

Rockingham County  
Bridge No. 6 on SR 2426 (Cunningham Mill Road)  
over the Haw River  
Federal Aid Project No. BRZ-2426(1)  
W.B.S. No. 38577.1.1  
T.I.P. No. B-4807

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

2/22/16  
DATE

*Richard W. Hancock*  
FOR Richard W. Hancock, PE,  
Manager, Project Development & Environmental Analysis Unit

2/23/16  
DATE

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

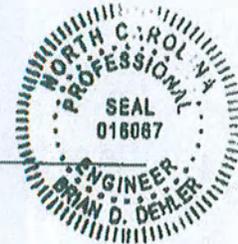
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Documentation Prepared by  
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01/29/2016  
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For NCDOT Project Development & Environmental Analysis Unit

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## **PROJECT COMMITMENTS:**

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### **Hydraulic Unit – FEMA Coordination**

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

### **Division 7 Construction-FEMA**

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

### **Hydraulics Unit, Natural Environment Section, Roadside Environmental Unit – Stream Buffers**

The project shall adhere to Jordan Lake Buffer Rules.

### **All Design Groups/Division Resident Construction Engineer – Design Standards in Sensitive Watersheds**

Design Standards in Sensitive Watersheds apply for this project.

### **All Design Groups/Division Resident Construction Engineer – Restoration**

Following a traffic shift to the new replacement structure, the onsite detour will be removed and the area will be restored to its pre-construction condition.

### **Natural Environment Section – Northern long-eared bat**

The US Fish and Wildlife Service (USFWS) 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 Rockingham County, where B-4807 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

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**INTRODUCTION:** Replacement of Bridge No. 6 is included in the latest approved North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP). 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. 6 has a sufficiency rating of 31.5 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to its age, and superstructure condition rating of 4 according to Federal Highway Administration (FHWA) standards. The bridge is also considered functionally obsolete due to its age, type of service, and a deck geometry rating of 2.

Bridge No. 6 was originally constructed in 1961 and is approaching the end of its useful life as the typical life expectancy is between 40 to 50 years. Beyond a certain degree of deterioration, timber, steel, and concrete bridges become impractical to maintain and, upon eligibility, are programmed for replacement.

The substandard superstructure, substructure, deck geometry, bridge railing, and lack of approach guardrail is becoming increasingly unacceptable. Replacement of the bridge will result in safer traffic operations.

**II. EXISTING CONDITIONS**

The project is located in the south-central part of Rockingham County, roughly three miles south of Reidsville, halfway between Reidsville and Greensboro. It is approximately 1.5 miles south of the intersection of US 158 and SR 2426 (Cunningham Mill Road); see Figure 1. Development in the area is residential / agricultural in nature north of Bridge No. 6 and undeveloped and wooded immediately south of the bridge.

SR 2426 is classified as a minor collector in the Statewide Functional Classification System and it is not a National Highway System Route.

In the vicinity of the bridge, SR 2426 has a 22-foot pavement width with 8-foot grass shoulders (see Figure 3). The roadway grade is in a sag vertical curve through the project area with a low point approximately 200 feet south of the bridge. The existing bridge is located in a tangent section of roadway and crosses the Haw River at a skew angle near 90 degrees. The roadway is situated approximately 12 feet above the creek bed.

Bridge No. 6 is a three-span structure that consists of a 6-inch reinforced concrete deck on I-beams with a 2-inch asphalt-wearing surface. The vertical end bents are mass concrete. Interior bents are reinforced concrete post and web widened with reinforced concrete cap and timber piles. The existing bridge (see Figure 3) was constructed in 1961. The overall length of the structure is approximately 121 feet. The clear roadway width is 24 feet. The posted weight limit on the bridge is 22 tons for single vehicles and 28 tons for truck-tractor semi-trailers (TTST).

There are no utilities attached to the existing structure, but there is evidence of overhead power lines and buried fiber optic and gas lines routed along the east side of SR 2426.

The traffic volume of 3,400 vehicles per day (VPD) is expected to increase to 4,600 VPD by the design year (2035). The projected volume includes one percent truck-tractor semi-trailer (TTST) and five percent dual-tired vehicles (DT). The statutory speed limit is 55 miles per hour (mph) in the project area. There are two school buses that cross the bridge daily on their morning and afternoon routes with one bus stop along SR 2426 (Cunningham Mill Road) approximately 1,100 feet north of Bridge No. 6.

The Traffic Safety Unit has evaluated a recent five year period and found seven accident records occurring near Bridge No. 6. None were associated with the geometry of the bridge or its approach roadways.

