

**Person County**  
**Bridge No. 11 on US 158 over South Hyco Creek**  
**Federal Aid Project No. BRSTP-0158(37)**  
**W.B.S. No. 42237.1.1**  
**T.I.P. No. B-5102**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

12/20/13  
DATE

Richard W. Hancock, P.E.  
For *Richard W. Hancock*  
Richard W. Hancock, P.E.  
Manager, Project Development & Environmental Analysis Unit

12/20/13  
DATE

John F. Sullivan, III, Division Administrator  
For *John F. Sullivan, III*  
John F. Sullivan, III, Division Administrator  
Federal Highway Administration

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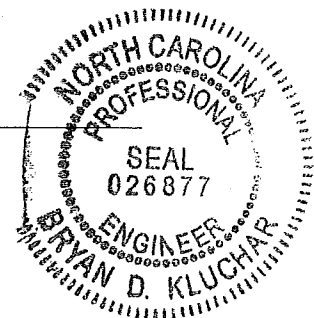
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Bridge Project Development Section



## **PROJECT COMMITMENTS:**

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All standard procedures and measures, including NCDOT's Best Management Practices for Protection of Surface Waters, Guidelines for Best Management Practices for Bridge Demolition and Removal, will be implemented, as applicable, to avoid or minimize environmental impacts. The following special commitments have been agreed to by NCDOT:

### ***Division 5 Construction:***

In order to allow Emergency Management Services (EMS) time to prepare for road closure, the NCDOT Resident Engineer will notify the Director of the Person County EMS at (336) 597-4262 of the bridge removal 30 days prior to road closure.

In order to allow Person County Schools to prepare for road closure, the NCDOT Resident Engineer will notify the Transportation Director at (336) 599-2191 of the bridge removal 30 days prior to road closure.

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.

### ***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).

### ***Hydraulic Design Unit, Natural Environment Section, Roadside Environmental Unit:***

Due to the high classification of South Hyco Creek, NC Division of Water Quality requests that NCDOT strictly adhere to Design Standards in Sensitive Watersheds. Also, NCDOT must design, construct, and maintain hazardous spill catch basins since the project is located within the Critical Area of a water supply. NCDOT will comply with all stormwater requirements through the Post- Construction Stormwater Program under the Department's National Pollutant Discharge Elimination System (NPDES) Stormwater Permit (NCS000250).

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**INTRODUCTION:** Bridge No. 11 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and is eligible for the Federal-Aid Highway Bridge Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

**I. PURPOSE AND NEED STATEMENT**

NCDOT Bridge Management Unit records indicate Bridge No. 11 has a sufficiency rating of 49.98 out of a possible 100 for a new structure. The bridge is considered functionally obsolete due to deck geometry appraisal of 2 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA's Highway Bridge Program.

Components of both the concrete superstructure and substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. Bridge No. 11 also has eighty-one year old timber substructure components which have a typical life expectancy between 40 to 50 years due to the natural deterioration rate of wood. The bridge is narrow (20 feet wide) and is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

**II. EXISTING CONDITIONS**

The project is located just east of the Caswell County line in the west-central part of Person County, approximately seven miles southwest of the city of Roxboro (see Figure 1). Development in the area is primarily agricultural in nature with open fields and farm land.

US 158 is classified as a rural arterial in the Statewide Functional Classification System and it is a National Highway System Route. It is also a North Carolina Intrastate System Route, a part of the North Carolina National Truck Network for the Surface Transportation Assistance Act of 1982 (STAA), and is considered to be an expressway.

In the vicinity of the bridge, US 158 has a 20-foot pavement width with 5-foot grass shoulders (see Figure 3). The existing bridge is on a tangent. The roadway is situated approximately 23 feet above the creek bed.

Bridge No. 11 is a three-span structure that consists of a reinforced concrete deck on concrete girders with an asphalt-wearing surface. The structure also has concrete vertical abutments and



the interior bents are webbed concrete piers on timber pile footings. The existing bridge (see Figure 3) was constructed in 1932. The overall length of the structure is 171 feet. The clear roadway width is 20 feet. The posted weight limit on this bridge is 41 tons for single vehicles and 44 tons for TTST's.

There are no utilities attached to the existing structure, however an abandoned USGS monitoring station was attached to the north face of the bridge. The monitoring station has been removed but the antenna and conduit that was associated with the station are still in place on the east side of the bridge. There are overhead power and telephone lines located on south side of US 158 in the vicinity of the existing structure. Utility impacts are anticipated to be low.

The current traffic volume of approximately 2,850 vehicles per day (VPD) is expected to increase to 4,800 VPD by the year 2035. The projected volume includes five percent truck-tractor semi-trailer (TTST) and four percent dual-tired vehicles (DT). The statutory speed limit is 55 miles per hour in the project area.

There were four accidents reported in the vicinity of Bridge No. 11 during a recent four-year period. All four accidents were sideswipe collisions which are related to the narrow width of the existing structure relative to the roadway. The new bridge should alleviate the occurrence of sideswipe collisions.

This section of US 158 is not part of a designated bicycle route nor is it listed in the T.I.P. as needing incidental bicycle accommodations. Sidewalks do not exist on the existing bridges and there is no indication of pedestrian usage on or near the bridges. No temporary bicycle or pedestrian accommodations are required for of this project.

### **III. ALTERNATIVES**

#### **A. Project Description**

The replacement structure will consist of a bridge approximately 200 feet long. The bridge length is based on preliminary design information and is set by hydraulic requirements. The bridge will be of sufficient width to provide for two 12-foot lanes with 4-foot offsets on each side. The roadway grade of the new structure will be approximately the same as the existing grade.

The existing roadway will be widened to a 28-foot pavement width to provide two 12-foot lanes. Eight-foot shoulders (eleven-foot where guardrail is required) will be provided on each side; two feet of which will be paved in accordance with the current NCDOT Design Policy.

## **B. Reasonable and Feasible Alternatives**

Two alternatives for replacing Bridge No. 11 that were studied in detail are described below.

### **Alternate 1**

Alternate 1 involves replacement of the structure along the existing roadway alignment. Improvements to the approach roadways will be required for a distance of approximately 615 feet to the west and approximately 700 feet to the east of the new structure. This alternate will be designed using Statewide Tier guidelines with a design speed of 60 miles per hour. No design exception is anticipated for this project.

Traffic will be maintained onsite during construction with the use of a temporary detour bridge to the north of the existing structure. The temporary structure will be approximately 185 feet in length with a roadway elevation approximately the same as the existing structure. The detour structure will have a clear deck width of 26 feet, which will provide two 11-foot lanes with 2-foot offsets. The detour roadway approaches will provide two 11-foot lanes with 6-foot shoulders (8-foot where guardrail is required) Two-foot full depth paved shoulders will be provided on each side.

### **Alternate 2 (Preferred)**

Alternate 2 involves replacement of the structure along the existing roadway alignment. Improvements to the approach roadways will be required for a distance of approximately 780 feet to the west and approximately 670 feet to the east of the new structure. This alternate will be designed using Statewide Tier guidelines with a design speed of 60 miles per hour. No design exception is anticipated for this project.

