CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

TIP Project No.	**B-5327**
W.B.S. No.	**46041.1.1**
Federal Project No.	**BRZ-1300(13)**

A. Project Description:

The purpose of this project is to replace Person County Bridge No. 49 on SR 1300 (Concord Church Road) over South Hyco Creek (see Figure 1 and Figure 2). Bridge No. 49 is 201 feet long. This project is being designed under Sub Regional Tier Guidelines. The replacement structure will be a bridge approximately 210 feet long providing a minimum 24-foot clear deck width. The bridge will include two 10-foot lanes to match existing lane widths and 2-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 360 feet from the west end of the new bridge and 520 feet from the east end of the new bridge. The approaches will be widened to include a 20-foot roadway width providing two 10-foot lanes. Four-foot shoulders (7-foot shoulders where guardrail is included) with 2-foot paved will be provided on each side. The roadway will be designed as a Rural Local Route with a 45 mile per hour (mph) design speed. Traffic will be detoured off-site during construction (see Figure 1).

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 49 has a sufficiency rating of 27.11 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to a substructure condition appraisal of 4 out of 9 according to Federal Highway Administration (FHWA) standards. The bridge has a posted weight limit of 8 tons for all vehicle types. Components of both the concrete superstructure and 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 2015 prices, are as follows:

Structure	$ 690,000
Roadway Approaches	$ 372,000
Structure Removal	$ 72,000
Miscellaneous & Mobilization	$ 282,000
Engineering & Contingencies	$ 234,000
Total Construction Cost	$ 1,650,000
Right of way Costs	$ 93,000
Right of way Utility Costs	$ 107,000
Total Project Cost	$ 1,850,000

Estimated Traffic:

Current (2013)	-	570 vpd
Year 2035	-	1200 vpd
TTST	-	3%
Dual	-	6%

Accidents: Traffic Engineering has evaluated a recent ten year period and found one accident occurring in the vicinity of the project which was not associated with the geometry of the bridge or its approach roadways.

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

Pedestrian and Bicycle Accommodations:

This portion of SR 1300 is not a part of a designated bicycle route nor is it listed in the Transportation Improvement Program (TIP) as a bicycle project. The NCDOT Division of Bicycle and Pedestrian Transportation supports the proposed offsets on the replacement bridge. Neither permanent nor temporary bicycle or pedestrian accommodations are required for this project.

Bridge Demolition:

Bridge No. 49 includes a superstructure composed of reinforced concrete on I-Beams and the substructure is composed of reinforced concrete caps/ pre-stressed Portland cement piles. The existing structure can be removed by standard techniques with no resulting fill but it might be difficult due to bridge posting and barge access will most likely be needed during construction.

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 1300.

Rehabilitation – An alternative that would rehabilitate the existing structure was not considered. The bridge is more than 50 years old and the condition of the substructure is unacceptable according to FHWA standards.

Offsite Detour – Bridge No. 49 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 1311 and NC 57. The majority of traffic on the road is through traffic. The detour for the average road user would result in approximately 5 minutes of additional travel time (4.3 miles of additional travel). Up to 12-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above indicate that an offsite detour is justifiable from a traffic operations standpoint but must be weighed with other project factors to determine if it is appropriate. While evaluating the offsite detour,

NCDOT considered emergency medical services (EMS) input, the condition of the detour route, bridges on the detour route, and possible improvements needed to the proposed detour route. Person County Emergency Services indicated that the detour would have a moderate impact on their operations by increasing response times for fire personnel and first responders by up to 10 minutes. However, they did not express a strong opposition to an offsite detour and stated EMS personnel would not be affected as much. NCDOT Division 5 has indicated the condition of all roads, bridges and intersections on the offsite 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. Additionally, an onsite detour would require the construction of a 400-foot bridge and cause more impacts to the lake.

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

New Alignment – Since the existing alignment for SR 1300 is acceptable, a new alignment was not considered as an alternative.

