since adverse effects to Tar River spiny mussel and/or dwarf wedgemussel may occur, it is essential to design the project to minimize these effects. Among other things, a design which completely spans the channel, the highest level of erosion control, and a plan which minimizes in-water work while removing the existing bridge are needed.


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-listed threatened or endangered species.

It is possible that a formal Section 7 consultation may be necessary for this project. This consultation process can take up to 135 days to complete once the Service has received a

complete initiation package. This initiation package includes a biological assessment/evaluation prepared by the federal action agency. It is imperative that sufficient time be included in the project schedule to allow for the Section 7 consultation process to be completed. During project design, communication with the Service is vital in order to develop conservation measures which will minimize effects to federally-listed species and expedite the Section 7 process.

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

cc: William Wescott, USACE, Washington, NC
Rob Ridings, NCDWQ, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC
John Sullivan, FHWA, Raleigh, NC



◊ North Carolina Wildlife Resources Commission ◊

MEMORANDUM

TO: Chris Rivenbark
NCDOT, PDEA Natural Environment Unit

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: May 11, 2009

SUBJECT: NCDOT 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 Mr. Logan Williams 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.

NCDOT should routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. Restoring previously disturbed floodplain benches should narrow and deepen streams previously widened and shallowed during initial bridge installation. NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases. Spanning structures allow wildlife passage along streambanks and reduce habitat fragmentation.

Project specific comments:

B-5106 Bertie County Bridge No. 148 on SR 1200 over Wahtom Swamp. Anadromous species are found in this portion of Wahtom. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5141 Bertie County Bridge No. 53 on US 13 over Whiteoak Swamp. Anadromous species are found in this portion of Whiteoak Swamp. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5122 Bertie county Bridge No. 51 on US 13 over Chashie River. Anadromous species are found in this portion of the Chashie River. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4464 Chowan County Bridge No. 35 on SR 1170 over a canal B-4464. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5139 Pasquotank County Bridge No. 21 on SR 1332 over Knoob's Creek. Anadromous species are found in this portion of Knoobs Creek. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5112 Greene County Bridge No. 72 on SR 1253 over Appletree Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4755 Greene County Bridge No. 65 on SR 1215 over Appletree Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4708 Beaufort County Bridge No. 5 on SR 1001 over Aggie Run. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5111 Pitt County Bridge No. 111 on SR 1588 over Briery Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4601 Pitt County Bridge No. 64 on SR 1214 over Pinelog Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4484 Craven County Bridge No. 138 on SR 1470 over Neuse River. This portion of the Neuse River is designated as an inland primary nursery area. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4737 Craven County Bridge No. 46 on SR 1226 over Bachelor Creek. This portion of Bachelor Creek provides spawning and nursery habitat for anadromous fish species. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4924 Craven County Bridge No. 19 on SR 1003 over Fork of Little Swift Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5143 Duplin County Bridge No. 408 on SR 1105 over Stewarts Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4722 Carteret County Bridge No. 33 on US 70 over North River. NCWRC will defer to NCDMF for specific recommendations pertaining to aquatic resources. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4933 Edgecombe County Bridge No. 80 on NC 33 over Tar River. A rare and diverse mussel fauna historically occurred up and downstream of the NC 33 Bridge on the Tar River. The Creeper *Strophitus undulatus* (State threatened), the Triangle floater *Alasmidonta undulata* (State Threatened), the Roanoke slabshell *Elliptio roanokensis* (State Threatened), and the Tar River Spiny mussel *Elliptio steinstansana* (Federally and State endangered), have all been located at this site. A mussel survey is recommended at this location and NCDOT should follow design standards for sensitive watersheds. Also this portion of the Tar River is designated as an inland Primary Nursery area. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Furthermore there is a public access facility within the project study area, DOT should coordinate closely with NCWRC during the design and construction of this project to avoid and minimize impacts to this facility. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4932 Edgecombe County Bridge No. 28 on NC 42 over Tar River. A rare and diverse mussel fauna historically occurred up and downstream of the NC 42 bridge. Roanoke slabshell *E. roanokensis* (State Threatened), Yellow lampmussel *L. cariosa* (State Special Concern), and the Tar River spiny mussel *E. steinstansana* (State and Federally Endangered), have all been detected at this site. A mussel survey is recommended at this location and NCDOT should follow design standards for sensitive watersheds. Also this portion of the Tar River is designated as an inland Primary Nursery area. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Furthermore there is a public access facility within the project study area, DOT should coordinate closely with NCWRC during the design and construction of this project to avoid and minimize impacts to this facility. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4743 Edgecombe County Bridge No. 83 on SR 1003 over tributary of Town Creek. This bridge is located immediately upstream from the confluence with Fishing Creek. The strongest known population of the State Threatened Carolina madtom, *N. furiosus*, was discovered in 2007 just downstream of the confluence of these two streams. The Carolina madtom requires sediment free habitat for day time cover and spawning. This area is the stronghold for this species across its entire range; therefore WRC recommend NCDOT use design standards for sensitive watersheds during the design and replacement of this structure. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4761 Halifax County Bridge No. 29 on NC 561 over Little Fishing Creek. Little Fishing Creek is one of the most diverse and unique waterways in the Tar River basin. The best known population of the Federally Endangered Tar River Spiny mussel, *E. steinstansana*, occurs in this stream. As well as Atlantic Pigtoe, *Fusconia masoni* (State Special Concern), the Notched Rainbow, *Villosa constricta* (State Special Concern), the Yellow lamp mussel, *L. cariosa* (State Special Concern), the Triangle floater, *A. undulata*, and Creeper, *S. undulates*. A mussel survey is recommended at this location and NCDOT should follow design standards for sensitive watersheds. NCDOT should coordinate closely with the NCWRC Eastern Aquatic Wildlife Diversity Biologists to aid with surveys at this site.