Traffic will be maintained onsite during construction with the use of a temporary detour bridge to the south of the existing structure. The temporary structure will be approximately 170 feet in length with a roadway elevation approximately the same as the existing structure. The detour structure will have a clear deck width of 26 feet, which will provide two 11-foot lanes with 2-foot offsets. The detour roadway approaches will provide two 11-foot lanes with 6-foot shoulders (8-foot where guardrail is required) Two-foot full depth paved shoulders will be provided on each side.

## **C. Alternatives Eliminated From Further Consideration**

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by US 158.

“Rehabilitation” of the old bridge is not practical due to its age and deteriorated condition. The concrete elements of the existing structures have all deteriorated to a point where maintenance activities will be impractical and too costly for repair and rehabilitation.

Staged Construction is not feasible for this bridge because the 22.9-foot deck width and beam configuration will not support removal of a portion and maintenance of traffic on the remaining portion.

Replace-in-place with an off-site detour was evaluated but eliminated from consideration. In order to accommodate the high truck traffic, this alternate would require making improvement to the detour route (SR 1305, SR 1304, SR 1343 and SR 1102). The Federal Highway Administration denied the use of federal funds for pavement improvements to the detour route and thus eliminating this option.

**D. Preferred Alternative**

Bridge No. 11 will be replaced at the existing location as shown by Alternative 2 in Figure 2b. NCDOT Division 5 concurs with the selection of Alternative 2 as the preferred alternative.

**IV. ESTIMATED COSTS**

The estimated costs, based on 2013 prices, are as follows:

**Table 1.**

	Alternative 1	Alternative 2 <b>Preferred</b>
Structure (Bridge and Approach Slabs)	\$ 830,000	\$ 830,000
Roadway Approaches	\$ 448,000	\$ 448,000
Detour Structure and Approaches	\$ 876,000	\$ 877,000
Structure Removal	\$ 59,000	\$ 59,000
Misc. & Mob.	\$ 635,000	\$ 631,000
Eng. & Contingencies	\$ 452,000	\$ 455,000
Total Construction Cost	\$ 3,300,000	\$ 3,300,000
Right-of-Way Costs	\$ 63,000	\$ 48,000
Utility Costs	\$ 67,000	\$ 71,000
Total Project Cost	\$ 3,430,000	\$ 3,419,000

**V. NATURAL ENVIRONMENT**

**PHYSICAL CHARACTERISTICS**

**Water Resources**

Water resources in the study area are part of the Roanoke River basin [United States Geological Survey (USGS) Hydrologic Unit 03010104]. One stream was identified in the study area (Table 2). The physical characteristics of this stream are provided in Table 3.

**Table 2. Water resources in the project study area**

Stream Name	Map ID	DWQ Index Number	Best Usage Classification
South Hyco Creek	South Hyco Creek	22-58-4-(3)	WS-II; HQW, CA

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

Map ID	Bank Height (ft)	Bankfull Width (ft)	Water Depth (ft)	Channel Substrate	Flow	Clarity
South Hyco Creek	6-8	70-75	2-3	Sand, Silt, Gravel	Moderate	Slightly Turbid

South Hyco Creek has been designated a High Quality Water (HQW) and Water Supply II (WS-II) from its source to its confluence with Hyco River (Hyco Lake). In addition, South Hyco Creek within the project study area is within 0.5 mile of a water supply intake [critical area (CA)] for the City of Roxboro. No Outstanding Resource Waters (ORW) or WS-I waters occur within 1.0 mile of the project study area. Additionally, South Hyco Creek does not support trout or anadromous fish and no Primary Nursing Areas are present within the study area boundaries. No streams located within 1.0 mile of the project area are found on the North Carolina 2012 Final 303(d) list of impaired waters.

There have been no benthic samples conducted within 1.0 mile of the project study area. One fish survey was conducted by NCDWQ at this site on April 30, 2004 and received a rating of Good [North Carolina Index of Biotic Integrity (NCIBI) Score of 52].

## **BIOTIC RESOURCES**

### **Terrestrial Communities**

Three terrestrial communities were identified in the project study area: Maintained-Disturbed, Floodplain Forest, and Mixed Hardwood Forest. A brief description of each community type has been included below.

#### **Maintained-Disturbed**

The maintained-disturbed community encompasses habitats that have recently been or are currently impacted by human disturbance, such as residential lawns, maintained roadside right-of-ways (ROW), agricultural fields, and utility line easements. Because of mowing and periodic clearing, this community is kept in a constant state of early succession. The vegetation in this community is comprised of fescue, crabgrass, broomsedge, daisy flea-bane, Virginia wild rye, Japanese honeysuckle, crossvine, goldenrod, witchgrass, blackberry, smooth sumac, common greenbrier, Christmas fern, and saplings of southern sugar maple, tulip poplar, Virginia pine, and loblolly pine.



### **Floodplain Forest**

The floodplain forest community is located adjacent to South Hyco Creek within the study area. The canopy contains river birch, sycamore, southern sugar maple, sweetgum, green ash, and sugarberry. Understory species include ironwood, sweetgum, and spicebush. Herbaceous and vine species include river oats, Christmas fern, witchgrass, wild garlic, Japanese honeysuckle, common greenbrier, and poison ivy.

### **Mixed Hardwood Forest**

The mixed hardwood forest community occurs at higher elevations throughout the project study area. Dominant tree species include white oak, northern red oak, southern red oak, southern sugar maple, tulip poplar, American beech, hickory, and Virginia pine. Shrub/sub-canopy species include red cedar, hazelnut, hop-hornbeam, and redbud. Herbaceous species include, but were not limited to the following: Christmas fern, ebony spleenwort, crane fly orchid, spotted wintergreen, and bottlebrush grass.

### **Terrestrial Community Impacts**

Terrestrial communities in the project study area may be impacted by project construction as a result of grading and paving of portions of the study area. Community data is presented in the context of total coverage of each type within the study area (Table 4).

**Table 4. Coverage of terrestrial communities in the project study area**

<b>Community ID</b>	<b>Coverage (Acres)</b>
Maintained/Disturbed	4.94*
Floodplain Forest	0.83
Mixed Hardwood Forest	0.83
<b>Total</b>	<b>6.60</b>

\*Roadways were included when calculating Maintained-Disturbed acreage.

### **Terrestrial Wildlife**

Many fauna species are highly adaptive and may populate or exploit the entire range of biotic communities located within the project study area (those species either observed or identified by tracks, scat, call, or other means during field visits are indicated with an \*). Mammal species that commonly exploit forested habitats and stream corridors found within the project study area include species such as eastern cottontail, raccoon\*, gray squirrel\*, various mice species, Virginia opossum, gray fox, and white-tailed deer\*. Birds that commonly use forest and forest edge habitats include the American crow, blue jay, mourning dove, pileated woodpecker, red-bellied woodpecker, yellow-bellied sapsucker, Carolina chickadee, tufted titmouse, northern cardinal, brown thrasher, red-shouldered hawk, and the American woodcock. Avian species that may use the open habitat or water bodies within the project study area include American kestrel, eastern bluebird, eastern meadowlark, Acadian flycatcher, American goldfinch, great blue heron, belted kingfisher, Canada goose, and turkey vulture. Reptile species that may use terrestrial communities located in the project study area include black rat snake, black racer, copperhead, garter snake, rough green snake, eastern fence lizard, eastern box turtle, snapping turtle, green anole, and a variety of skink species.