Components of both the steel and timber superstructure and concrete substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The posted weight limit on the bridge is 22 tons for single vehicles and 28 tons for truck-tractor semi-trailers (TTST).

### **III. ALTERNATIVES**

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

The replacement structure will consist of a bridge approximately 147-foot 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 11-foot lanes with 4-foot, 3-inch offsets on each side. The roadway grade of the new structure will be approximately 1- to 2-foot higher than the existing grade.

The Draft Rockingham County Comprehensive Transportation Plan (CTP) and the Rockingham County Partnership of Economic and Tourism Development has identified SR 2426 as a bike route that needs improvements. As a result, 4-foot paved shoulders on the roadway approaches and 4-foot offsets and a minimum handrail height of 54 inches across the bridge will be included in the design.

The approaches will include a 22-foot pavement width providing two 11-foot lanes. Six-foot shoulders will be provided on each side; four feet of which will be paved in accordance with current NCDOT Design Policy (the shoulder will include three additional feet where guardrail is required). The roadway will be designed as a Rural Collector Route using Sub-Regional Tier Guidelines with a 55 mile per hour design speed.

Two alternatives for replacing Bridge No. 6 that were studied in detail are described below.

#### Alternate 1

Alternate 1 involves the replacement of the structure along the existing roadway alignment. Improvements to the approach roadways would be required for a distance of approximately 210 feet to the north and 370 feet to the south of the new structure. This alternative will be designed using sub-regional tier guidelines with a design speed of 55 miles per hour. Traffic would be detoured offsite during construction.

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 US Hwy 158, SR 1001 (Church Street Ext.), NC Hwy 150, and SR 2424 (Spearman Road). The majority of traffic on the road is through traffic. The detour for the average road user would result in 16 minutes of additional travel time and 11.5 miles of additional travel. Up to a six-month duration of construction is expected on this project.

Based on the Guidelines, the criteria above suggests that an onsite detour is justifiable from a traffic operations standpoint but must be weighed with other project factors to determine if it is appropriate. In this case, due to the additional travel time and circuitous detour route that results in slower response times for Rockingham County Emergency Services, the delay is unacceptable. NCDOT concurs with this concern and believes that an offsite detour is not justifiable.

#### Alternate 2 (Preferred)

Alternate 2 involves replacement of the structure along the existing alignment. A temporary detour structure located west of the existing bridge would serve as an on-site detour. Improvements to the approach roadways will be required for a distance of approximately 470 feet to the north and 400 feet to the south of the new structure. This alternative will be designed as a Rural Collector Route using sub-regional tier guidelines with a design speed of 55 miles per hour.

The total length of the onsite detour alignment is 990 feet. The detour alignment will utilize a temporary 100-foot long 24-foot wide bridge carrying two 10-foot wide lanes of traffic. The design speed of the on-site detour is 45 mph. Although the cost and environmental impacts are higher than a replace in-place structure with offsite detour, concerns regarding public safety warrant the maintenance of traffic onsite.

NCDOT Division 7 concurs that this is the preferred alternative.

#### **B. 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 SR 2426.

The bridge was constructed in 1961 and the steel and concrete materials within the bridge are reaching the end of their useful lives. Rehabilitation would require replacing the concrete and steel components which would effectively replace the entire bridge.

Staged Construction is not feasible for this bridge because superstructure and substructure configuration will not support removal of a portion of the bridge and maintenance of traffic on the remaining portion.

Given that the alignment for SR 2426 is acceptable, a new alignment was not considered as an alternative.

### C. Preferred Alternative

Bridge No. 6 will be replaced at the existing location as shown by Alternate 2 in Figure 2. Although the cost and environmental impacts are higher than Alternate 1, concerns regarding public safety warrant the maintenance of traffic onsite.

NCDOT Division 7 concurs with the selection of Alternative 2 as the preferred alternative.

### IV. ESTIMATED COSTS

The estimated costs, based on 2015 prices, are as follows:

**Table 1: Estimated Costs**

	Alternative 1	Alternate 2 (Preferred)
Structure	\$ 530,000	\$ 530,000
Roadway Approaches	\$ 187,000	\$ 204,000
Detour Structure and Approaches	- 0 -	\$ 339,000
Structure Removal	\$ 44,000	\$ 44,000
Misc. & Mob.	\$ 123,000	\$ 202,000
Eng. & Contingencies	\$ 116,000	\$ 181,000
Total Construction Cost	\$ 1,000,000	\$ 1,500,000
Right-of-way Costs	\$ 24,000	\$ 18,000
Right-of-way Utility Costs	\$ 24,000	\$ 57,000
Total Project Cost	\$ 1,048,000	\$ 1,575,000

### V. NATURAL ENVIRONMENT

#### PHYSICAL CHARACTERISTICS

The study area lies in the piedmont physiographic region of North Carolina. Topography in the project vicinity is comprised of gently rolling hills with narrow, level floodplains along streams. Elevations in the study area range from 700 to 800 feet above sea level. Land use in the project vicinity consists primarily of forested land with some agriculture and residential property.