Other Agency Comments:

The **N.C. Division of Water Quality** in a letter dated May 25, 2012 revealed that the presence of surface waters classified as High Quality Waters (HQW) of the State and Water Supply Critical Area, are present in the project study area.

> **Response:** Based on surface water classification information obtained in May 2015 from the North Carolina Division of Water Resources (NCDWR), Hyco Lake and its tributary arms (including South Hyco Creek) are designated as a WS-V, B water supply. There are no Outstanding Resource Waters (ORW), designated HQW water supply watersheds (WS-I or WS-II) within one mile downstream of the study area.

The **US Fish & Wildlife Service**, the **Army Corps of Engineers**, the **Division of Coastal Management**, and **NC Marine Fisheries** had no special concerns for this project.

Public Involvement:

No public involvement is anticipated for this project.

E. Threshold Criteria

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

ECOLOGICAL		YES	NO
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?	X	
(3)	Will the project affect anadramous fish?		X
(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?	N/A	
(5)	Will the project require the use of U. S. Forest Service lands?		X
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		X
(7)	Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?		X
(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?	X	

(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)?	X	
(23)	Is the project anticipated to cause an increase in traffic volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	X	
(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?	X	
(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?		X
(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	X	
(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?		X

(29)	Will the project affect any archaeological remains which are important to history or pre-history?		X
(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?		X
(31)	Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?		X
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?		X

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2: 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 Person County, where TIP Project B-5327 is located.

Response to Question 13: Person County is a participant in the Federal Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The project is within **a designated flood hazard zone, which is within a limited detailed flood study reach.** 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. The Division will submit sealed as-built construction plans to the Hydraulic Unit upon project completion certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown on the construction plans both horizontally and vertically.

G. CE Approval

TIP Project No.	**B-5327**
W.B.S. No.	**46041.1.1**
Federal Project No.	**BRZ-1300(13)**

Project Description:

The purpose of this project is to replace Person County Bridge No. 49 on SR 1300 (Concord Church Road) over South Hyco Creek (see Figure 1 and Figure 2). Bridge No. 49 is 201 feet long. This project is being designed under Sub Regional Tier Guidelines. The replacement structure will be a bridge approximately 210 feet long providing a minimum 24-foot clear deck width. The bridge will include two 10-foot lanes to match existing lane widths and 2-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 360 feet from the west end of the new bridge and 520 feet from the east end of the new bridge. The approaches will be widened to include a 20-foot roadway width providing two 10-foot lanes. Four-foot shoulders (7-foot shoulders where guardrail is included) with 2-foot paved will be provided on each side. The roadway will be designed as a Rural Local Route with a 45 mile per hour (mph) design speed. Traffic will be detoured off-site during construction (see Figure 1).

Categorical Exclusion Action Classification:

___ TYPE II(A)
X TYPE II(B)

Approved:

7/16/15 — Date
Project Development Engineer
Project Development & Environmental Analysis Unit

7/16/15 — Date
Project Development Group Leader
Project Development & Environmental Analysis Unit

7/15/2015 — Date
Consultant Project Manager
Mark Reep, PE, HDR/ICA Engineering

7/17/15 — Date
for John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration

PROJECT COMMITMENTS

North Carolina Department of Transportation
Bridge No. 49 on SR 1300 Over South Hyco Creek
Person County
Federal Aid Project No. BRZ-1300(13)
WBS No. 46041.1.1
TIP No. B-5327

NCDOT Hydraulics Unit – FEMA Coordination

- The NCDOT Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of the 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).

NCDOT Division 5 - FEMA

- This project involves construction activities on or adjacent to Federal Emergency Management Agency regulated streams. Therefore, the NCDOT Division 5 shall submit sealed as-built construction plans to the NCDOT 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.