### **Aquatic Communities**

Aquatic communities present within the project study area include South Hyco Creek. This water resource and the terrestrial communities surrounding it may provide breeding, shelter, and feeding opportunities for many amphibians. Common amphibians that either inhabit or use these resources or the communities around them may include northern dusky salamander, gray treefrog, American toad, upland chorus frog, spring peeper, bullfrog, green frog, pickerel frog, and northern cricket frog. Common reptiles that may inhabit South Hyco Creek and associated floodplain include water snakes and snapping turtles. Dominant fish species collected by NCDWQ in 2004 within the project study area include satinfish shiner, rosefin shiner, swallowtail shiner, spottail shiner, Johnny darter, fantail darter, bluegill, redbreast sunfish, v-lip redhorse, bluehead chub, and speckled killifish. South Hyco Creek may likely also support a variety of benthic macroinvertebrates including mayflies, stoneflies, caddisflies, dragonflies, damselflies, beetles, chironomid midges, craneflies, amphipods, isopods, crayfish, and mollusks such as the Asiatic clam. South Hyco Creek also supports beaver.

### **Invasive Species**

The following invasive species listed on the NCDOT list of invasive species (2008) was found within the project study area: Japanese honeysuckle. Japanese honeysuckle has a threat level of "Threat to Habitat and Natural Areas". During project construction, NCDOT will follow the Department's Best Management Practices for the management of invasive plant species.

## **JURISDICTIONAL TOPICS**

### **Surface Waters and Wetlands**

One jurisdictional stream, South Hyco Creek, was identified within the project study area (Table 5). NCDWQ and USACE stream identification forms were not required for this creek because it was definitively perennial, displaying geomorphological, hydrological, and biological characteristics indicative of perennial surface waters. The physical characteristics and water quality designation of South Hyco Creek are detailed in the "Water Resource" section of this document. This stream has been designated as a warm water stream for the purposes of stream mitigation.

**Table 5. Jurisdictional characteristics of water resources in the project study area**

<b>Map ID</b>	<b>Length (ft.)</b>	<b>Classification</b>	<b>Compensatory Mitigation Required</b>	<b>Buffer</b>
<b>South Hyco Creek</b>	<b>250</b>	<b>Perennial</b>	<b>Yes</b>	<b>Not Subject</b>

No jurisdictional wetlands were identified within the project study area.

## **PERMITS**

The proposed project has been designated as a Categorical Exclusion (CE) for the purposes of NEPA documentation. As a result, a Nationwide Permit 23 will likely be applicable. Other permits that may apply include a NWP No. 33 for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The USACE holds the final discretion as to what permit will be required to authorize project construction.

In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the NCDWQ. Required 401 general certifications (GC) may include a GC No. 3701 for approved Categorical Exclusions and a GC No. 3688 for temporary construction access and dewatering.

### **Construction Moratoria**

No trout waters or anadromous fish habitat are located within the project study area. No construction moratorium is anticipated at this time.

### **N.C. River Basin Buffer Rules**

This project is located in the Roanoke River Basin and is, therefore, not subject to any basin-specific (Neuse, Tar-Pamlico, Catawba), NCDWQ-regulated riparian buffer rules. Additionally, it is not located within the Randleman Lake Water Supply Watershed, which is also subject to NCDWQ-enforced buffer rules.

### **Rivers and Harbors Act Section 10 Navigable Waters**

No surface waters located within the project study area have been designated as Navigable Water under Section 10 of the Rivers and Harbors Act.

## **MITIGATION**

### **Avoidance and Minimization of Impacts**

Precautions will be taken to minimize impacts to water resources in the study area. NCDOT's Best Management Practices for the protection of surface waters and water supplies must be strictly enforced during the construction stage of the project. The NCDOT has attempted to avoid and minimize impacts to streams and wetlands to the greatest extent practicable in choosing the preferred alternative and during project design.

### **Compensatory Mitigation of Impacts**

The NCDOT will investigate potential on-site stream and wetland mitigation opportunities with regard to the location of the preferred alternative. If on-site mitigation is not feasible, mitigation will be provided by North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP). In accordance with the "Memorandum of Agreement Among the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District" (MOA), July 22, 2003, the EEP, will be requested to provide off-site mitigation to satisfy the federal Clean Water Act compensatory mitigation requirements for this project.

## FEDERALLY PROTECTED SPECIES

As of December 27, 2012 the United States Fish and Wildlife Service (USFWS) lists one federally protected species for Person County (Table 6). A brief description of this species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the project study area.

**Table 6. Federally protected species listed for Person County**

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel	Endangered	No	No Effect

### **Dwarf wedgemussel**

USFWS optimal survey window: year round

Habitat Description: In North Carolina, the dwarf wedgemussel is known from the Neuse and Tar River drainages. The mussel inhabits creek and river areas with a slow to moderate current and sand, gravel, or firm silt bottoms. Water in these areas must be well oxygenated. Stream banks in these areas are generally stable with extensive root systems holding soils in place.

Biological Conclusion: No Effect

The project study area is located in the Roanoke River basin where the dwarf wedgemussel never has been documented. A mussel survey was conducted by NCDOT biologists on May 22, 2009 due to the close vicinity of the project study area to both Neuse and Tar River basins. No dwarf wedgemussel specimens were found. It was determined that suitable habitat for the dwarf wedgemussel does not exist in the project study area due to the sluggish water and unconsolidated substrate of South Hyco Creek. A review of the North Carolina Natural Heritage Program (NCNHP) database (search performed November 25, 2013) revealed no known occurrences of this species within 1.0 mile of the project. Therefore, it is anticipated that the project construction will have no effect on the dwarf wedgemussel.

### **Bald and Golden Eagle Protection Act**

The bald eagle is no longer listed under the Endangered Species Act, although it remains protected by the Bald and Golden Eagle Protection Act. No habitat exists in the project area. NCNHP records do not document any occurrences of the species within 1 mile of the project. The project will not affect the bald eagle.

## **VI. HUMAN ENVIRONMENT**

### **Section 106 Compliance Guidelines**

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at Title 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings

(federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and afford the Advisory Council a reasonable opportunity to comment on such undertakings.

### **Historic Architecture**

In a letter dated January 26, 2009, the N.C. Historic Preservation Office (HPO) indicated no surveys for historic properties are required. The letter is attached in the Appendix.

### **Archaeology**

A survey was conducted by NCDOT's Archaeological group on April 22, 2009. There were no sites identified in the project study area as archaeologically significant or eligible for the National Register of Historic Places. No further investigations or surveys will be required for this project. In a letter dated July 30, 2009, the N.C. Historic Preservation Office (HPO) concurs with NCDOT's findings. The letter is attached in the Appendix.

### **Community Impacts**

No adverse impact on families or communities is anticipated. Right-of-Way acquisition will be limited. No relocatees are expected with implementation of the proposed alternative.

No adverse effect on public facilities or services is expected. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

The project is not in conflict with any plan, existing land use, or zoning regulation. No change in land use is expected to result from the construction of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. There are soils classified as prime, unique, or having state or local importance in the area of the temporary detour bridge to the south of the existing structure. However, the project will not involve the direct conversion of farmland acreage within these classifications.