#### Water Resources

Water resources in the study area are part of the Cape Fear River Basin (United States Geological Survey [USGS] Hydrologic Unit 03030002). Four streams were identified in the study area (Table 2). The physical characteristics of these streams are provided in Table 3.

**Table 2: Water Resources in the Study Area**

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification
Haw River	Haw River	16-(1)	WS-V; NSW*
UT 1 to the Haw River	SA	16-(1)	WS-V; NSW
UT 2 to the Haw River	SB	16-(1)	WS-V; NSW
UT 3 to the Haw River	SC	16-(1)	WS-V; NSW

\*Updated based on NCDWR NC Surface Water Classifications Map

**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
Haw River	4 - 10	25 - 30	36 - 60	Sand, silt, gravel	Slow	Turbid
SA	0.5 - 1	3 - 4	3 - 6	Sand and silt	Moderate to fast	Clear
SB	3	4 - 5	0 - 6	Sand, silt, gravel	None	Clear
SC	1 - 6	0.5 - 10	4 - 36	Sand, silt, gravel, and cobble	Moderate	Clear

The Haw River has not been identified as a trout water. There are no designated anadromous fish waters or Primary Nursery Areas present in the study area. There are no designated High Quality Waters (HQW), Outstanding Resource Water (ORW), or water supply watersheds (WS-1 or WS-11) within 1.0 mile downstream of the study area. The Haw River (Assessment Unit No. 16-[1]c1), from SR 2426 (Cunningham Mill Road) to Troublesome Creek at US 29, is listed on the 2014 Final 303(d) List of Impaired Waters for North Carolina for Copper.

Fish surveys have been conducted on the Haw River at SR 2426. This survey site was given a rating of "Poor" in April 1998 and a rating of "Good" in October 1998. There are no benthic sampling stations within 1-mile of the project area.

## BIOTIC RESOURCES

### Terrestrial Communities

Three terrestrial communities were identified in the study area: Maintained/Disturbed, Piedmont/Low Mountain Alluvial Forest, and Pine Forest. A brief description of each community type follows:

### **Maintained/Disturbed**

Maintained/disturbed are located in areas where the vegetation is periodically mowed, such as roadside shoulders, residential lawns, and fields. The vegetation in this community is comprised primarily of low growing herbs and some shrubs. Common herbs include fescue, clover, wild onion, broomsedge, mullein, goldenrod, honeysuckle, and little bluestem. Common shrubs include black locust, loblolly pine, sweetgum saplings, tree of heaven, Chinese privet, and autumn olive.

### **Piedmont/Low Mountain Alluvial Forest**

The piedmont/low mountain alluvial forest community occurs along the floodplain of the Haw River, where periodic overbank flooding from the river occurs. Sycamore, river birch, sweetgum, tulip poplar, and red maple dominate the canopy and subcanopy. Shrubs consist of spicebush and canopy tree saplings. Dominant vines include crossvine, honeysuckle, catbrier, and poison ivy. Dominant herbs consist of sedges and wild onion.

### **Pine Forest**

The pine forest community exists in the southeast quadrant of the study area. The dominant species in this community are loblolly pine and Virginia pine. Shrubs species consist of blackberry and sweetgum species. Herb species are limited in this community, but running cedar was observed.

### **Terrestrial Community Impacts**

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

**Table 4: Coverage of Terrestrial Communities in the Study Area**

<b>Community</b>	<b>Coverage (ac.)</b>
Maintained/Disturbed	2.70
Piedmont/Low Mountain Alluvial Forest	3.20
Pine Forest	0.03
<b>Total</b>	<b>5.93</b>

### **Terrestrial Wildlife**

Terrestrial communities in the study area are comprised of both natural and disturbed habitats that may support a diversity of wildlife species. Mammal species that commonly exploit habitats and stream corridors found within the study area include species such as eastern

cottontail, raccoon, Virginia opossum, and white-tailed deer. Birds that may commonly utilize habitats in the project study area include the American crow, blue jay, Carolina chickadee, tufted titmouse, yellow-rumped warbler, American kestrel, eastern bluebird, and turkey vulture. Reptile and amphibian species that may use terrestrial communities located in the study area include the eastern box turtle, eastern fence lizard, five-lined skink, and northern dusky salamander.