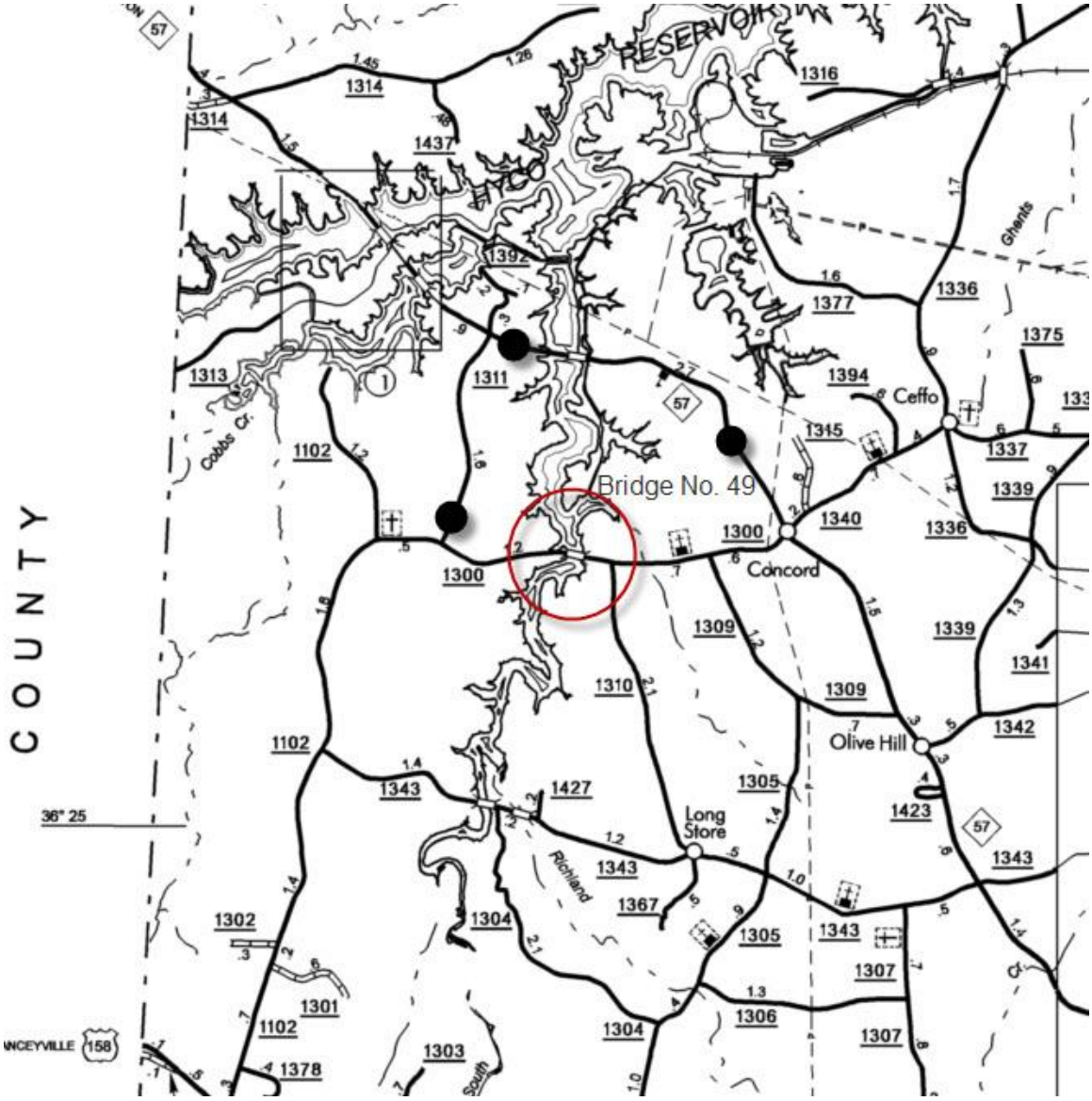
Division 5 Construction, Resident Engineer's Office – Offsite Detour