The project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

### **Noise & Air Quality**

This project is an air quality neutral project in accordance with 40 CFR 93.126. It is not required to be included in the regional emissions analysis (if applicable) and project level CO or PM2.5 analyses are not required. This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative. Therefore, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. Consequently,



this effort is exempt from analysis for MSATs. Any burning of vegetation shall be performed in accordance with applicable local laws and regulations of the North Carolina State Implementation Plan (SIP) for air quality compliance with 15 NCAC 2D.0520.

Noise levels may increase during project construction; however, these impacts are not expected to be substantial considering the relatively short-term nature of construction noise and the limitation of construction to daytime hours. The transmission loss characteristics of nearby natural elements and man-made structures are believed to be sufficient to moderate the effects of intrusive construction noise.

## **VII. GENERAL ENVIRONMENTAL EFFECTS**

The project is expected to have an overall positive impact. Replacement of an inadequate bridge will result in safer traffic operations.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of the current North Carolina Department of Transportation standards and specifications.

The proposed project will not require right-of-way acquisition or easement from any land protected under Section 4(f) of the Department of Transportation Act of 1966.

An examination of local, state, and federal regulatory records by the GeoEnvironmental Section revealed no sites with a Recognized Environmental Concern (REC) within the project limits. RECs are most commonly underground storage tanks, dry cleaning solvents, landfills and hazardous waste disposal areas.

Person County is a participant in the National Flood Insurance Program. There are no practical alternatives to crossing the floodplain area. Any shift in alignment will result in an impact area of about the same magnitude. The proposed project is not anticipated to increase the level or extent of upstream flood potential.

The Federal Highways Administration has determined that a U.S. Coast Guard Permit is not required for this project.

## **VIII. COORDINATION & AGENCY COMMENTS**

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Environment & Natural Resources, U.S. Fish & Wildlife Service, N.C. Wildlife Resource Commission, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, Person County Planning Department, and the Kerr-Tar Rural Planning Organization.



The N.C. Wildlife Resource Commission in a standardized letter provided a request that they prefer replacing the bridge with a bridge.

**Response:** NCDOT will be replacing the existing structure with a new bridge.

The NC Department of Environment & Natural Resources' Division of Water Quality in their letter dated May 5, 2009 indicated that NCDOT adhere to the Design Standards in Sensitive Watersheds due to the high classification of South Hyco Creek (see previous section on 'Water Resources'). Also, NCDOT will be required to design, construct, and maintain hazardous spill basins in the project area if the project is within the Critical Area of the water supply. A State Stormwater Permit will be required prior to construction. The letter is in Appendix B.

**Response:** NCDOT will adhere to the provisions that were outlined in the letter from DWQ. A State Stormwater Permit will no longer be required based on the updated memo from DWQ dated July 26, 2013. See memo in Appendix B.

All of the other agencies had no special concerns for this project.

## **IX. 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.

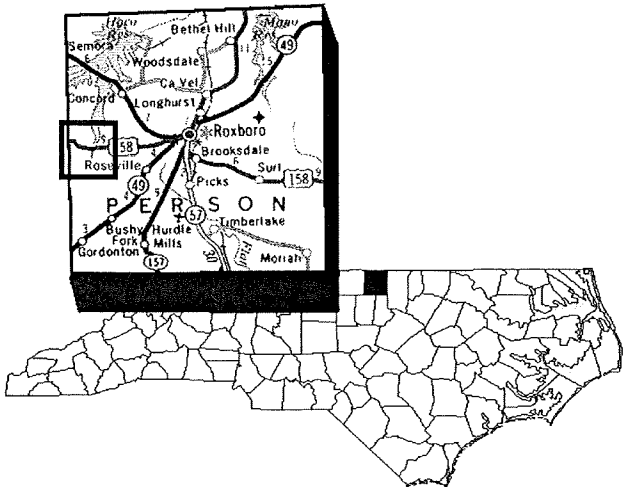
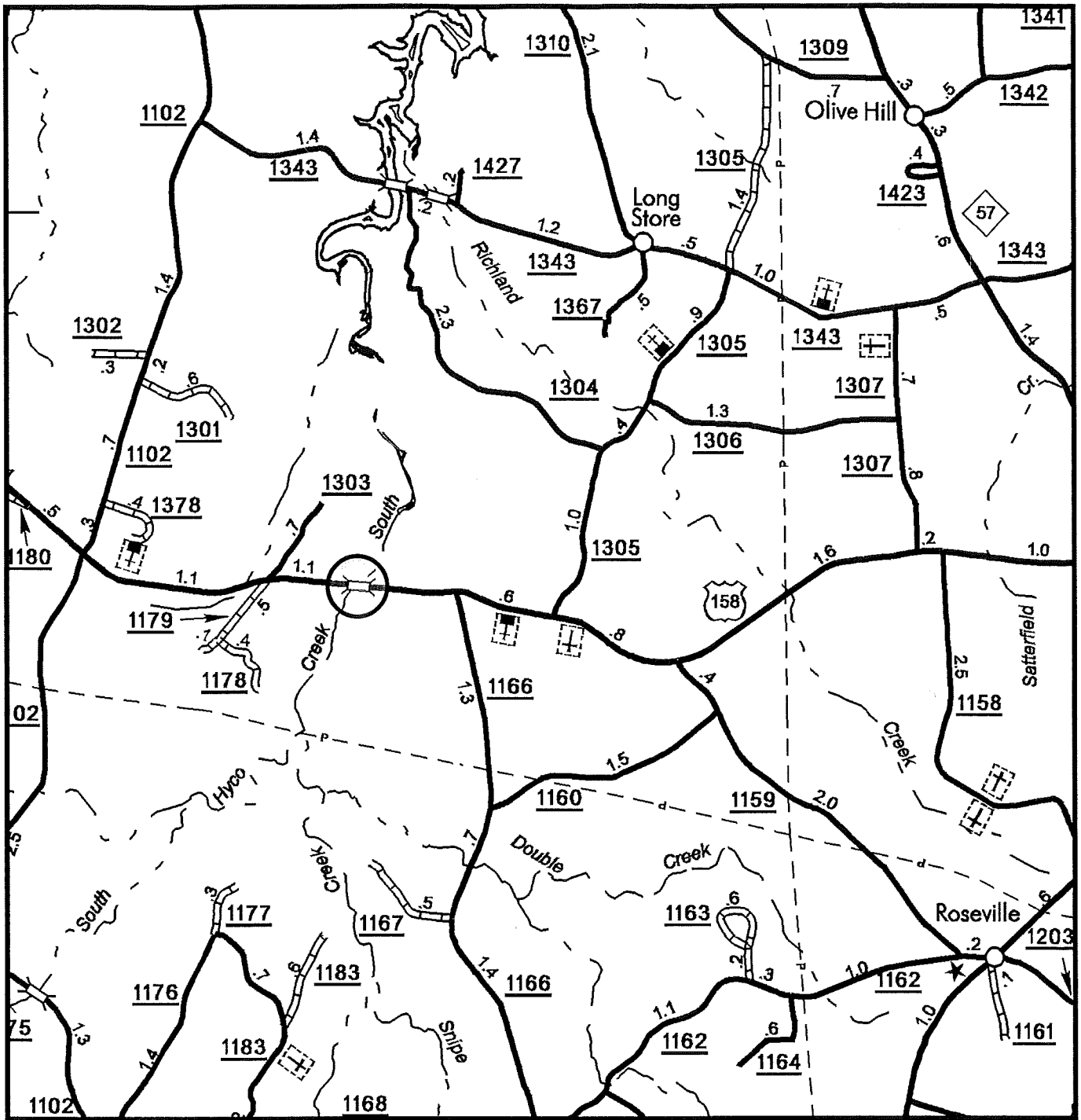
There is not substantial controversy on social, economic, or environmental grounds concerning the project.