B-4557 Johnston County Bridge No. 113 on SR 1309 over Big Branch. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4773 Johnston County Bridge No. 222 on SR 2320 over Little Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4936 Johnston County Bridge No. 41 on SR 1136 over Mill Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4561 Johnston County Bridge No. 147 on SR 1525 over Swift Creek. Historical records exist for several listed mussel species both up and downstream of this bridge: the Atlantic Pigtoe, *F. masoni* (State Special Concern), the Yellow lamp mussel, *L. cariosa* (State Special Concern), the Triangle floater, *A. undulate* (State Threatened), the Creeper, *S. undulatus* (State Threatened), the Yellow lance, *E. lanceolata* (State Endangered), and the Dwarf wedgemussel, *A. heterodon* (State and Federally Endangered). A mussel survey is recommended at this location and NCDOT should follow design standards for sensitive watersheds. Anadromous species are also found in this portion of Swift Creek. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4938 Nash County bridge No. 25 on SR 1145 over Little Sapony Creek. . We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5124 Nash County Bridge No. 141 & 151 on US 301 over Swift Creek. The Atlantic Pigtoe, *Fusconia masoni* (State Special Concern), the Notched Rainbow, *Villosa constricta* (State Special Concern), the Yellow lamp mussel, *L. cariosa* (State Special Concern), the Triangle floater, *A. undulata* (State Threatened), the Creeper, *S. undulatus* (State Threatened), the Yellow lance, *E. lanceolata* (State Endangered), and the Tar River spiny mussel, *E. steinstansana* (State and Federally Endangered), have all been detected in Swift Creek. A mussel survey is recommended at this location and NCDOT should follow design standards for sensitive watersheds. Anadromous species are also found in this portion of Swift Creek. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5108 Nash County Bridge No. 26 on SR 1145 over Sapony Creek. . We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4939 Nash County Bridge No. 156 on SR 1433 over Basket Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4843 Wayne County Bridge No. 15 on SR 1719 over Bear Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4679 Wilson County Bridge No. 66 on SR 1163 over Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5126 Wilson County Bridge No. 65 on SR 1163 over a swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4436 Bladen County Bridge No. 31 on SR 1700 over Brown's Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5116 Bladen-Sampson counties Bridge No. 150 on SR 1502 over South River. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5117 Bladen County Bridge No. 47 on US 210 over Lake Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4478 Columbus County Bridge No. 216 on SR 1700 over Welches Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5115 Columbus County Bridge No. 94 and 95 on SR 1005 over Grissett Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4475 Columbus County Bridge No. 85 on SR 1119 over Tom's Fork Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4738 Cumberland County Bridge No. 189 on SR 1137 over Buckhead Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4951 Harnett County Bridge No. 57 on SR 1002 over I-95. 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) 528-9886. Thank you for the opportunity to review and comment on this project.