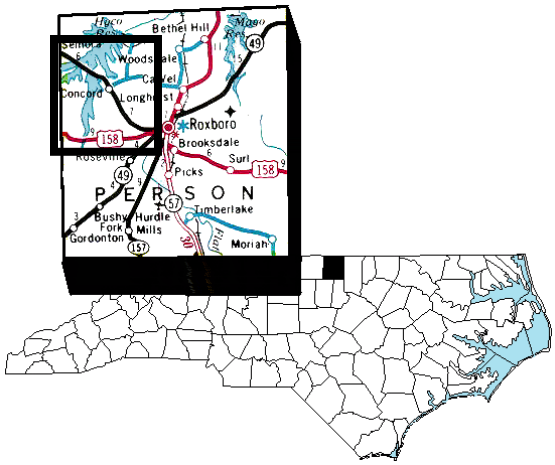
- In order to have time to adequately reroute school buses, Person County Public Schools will be contacted at least one month prior to road closure.

- In order to allow emergency services time to prepare for road closure, Person County Emergency Medical Services and the Ceffo Volunteer Fire and Rescue Department will be contacted one month prior to road closure.

NCDOT Project Development and Hydraulics Unit - Coordination

- Further coordination with Duke Energy – Lake Services will be needed to obtain approval through their conveyance permit application process.