## **X. CONCLUSION**

On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal "Categorical Exclusion" due to its limited scope and lack of substantial environmental consequences.

# Appendix A

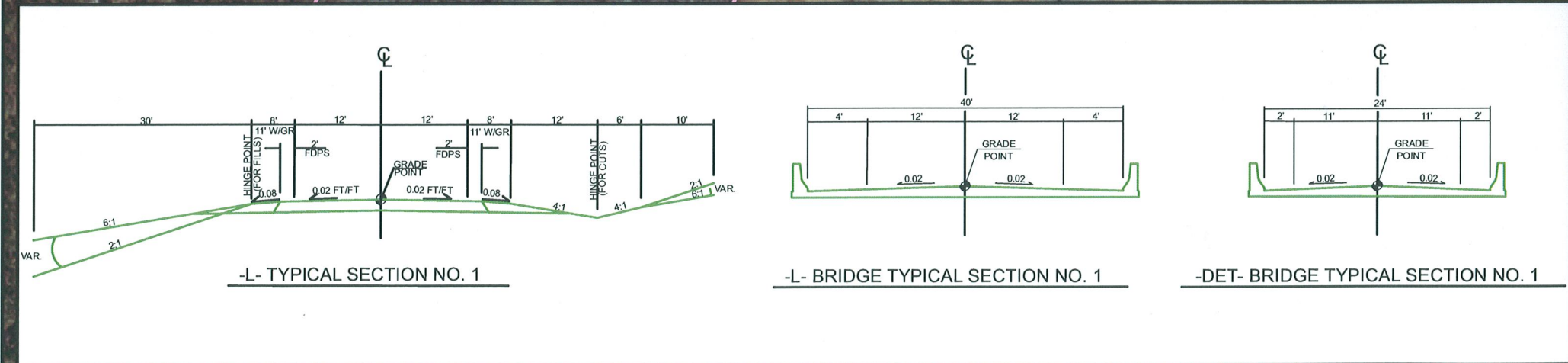
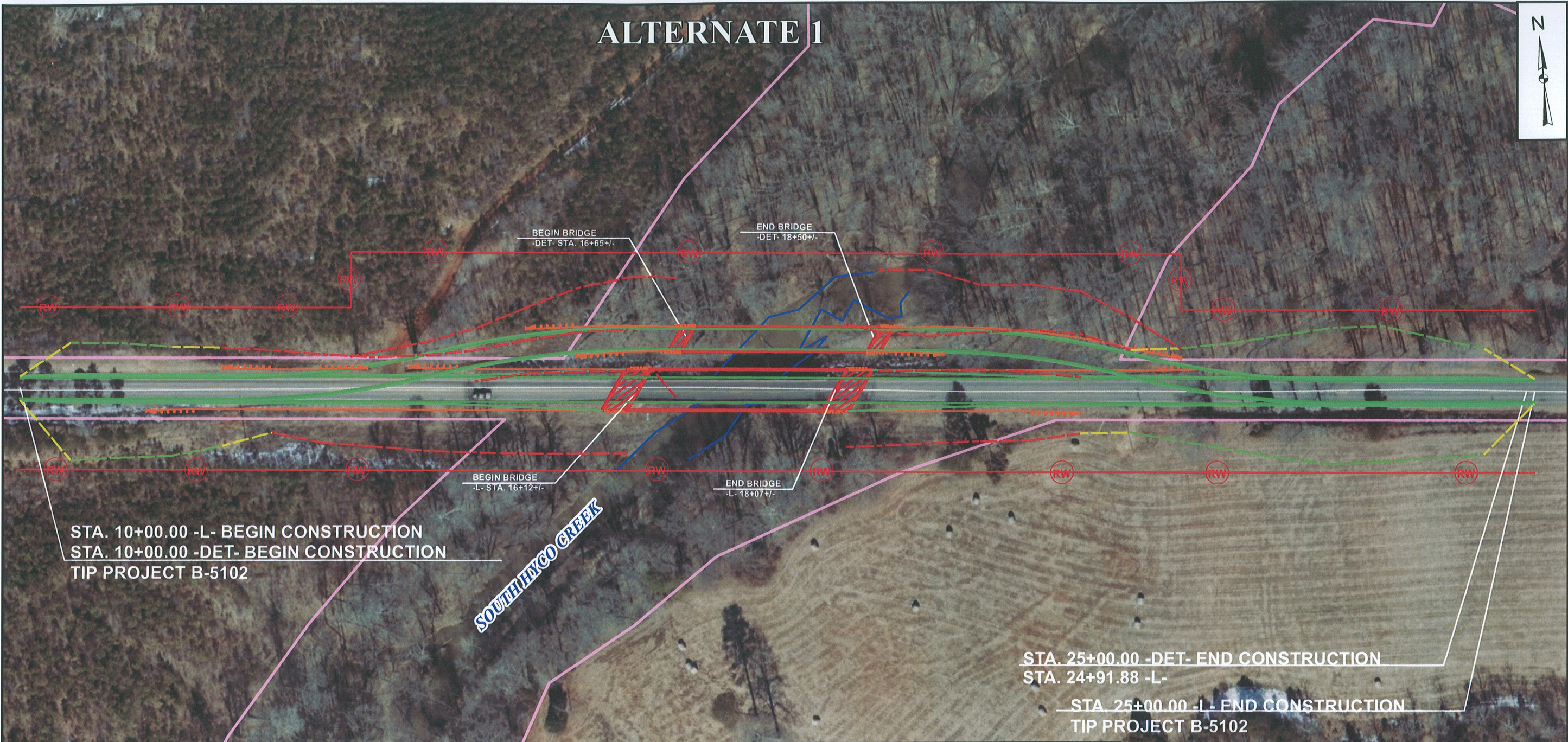
Figures




	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
	<b>PERSON COUNTY</b> <b>REPLACE BRIDGE NO. 11 ON US 158</b> <b>OVER SOUTH HYCO CREEK</b> <b>B-5102</b>
Figure 1	