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

RECEIVED
Division of Highways

APR 30 2009

Preconstruction
Project Development and
Environmental Analysis Branch
Dee Freeman
Secretary

April 22, 2009

MEMORANDUM

TO: Hank Schwab, Bridge Planning Engineer, NCDOT PDEA

FROM: Rob Ridings, NC DWQ Transportation Permitting Unit *RR*

SUBJECT: **Scoping Review of NCDOT's Division 4 Proposed Bridge Replacement Projects: B-5126, B-4679 (Wilson County), B-4557, B-4561, B-4773, B-4936 (Johnston County), B-4743, B-4932 (Edgecombe County), B-4761 (Halifax County), B-4843, B-5104 (Wayne County), B-5108, B-4939, B-4938 (Nash County).**

In reply to your correspondence dated April 15, 2009 (received April 20, 2009) in which you requested comments for the above referenced projects, the NC Division of Water Quality offers the following comments:

Project-Specific Comments

B-5126 & B-4679, Bridges 65 & 66 over UT Wiggins Mill Reservoir [27-86-(5.8)], Wilson County

1. Wiggins Mill Reservoir is class WS-IV; CA; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from these projects. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Wiggins Mill Reservoir. 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*.

Review of these projects reveals the presence of surface waters classified as Water Supply Critical Area in the project study areas. Given the potential for impacts to these resources during the project implementation, the DWQ requests that DOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project. This would apply for any area that drains to streams having WS CA (Water Supply Critical Area) classifications.

Should the bridge project be located within the Critical Area of a Water Supply the NCDOT will be required to design, construct, and maintain hazardous spill catch basins in the project area. The number of catch basins installed shall be determined by the design of the bridge, so that runoff would enter said basin(s) rather than flowing directly into the stream, and in consultation with the DWQ.

2. 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.

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
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B-5104, Bridge 98 over Sleepy Creek [27-67-(2)], Wayne County
B-4843, Bridge 15 over West Bear Creek [27-72-2], Wayne County
B-4773, Bridge 222 over Little Creek [27-57-19], Johnston County
B-4936, Bridges 41 & 39 over Mill Creek [27-52-(1)], Johnston County
B-4561, Bridge 147 over Swift Creek [27-43-(8)], Johnston County
B-4557, Bridge 113 over McCullens Branch [27-45-5], Johnston County

1. Sleepy Creek, West Bear Creek, Little Creek, Mill Creek, Swift Creek and McCullens Branch are class C; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from these projects. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. 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*.

2. 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.

B-4938, Bridge 25 over Little Sapony Creek [28-55-6-(0.6)], Nash County
B-4939, Bridge 156 over Pigbasket Creek [28-68-3-(2)], Nash County
B-5108, Bridge 26 over Sapony Creek [28-55-(1)], Nash County
B-4761, Bridge 29 over Little Fishing Creek [28-79-25], Halifax County
B-4932, Bridge 28 over Tar River [28-(80)], Edgecombe County
B-4743, Bridge 63 over Corn Creek [28-83-2.5], Edgecombe County

1. Little Sapony Creek, Pigbasket Creek, Sapony Creek, Little Fishing Creek, Tar River and Corn Creek are class C; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from these projects. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. 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*.

2. These projects are within the Tar-Pamlico River Basin. Riparian buffer impacts shall be avoided and minimized to the greatest extent possible pursuant to 15A NCAC 2B.0259.

General Comments Regarding Bridge Replacement Projects

1. DWQ is very concerned with sediment and erosion impacts that could result from these projects. 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 3687/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 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.
3. 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.

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 919-733-9817.

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



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor
Linda A. Carlisle, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

January 26, 2009

MEMORANDUM

TO: Hank Schwab, Project Engineer
Project Development, Bridge Unit
NCDOT Division of Highways

FROM: Peter Sandbeck

Peter B Sandbeck

SUBJECT: Bridge 29 on NC 561 over Little Fishing Creek, B-4761, Halifax County, ER 08-2587

Thank you for sending information on the proposed bridge replacement.

There are no recorded archaeological sites within the proposed project area. If the replacement is to be located along the existing alignment, it is unlikely that significant archaeological resources would be affected and no investigation would be recommended. If, however, the replacement is to be in a new location, please forward a map to this office indicating the location of the new alignment so we may evaluate the potential effects of the replacement upon archaeological resources.

We have determined that the project as proposed will not have an effect on any historic structures.

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: Matt Wilkerson, NCDOT
Mary Pope Furr, NCDOT