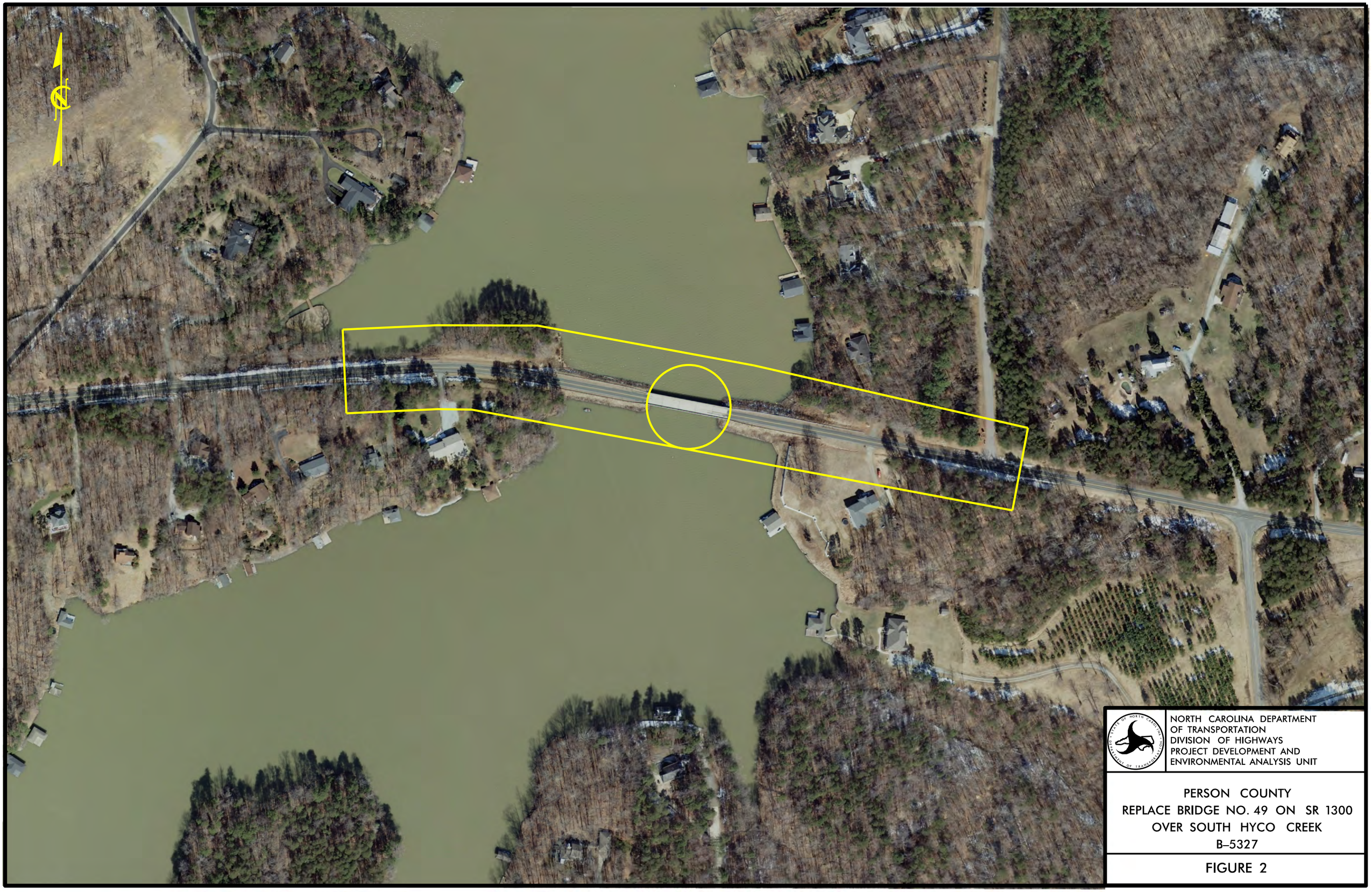


STUDIED DETOUR ROUTE

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

PERSON COUNTY
REPLACE BRIDGE NO.49 ON SR 1300
OVER SOUTH HYCO CREEK
B-5327

Figure 1



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

PERSON COUNTY
REPLACE BRIDGE NO. 49 ON SR 1300
OVER SOUTH HYCO CREEK
B–5327

FIGURE 2

The Catena Group

1000 Corporate Drive, Suite 101
Hillsborough, NC 27278
(919) 732-1300

May 12, 2015

MEMORANDUM TO: Mark Reep, PE
ICA Engineering, Inc.

FROM: Chris Sheats, PWS
The Catena Group

SUBJECT: Bald Eagle Survey for B-5327, proposed replacement of Bridge No. 49 over South Hyco Creek on SR 1300 (Concord Church Road) Person County, NC; Federal Aid Project No. BRZ-1433(9)WBS No. 38400.1.FD2.; Division 5; Franklin County, North Carolina

REFERENCE: NRTR Replace Bridge No. 49 over South Hyco Creek on SR 1300 (Concord Church Road) in Person County, North Carolina, June 2012

The North Carolina Department of Transportation (NCDOT) proposes replacing bridge number 49 on SR 1300 (Concord Church Road) over South Hyco Creek (TIP B-5327) in Person County. The following memo has been prepared to supplement the Natural Resources Technical Report (NRTR) prepared in June 2012.

Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed using color aerial orthophotography. Hyco Lake is large enough and sufficiently open to be considered a potential feeding source. A survey of the study area and the area within 660 feet of the study area boundary was conducted on January 21, 2015, by Chris Sheats and Tom Dickinson of The Catena Group, and no individuals or nests were observed. Additionally, a review of the NCNHP database on May 4, 2015, revealed no known occurrences of this species within 1.0 mile of the study area. Due to no observations of bald eagle or nests, no known occurrences, and minimal impacts anticipated for this project, it has been determined that this project will not affect this species.

North Carolina Department of Environment and Natural Resources
Division of Water Quality
Charles Wakild PE
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

May 25, 2012

MEMORANDUM

TO: April Annis, NCDOT PDEA Bridge Project Development Section

FROM: Rob Ridings, NC DWQ Transportation Permitting Unit RR

SUBJECT: Scoping Review of NCDOT's Proposed Bridge Replacement Projects in Wake, Vance, Granville and Person Counties

In reply to your correspondence dated April 24, 2012 in which you requested comments for the above referenced projects, the NCDWQ offers the following comments:

Bridge Project	Stream Name	River Basin & Subbasin	Stream Classifications	Stream Index Number
B-5321	Little Branch	CPF 07	C	18-7-6-1-1
B-4655	Black Creek	NEU 04	C; NSW	27-45-(2)
B-4830	Moccasin Creek	NEU 07	C; NSW	27-86-2
B-5320	Tar River	TAR 01	WS-IV; NSW; CA	28-(5.3)
B-4945	Kerr Lake *(Anderson Creek Arm)*	ROA 06	WS-III; B; CA	23-8-6-(1.5)
B-5327	South Hyco Creek	ROA 05	WS-III; HQW; CA	22-58-4-(3)

Project-Specific Comments

1. **B-4655, B-4830, B-5320:**
   These project affect class NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from these projects. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to these waters. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices*.