# ALTERNATE 1




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

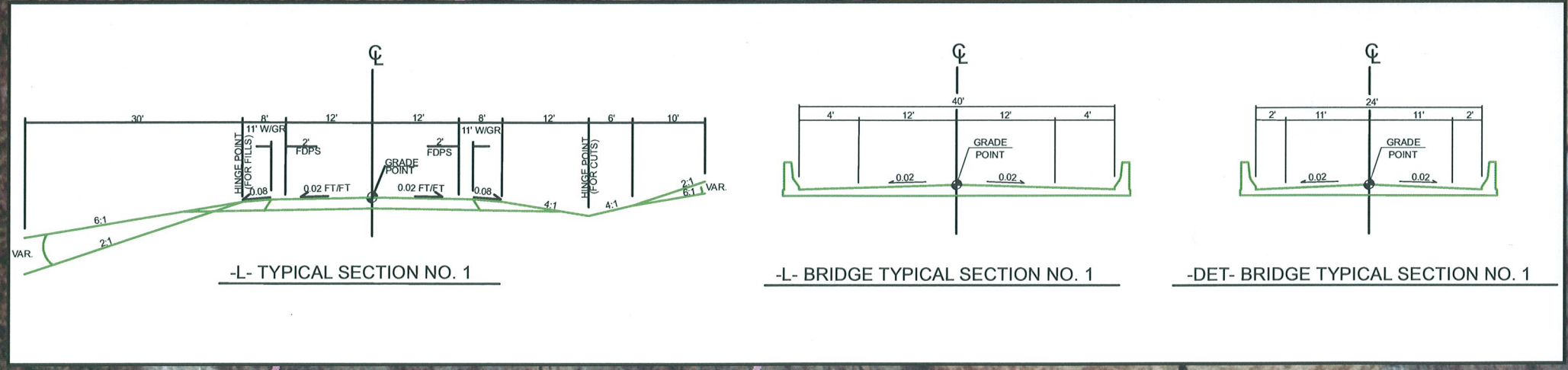
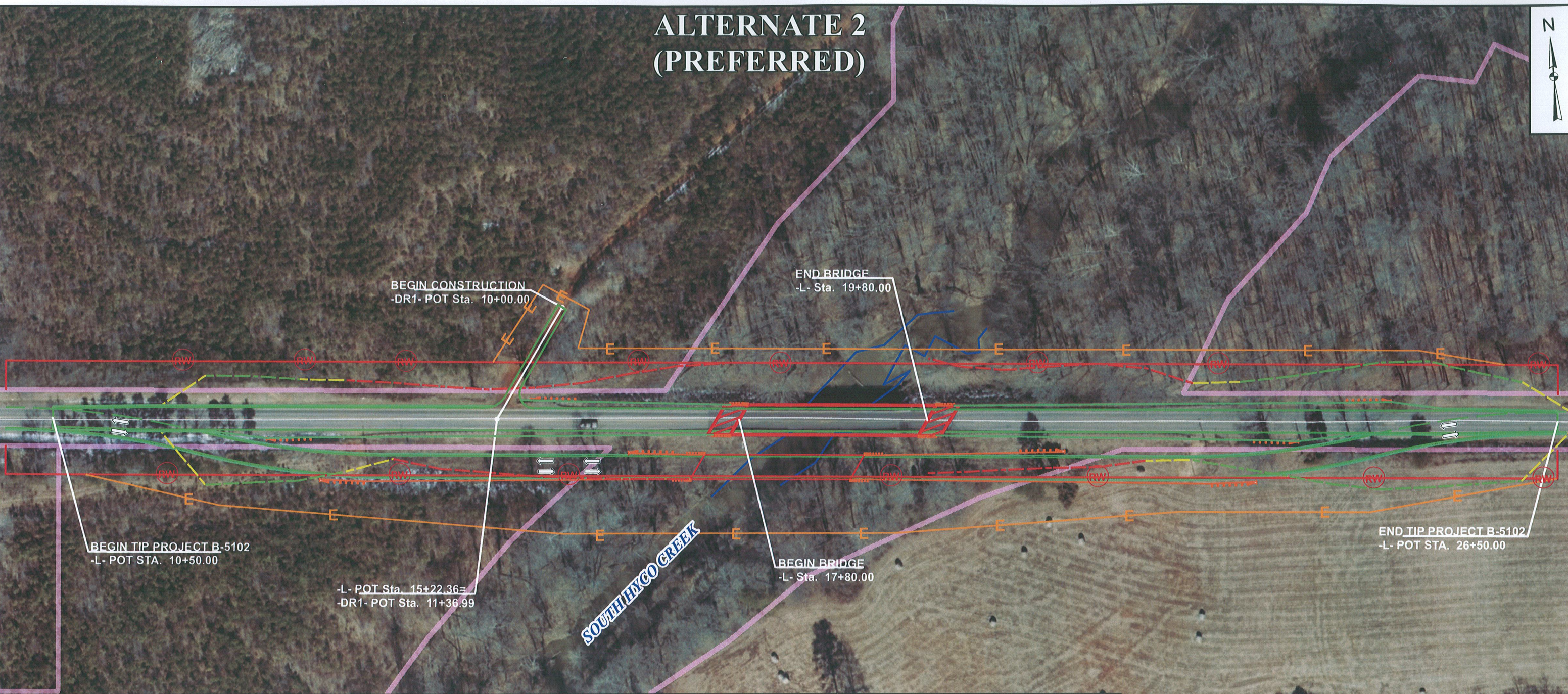
**B-5102**  
**WBS 42237.1.1**  
**PERSON COUNTY**  
**BRIDGE NO. 11 OVER SOUTH HYCO CREEK**  
**ON US 158**  
**ALTERNATE 1**


OCTOBER 2013 FIGURE 2a

By: J.TORTORELLA



# ALTERNATE 2 (PREFERRED)




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

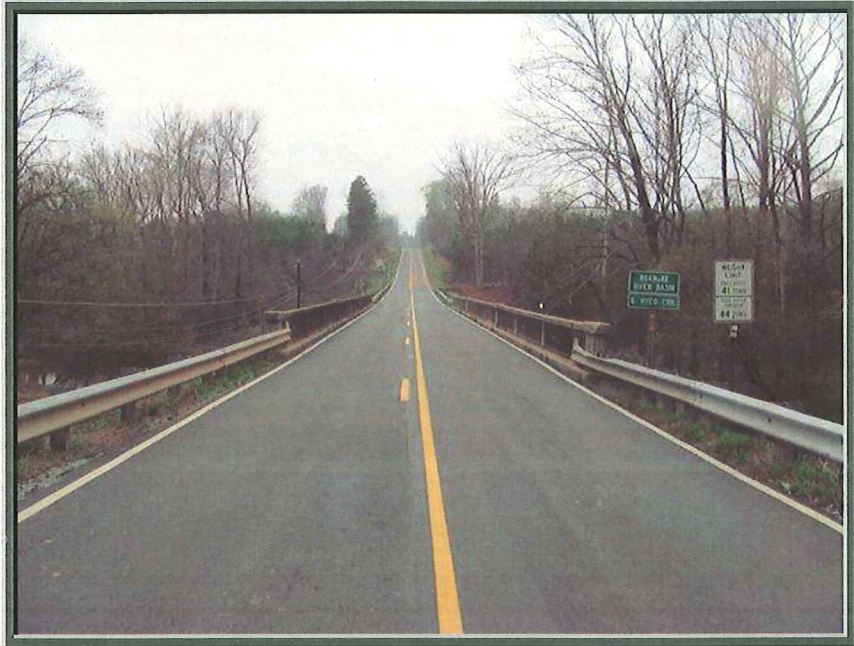
**B-5102**  
**WBS 42237.1.1**  
**PERSON COUNTY**  
**BRIDGE NO. 11 OVER SOUTH HYCO CREEK**  
**ON US 158**  
**ALTERNATE 2 (PREFERRED)**