**Aquatic Communities**

Aquatic communities in the study area consist of both perennial and intermittent piedmont streams. The Haw River could support bluehead chub, red lip shiner, and the redbreast sunfish. The tributaries to the Haw River in the study area are relatively small in size and would support aquatic communities of spring peeper, crayfish, dusky salamander and various benthic macroinvertebrates.

**Invasive Species**

Four species from the NCDOT Invasive Exotic Plant List for North Carolina were found to occur in the study area. The species identified were Chinese privet (Threat), tree of heaven (Threat), Japanese honeysuckle (Moderate Threat), and autumn olive (Moderate Threat). NCDOT will manage invasive plant species as appropriate.

**JURISDICTIONAL TOPICS**

**Surface Waters and Wetlands**

Four jurisdictional streams were identified in the study area (Table 5). All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation.

**Table 5: Jurisdictional Characteristics of Water Resources in the Study Area**

Map ID	Length (ft.)	Classification	Compensatory Mitigation Required	River Basin Buffer
Haw River	200	Perennial	Yes	Subject
SA	12	Perennial	Yes	Not Subject
SB	162	Intermittent	No*	Not Subject
SC	235	Perennial	Yes	Subject
<b>Total</b>	<b>609</b>			

\*No mitigation required due to low aquatic function

One jurisdictional wetland, WA, was identified within the study area. Wetland classification and quality rating data are presented in Table 6. All wetlands in the study area are within the Cape Fear River Basin (USGS Hydrologic Unit 03030002). Descriptions of the natural communities at this wetland site are discussed above. WA is located within the Piedmont/Low Mountain Alluvial forest community.

**Table 6: Jurisdictional Characteristics of Wetlands in the Study Area**

Map ID	NCWAM Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (ac.)
WA	Riverine Swamp Forest	Riparian	34	<0.01

## PERMITS

The proposed project has been designated as a CE for the purposes of National Environmental Policy Act (NEPA) documentation. As a result, a Nationwide Permit (NWP) 23 will likely be applicable. A NWP 33 may also apply for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The US Army Corps of Engineers (USACE) holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required, then the corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Division of Water Resources (NCDWR) will also be required.

### Construction Moratoria

No construction moratorium is anticipated at this time.

### North Carolina River Basin Buffer Rules

This project is located within the Jordan Lake Watershed; therefore, Jordan Lake Riparian Buffer Rules apply to this project. Table 5 indicates which streams are subject to buffer rule protection.

### Rivers and Harbors Act Section 10 Navigable Waters

There are no jurisdictional streams in the project area designated by the USACE as a Navigable Water under Section 10 of the Rivers and Harbors Act.

### **Avoidance and Minimization and Mitigation**

Jordan Lake Riparian Buffer Rules apply to this project. Therefore, Design Standards in Sensitive Watersheds will be implemented during project construction.

The NCDOT will attempt to avoid and minimize impacts to streams and wetlands to the greatest extent practicable during final design.

The NCDOT will investigate potential on-site stream and wetland mitigation opportunities once a final decision has been rendered on 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, Division of Mitigation Services (DMS).

### **FEDERALLY PROTECTED SPECIES**

Plants and animals with a federal designation of Endangered or Threatened are protected under the provisions of Section 7 and Section 9 of the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS) lists the following federally protected species for Rockingham County.

**Roanoke logperch Biological Conclusion:** **No Effect**  
Bridge No. 6 is over the Haw River which is part of the Cape Fear River basin. The Roanoke logperch is currently known only from the Roanoke River basin. No surveys are required. The proposed project will have no effect on the Roanoke logperch.

**James spiny mussel Biological Conclusion:** **No Effect**  
Bridge No. 6 is over the Haw River which is part of the Cape Fear River basin. The James spiny mussel is currently known only from the Roanoke River basin. No surveys are required. The proposed project will have no effect on the James spiny mussel.

**Smooth coneflower Biological Conclusion:** **No Effect**  
Surveys for the smooth coneflower were conducted on May 14, 2009 by NCDOT biologists. Marginal habitat for smooth coneflower is located within the northwestern quadrant of the project study area in areas that are not regularly mowed. No specimens were observed in the 1.5 man hour survey. The potential for smooth coneflower to become established in the project study area is limited due to regular mowing and competition from other plant species. Furthermore, per N.C. Natural Heritage Program (NCNHP) data (last updated October 2015), no known populations of smooth coneflower are located within 1-mile of the project study area. Therefore, a biological conclusion of No Effect was determined.