2. **B-5320, B-4945, B-5327:**
   Review of the 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 NCDWQ requests that NCDOT 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.

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Phone: 919-807-6403
Internet: http://h2o.enr.state.nc.us/ncwetlands/

Should the bridge projects be located within the Critical Area of a Water Supply NCDOT may 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.

3. **B-5327:**
   Review of the project reveals the presence of surface waters classified as (HQW) High Quality Waters of the State in the project study area. This is one of the highest classifications for water quality. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NCDOT will be required to obtain a State Stormwater Permit prior to construction except in North Carolina's twenty coastal counties.

4. **B-4655, B-4830:**
   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.

5. **B-5320:**
   This project is 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. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDOT 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, NCDWQ 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, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.

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 NCDWQ's *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. 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.

9. 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.

10. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by NCDWQ. 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.

11. 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.

12. In most cases, the NCDWQ 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.

13. 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 NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWQ 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, floodplain benches and/or sills may be required 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.

4. 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. NCDOT 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: Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Chris Murray, Division 5 Environmental Officer
Travis Wilson, NC Wildlife Resources Commission
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.0313 ROANOKE RIVER BASIN

Name of Stream	Description	Class	Class Date	Index No.
Kilgore Creek	From source to Country Line Creek	C	09/01/57	22-56-8
Winns Creek	From source to North Carolina-Virginia State Line	B	03/01/77	22-57
Brandon Creek	From source to North Carolina-Virginia State Line	B	03/01/77	22-57-1
Hyco River, including Hyco Lake below elevation 410	From source in Hyco Lake to dam of Hyco Lake, including tributary arms below elevation 410	WS-V,B	04/01/99	22-58-(0.5)
Hyco Creek (North Hyco Creek)	From source to Hyco Lake, Hyco River	C	09/01/57	22-58-1
Negro Creek	From source to Hyco Creek	C	09/01/57	22-58-1-1
Lynch Creek	From source to Hyco Creek	C	09/01/57	22-58-1-2
Panther Branch (Morgans Pond)	From source to Hyco Creek	C	09/01/74	22-58-1-3
Coneys Creek (Cobbs Creek)	From source to Hyco Creek	C	09/01/74	22-58-1-4
Kilgore Creek	From source to Hyco Creek	C	09/01/57	22-58-1-5
Reedy Fork Creek	From source to Hyco Lake, Hyco River	C	09/01/74	22-58-2
Cobbs Creek	From source to Hyco Lake, Hyco River	C	09/01/74	22-58-3
South Hyco Creek	From source to backwaters of Lake Roxboro	WS-II;HQW	08/03/92	22-58-4-(0.5)
Sugartree Creek	From source to South Hyco Creek	WS-II;HQW	08/03/92	22-58-4-1
South Hyco Creek (Lake Roxboro)	From backwaters of Lake Roxboro to dam at Lake Roxboro	WS-II,B;HQW	08/03/92	22-58-4-(1.4)
South Hyco Creek	From dam at Lake Roxboro to a point 0.6 mile downstream of Double Creek	WS-II;HQW	08/03/92	22-58-4-(1.7)
Double Creek	From source to South Hyco Creek	WS-II;HQW	08/03/92	22-58-4-2
Broachs Mill Creek	From source to Double Creek	WS-II;HQW	08/03/92	22-58-4-2-1
Snipe Creek	From source to Broachs Mill Creek	WS-II;HQW	08/03/92	22-58-4-2-1-1
South Hyco Creek	From a point 0.6 mile downstream of Double Creek to Hyco Lake, Hyco River (City of Roxboro water supply intake)	WS-II;HQW,CA	08/03/92	22-58-4-(3)
Cub Creek	From source to Hyco Lake, Hyco River	C	07/18/79	22-58-5
Richland Creek	From source to Hyco Lake, Hyco River	C	09/01/74	22-58-6

Land use in the project vicinity consists primarily of forestland, interspersed with farmland with residences along roadways.