OCTOBER 2013 FIGURE 2b





**Eastbound Approach  
Bridge No. 11**



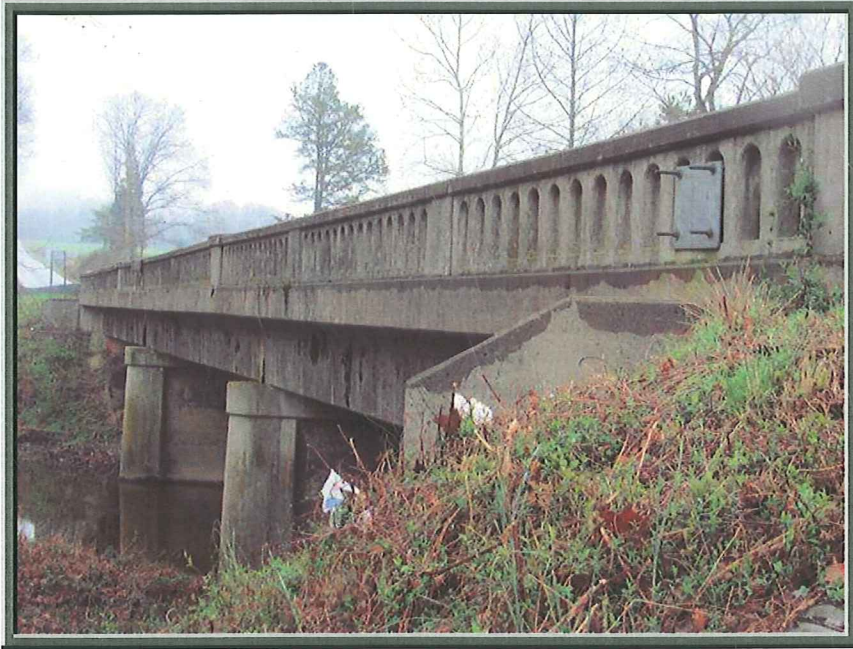
**Westbound Approach  
Bridge No. 11**



North Carolina Department of  
Transportation-Division of Highways  
Project Development & Environmental  
Analysis Unit

**Person County  
Replace Bridge No. 11 on US 158  
Over South Hyco Creek  
B-5102**

Figure 3A



**North Face of  
Bridge No. 11**



**South Face of  
Bridge No. 11**



North Carolina Department of  
Transportation-Division of Highways  
Project Development & Environmental  
Analysis Unit

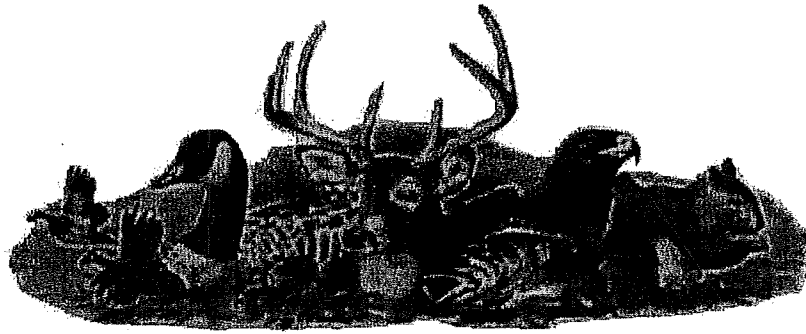
**Person County  
Replace Bridge No. 11 on US 158  
Over South Hyco Creek  
B-5102**

**Figure 3B**



# Appendix B

Reference Letters



## ☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

### MEMORANDUM

TO: Rachelle Beauregard  
NCDOT, PDEA Natural Environment Unit

FROM: Travis Wilson, Highway Project Coordinator  
Habitat Conservation Program

DATE: May 29, 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-4780 Montgomery County Bridge No. 22 on SR 1111 over Richland Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4401 Alamance County Bridge No. 161 on SR 1124 over North Prong Stinking Quarter Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4953 Alamance County Bridge No. 64 on SR 1912 over Quaker Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4731 Chatham County Bridge No. 129 on SR 2159 over a branch of the Rocky River. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4461 Chatham County Bridge No. 10 on SR 1916 over Shaddox Creek. Due to the close proximity of Federally Endangered Cape Fear shiner (*Notropis mekistocholas*) populations we recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5114 Randolph County Bridge No. 136 on SR 1619 over US 29-70/I-85 Business. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5128 Randolph County Bridge No. 58 on SR 1404 over tributary to the Little Uwharrie River. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4799 Randolph County Bridge No. 37 on SR 1311 over Jackson's Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4609 Randolph County Bridge No. 16 on SR 1163 over Taylor Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4756 Guilford County Bridge No. 120 on SR 2128 over Reedy Fork Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4757 Guilford County Bridge No. 175 on SR 2795 over Buffalo Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5119 Guilford County Bridge No. 291 and 349 on I-40/I-85 Business over US 29/70/220. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4807 Rockingham County Bridge No. 6 on SR 2426 over Haw River. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4964 Rockingham County Bridge No. 85 on SR 2600 over Southern Railroad. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4806 Rockingham County Bridge No. 3 on SR 2409 over a tributary to Troublesome Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4784 Person County Bridge No. 31 on SR 1134 over Aldridge Creek. Our records indicate multiple state and federally listed species in the project area including: *Villosa constricta* (Notched rainbow: SC), *Lampsilis radiata* (Eastern lampmussel: state T), *Strophitus undulates*

(Creepers: state T), *Fusconaia masoni* (Atlantic pigtoe: state E, FSC), *Lasmigona subviridis* (Green floater: state E, FSC), and *Lampsilis cariosa* (Yellow lampmussel: state E, FSC). Due to the high diversity of listed species in this area we recommend NCDOT conduct a mussel survey as well as follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4785 Person County Bridge No. 24 on SR 1142 over the North Flat River. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5102 Person County Bridge No. 10 on US 158 over South Hyco Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5145 Person County Bridge No. 50 on SR 1343 over South Hyco Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5151 Granville County Bridge No. 215 on SR 1432 over Little Grassy Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4943 Durham County Bridge No. 20 on SR 1616 over Sandy Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4725 Caswell County Bridge No. 12 on SR 1554 over Country Line Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4803 Rockingham County Bridge No. 97 on SR 1925 over Wolf Island Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4621 Rockingham County Bridge No. 150 on US 220 over US 220 Business. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4965 Rockingham County Bridge No. 249 on SR 1165 over Little Beaver Island Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4639 Scotland County Bridge No. 17 on US 15-401 over Gum Swamp Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4816 Scotland County Bridge No. 65 on US 15-501 over Juniper Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5131 Scotland County Bridge No. 63 on SR 1128 over Joes Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5127 Hoke County Bridge No. 4 on NC 211 over Raft Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5132 Hoke County Bridge No. 37 on SR 1436 over Raft Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4666 Warren County Bridge No. 80 on SR 1314 over Hawtree Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4667 Warren County Bridge No. 74 on SR 1641 over Long Branch. Our records indicate multiple state and federally listed species at this site including: *Alasmidonta heterodon* (Dwarf wedgemussel: state E, Federal E), *Elliptio lanceolata* (Yellow lance: state E, FSC), and *Fusconaia masoni* (Atlantic pigtoe: state E, FSC). Due to the listed species at this site we recommend NCDOT conduct a mussel survey as well as follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4748 Franklin County Bridge No. 2 on SR 1147 over Horse Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4749 Franklin County Bridge No. 27 on SR 1200 over Middle Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4827 Vance County Bridge No. 53 on SR 1523 over Sandy Creek. Our records indicate multiple state and federally listed species in the project area including: *Villosa constricta* (Notched rainbow: SC), *Strophitus undulates* (Creeper: state T), and *Fusconaia masoni* (Atlantic pigtoe: state E, FSC). Due to the high diversity of listed species in this area we recommend NCDOT conduct a mussel survey as well as follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5113 Wake County Bridge No. 157 on SR 1942 over Smith Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5121 Wake County Bridge No 227 on US 70 over Peace Street. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5140 Wake County Bridge No. 195 on SR 1001 over Mocassin Creek. 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. Sullivan  
Director