3.1 Soils

The Person County Soil Survey identifies two soil types within the study area (Table 1).

Table 1. Soils in the study area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Wilkes loam	WkB, WkF	Well drained	Nonhydric
Udorthents, loamy	UdB	Well drained and moderately well drained	Nonhydric

3.2 Water Resources

Water resources in the study area are part of the Roanoke River Basin [United States Geological Survey (USGS) Hydrologic Unit 03010104]. One surface water was identified in the study area (Table 2). The location of this water resource is shown in Figure 3. The physical characteristics of this water resource are provided in Table 3.

Table 2. Water resources in the study area

Stream Name	Map ID	NCDWQ Index Number	Best Usage Classification
South Hyco Creek (Hyco Lake)	South Hyco Creek (Hyco Lake)	22-58-(0.5)	WS-V & B

Table 3. Physical characteristics of water resources in the study area

Map ID	Bank Height (ft.)	Bankfull Width (ft.)	Water Depth (in.)	Channel Substrate	Velocity	Clarity
South Hyco Creek (Hyco Lake)	N/A	N/A	unknown	unknown	N/A	Slightly turbid

There are no Outstanding Resource Waters (ORW), designated High Quality Waters (HQW), or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. The North Carolina 2010 Final Clean Water Act (CWA) Section 303(d) list of impaired waters does not include South Hyco Creek (Hyco Lake) or any other waters listed due to sedimentation or turbidity within 1.0 mile downstream of the study area. There are no stream sampling stations for benthic or fish monitoring data within 1.0 mile of the study area and within the same watershed.

4.0 BIOTIC RESOURCES

4.1 Terrestrial Communities

Two terrestrial communities were identified in the study area: Maintained/Disturbed and Mesic Mixed Hardwood Forest. Figure 3 shows the location and extent of the terrestrial communities in the study area. A brief description of the community types follows. Scientific names of all species identified are included in Appendix B.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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May 4, 2012

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

Dear Ms. Annis:

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 six Division 5 bridges in Wake, Vance, Granville and Person Counties, North Carolina. 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).

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 .

If you determine that the proposed actions 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 actions 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.

Specific Comments

B-4655, Bridge No. 277 over Black Creek on SR 1006 in Wake County: We do not have any specific concerns for this project. General conservation measures apply.

B-4830, Bridge No. 20 over Moccasin Creek on NC 97 in Wake County: The federally endangered dwarf wedgemussel (*Alasmidonta heterodon*) has been observed several miles downstream in Moccasin Creek in Johnston and Nash Counties. If suitable habitat is present in the project vicinity, a mussel survey should be conducted.

B-4945, Bridge No. 36 over Kerr Lake on SR 1374 in Vance County: We do not have any specific concerns for this project. General conservation measures apply.

B-5320, Bridge No. 96 over Tar River on SR 1139 in Granville County: The federally endangered dwarf wedgemussel was known to occur in the Tar River in the vicinity of the project; however, it has not been collected in the main stem since the late 1990's despite repeated surveys and despite the presence of suitable habitat. The species is known to still occur in Shelton Creek upstream of this project site. Given the presence of the species in the watershed, a mussel survey should be conducted at this site. Additional discussion will be needed in developing a biological conclusion for this species.

B-5321, Bridge No. 374 over Little Branch on SR 1153 in Wake County: We do not have any specific concerns for this project. General conservation measures apply.

B-5327, Bridge No. 49 over South Hyco Creek on SR 1300 in Person County: We do not have any specific concerns for this project. General conservation measures apply.

General Conservation Measures

The Service recommends 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.

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,

Gary Jordan

for Pete Benjamin
Field Supervisor

Electronic copy: Eric Alsmeyer, USACE, Wake Forest, NC
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