RECEIVED

Division of Highways

MAY - 8 2009

Preconstruction  
Project Development and  
Environmental Analysis Branch May 5, 2009

Beverly Eaves Perdue  
Governor

Dee Freeman  
Secretary

**MEMORANDUM**

TO: Gregory Blakeney, NCDOT PDEA Bridge Project Development Unit

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

SUBJECT: **Scoping Review of NCDOT's Division 5 Proposed Bridge Replacement Projects: B-4943 (Durham County), B-4784, B-4785, and B-5102 (Person County).**

In reply to your correspondence dated April 30, 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-5102, Bridge 11 over South Hyco Creek [22-58-4-(3)], Person County**

1. South Hyco Creek is class WS-II; CA; HQW waters of the State. Review of this project reveals the presence of surface waters classified as Water Supply Critical Area in the project study areas. Given the potential for impacts to this resource 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. Review of the project reveals the presence of surface waters classified as High Quality Waters (HQW) 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, NC DOT will be required to obtain a State Stormwater Permit prior to construction.

**B-4943, Bridge 20 over Dial Creek [27-3-6-(2)], Durham County**

1. Dial Creek is class WS-III, CA, NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Dial Creek. DWQ requests that road design plans

Transportation and Permitting Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1650  
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604  
Phone: 919-733-1786 \ FAX: 919-733-6893  
Internet: <http://h2o.enr.state.nc.us/ncwetlands/>



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. Review of the project reveals the presence of surface waters classified as Water Supply Critical Area in the project study area. 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.

3. Dial Creek 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-4784, Bridge 31 over Alderidge Creek [27-3-3-4], Person County**

**B-4785, Bridge 24 over North Flat River [27-3-2], Person County**

1. Alderidge Creek and North Flat River are class WS-III; 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.

**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.
4. Any anticipated bank stabilization associated with culvert installations or extensions should be addressed in the Categorical Exclusion (CE) document and permit applications. 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. An adequate bank stabilization amount should also be applied for in the permit application, to prevent the need of a later permit modification.

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: Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office  
Chris Murray, Division 5 Environmental Officer  
File Copy





North Carolina Department of Environment and Natural Resources

Division of Water Quality

Pat McCrory  
Governor

Thomas A. Reeder  
Acting Director

John Skvarla, III  
Secretary

*Unit Heads - fyi*

July 26, 2013

Terry R. Gibson, PE, Chief Engineer  
North Carolina Department of Transportation  
1536 Mail Service Center  
Raleigh, North Carolina, 27699-1536

Subject: Streamlining State Stormwater Permitting for NCDOT Projects

Dear Mr. Gibson:

I am pleased to inform you that effective August 1, 2013 the North Carolina Department of Transportation (NCDOT) will no longer be required to submit State Stormwater permit applications for projects discharging stormwater runoff in High Quality Waters (HWQ) and Outstanding Resource Waters (ORW) watersheds. In addition, projects located within the 20 coastal counties, which are excluded by rule from the requirements of 15A NCAC 02H .1005, will no longer require submittal of State Stormwater permit applications or submittal of requests for NCDENR to provide confirmation that the proposed project is excluded from State Stormwater permitting requirements under 15A NCAC 02H .1000. NCDOT may consult with NCDENR on a case-by-case basis as needed to promote protection of water quality standards.

This streamlining initiative is being implemented because NCDOT is regulated under its National Pollutant Discharge Elimination System (NPDES) permit, NCS000250. Your NPDES permit applies statewide and authorizes NCDOT to discharge general roadway and railway drainage, non-roadway facility drainage, borrow pit wastewater and stormwater associated with industrial activities. The NPDES permit requires NCDOT to maintain and implement a Post-Construction Stormwater Program (PCSP) which regulates stormwater discharges from new NCDOT development and redevelopment for new built upon area. The PCSP requires structural and non-structural best management practices (BMPs) to protect water quality, reduce pollutant loading, and minimize post-construction impacts to water quality. The PCSP outlines the implementation of the approved BMP Toolbox and a training program for NCDOT staff and contractors for implementation of the Toolbox. The PCSP also identifies documentation requirements and defines the workflow for interaction between NCDOT and NCDENR. Updates and/or revisions to the PCSP must be submitted to NCDENR for approval.

Wetlands and Stormwater Branch  
1617 Mail Service Center, Raleigh, North Carolina 27699-1617  
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604  
Phone: 919-807-6300 \ FAX: 919-807-6494 \ Customer Service: 1-877 523-6748  
Internet: [www.ncwaterquality.org](http://www.ncwaterquality.org)

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Terry R. Gibson, PE  
July 26, 2013  
Page 2 of 2

Further, NCDOT will not be required to renew existing State Post-Construction Stormwater permits when they expire. When existing State Post-Construction Stormwater permits expire, all the operation and maintenance requirements for Stormwater Controls Measures will be covered under the operation and maintenance requirements of the NCDOT permit, NCS000250.

Sincerely,



*for* Thomas A Reeder

cc: Cyndi Karoly/NCDENR  
Debbie Barbour / NCDOT  
Jon Nance / NCDOT  
NCDENR Regional Offices



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

July 30, 2009

MEMORANDUM

TO: Matt Wilkerson  
Office of Human Environment  
NCDOT Division of Highways

FROM: Peter Sandbeck 

SUBJECT: Archaeological Survey, Bridge 11 on US 158 over South Hyco Creek, B-5102, Person County,  
ER 08-2605

Thank you for your letter of July 15, 2009, transmitting the archaeological survey report by Shane Petersen for the above project.

During the course of the survey one site was located in the project area. Mr. Petersen has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since the project will not involve significant archaeological resources.

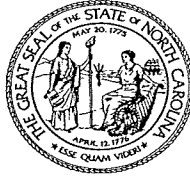
The following property is determined not eligible for listing in the National Register of Historic Places:

31PR127 -- lack of integrity

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: Shane Petersen, NCDOT



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: Greg Blakeney, Project Engineer  
Project Development, Bridge Unit  
NCDOT Division of Highways

FROM: Peter Sandbeck

A handwritten signature in black ink that reads "Peter B. Sandbeck".

SUBJECT: Bridge 11 on US 158 over South Hyco Creek, B-5102, Person County, ER 08-2605

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