### **Northern Long-eared Bat**

On May 4, 2015, USFWS adopted a programmatic Biological Opinion for this species for all the projects and activities in NCDOT Divisions 1 - 8 (including Rockingham County where B-4807 is located), and the Biological Conclusion for this species for the NCDOT program is "May Affect, Likely to Adversely Affect." The Biological Opinion provides an incidental take statement for all NCDOT projects in eastern North Carolina for the next five years. An incidental take is when a non-federal activity will result in the loss, or "take" of a threatened or endangered animal. As a condition of the incidental take statement, NCDOT has agreed to conservation measures designed to minimize adverse effects, and benefit or promote the recovery of the species.

### **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. Suitable nesting habitat does not occur in the project area, however potential foraging habitat for bald eagle exists within 1-mile of the project area. No bald eagles or eagle nests were observed within 660 feet of the project area.

## **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**

NCDOT – Human Environment Section, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA and the Advisory Council on Historic Preservation (effective July 1, 2009), reviewed the proposed project and determined that no surveys are required (see form dated June 11, 2015).

#### **Archaeology**

NCDOT – Human Environment Section, under the provisions of a Programmatic Agreement with FHWA, NCDOT, HPO, OSA, and the Advisory Council on Historic

Preservation (effective July 1, 2009), reviewed the proposed project and determined that an archaeological survey is required (see form dated June 8, 2015). NCDOT surveyed the project's Area of Potential Effects (APE) and reported that no archaeological sites were recorded and a finding of "no historic properties affected" is appropriate for project B-4807 (see form dated July 20, 2015).

### **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. All construction will take place near the existing alignment. There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project will involve the direct conversion of farmland acreage within these classifications.

As is required by the Farmland Protection Policy Act, the Form NRCS-AD-1006 (for point projects) has been completed (see form at the end of this document) according to FHWA guidelines. Since this project received a total point value of less than 160 points, this site falls below the NRCS minimal criteria and will not be evaluated further for farmland impacts. No other alternatives other than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. This project will not have a significant impact to farmland.

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 NCDOT 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.

Rockingham 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.

FHWA 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: Federal Highway Administration, U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, U.S. Environmental Protection Agency, N.C. Division of Parks & Recreation, Rockingham County Schools, Rockingham County Emergency Services and Rockingham County Council on Aging.

The **U.S. Fish & Wildlife Service** in a standardized letter provided a request that they prefer any replacement structure to be a spanning structure.

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

The **N.C. Wildlife Resource Commission** in a standardized letter provided a request that they prefer any replacement structure to be a spanning structure.

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

The **N.C. Division of Water Quality** (NCDWQ) states that the Haw River is class WS-V; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to the Haw River. 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*.

**Response:** NCDOT will comply with all storm water requirements through the Post-Construction Storm Water Program under the Department's NPDES Storm Water Permit (NCS000250).

The **Rockingham County Department of Planning and Building Inspections** identified the project area as the "Upper Haw River Floodplain and Slopes Natural Heritage Area"; an environmentally sensitive area as identified by the North Carolina Natural Heritage Program (NCNHP) in 1999.

**Response:** NCDOT states that the project is not actually part of the "Upper Haw River Floodplain and Slopes Natural Heritage Area." It was considered part of the "Haw River Macrosite" however, the Natural Heritage Program has done away with the

“macrosite” designation and, therefore, the B-4807 project is no longer within any sort of “natural area” as defined by the NCNHP.

**Rockingham County Schools** has indicated that two school buses use SR 2426 twice each school day and there is one bus stop located along SR 2426 approximately 1,100 feet north of the existing bridge. A detour may add up to 15 minutes to each bus run and a “turn-around” is requested since the road would be closed to through traffic.

**Response:** NCDOT will be replacing the existing structure with a new bridge on existing location using an onsite temporary detour to maintain traffic during construction.

**U.S. Army Corps of Engineers** has indicated that any discharge of excavated or fill material into waters of the United States and/or any adjacent wetlands would require Department of the Army (DA) permit authorization. The type of DA authorization required (i.e., general or individual permit) will be determined by the location, type, and extent of jurisdictional area impacted by the project, and by the project design and construction limits.

**Response:** NCDOT will coordinate final design plans, including construction limits, with the USACOE to assess potential jurisdictional impacts and Department of the Army (DA) permitting requirements.

**Rockingham County Emergency Services** has indicated that closure of SR 2426 (Cunningham Mill Road) for the replacement of Bridge No. 6 using a temporary offsite detour would cause a major impact on Emergency Services response to that area. Even with using an alternative route - US 29 South to Benaja Rd, to Cunningham Mill Rd, an increase in response time to that area of 15 + minutes can be expected. This is longer than normal.

**Response:** NCDOT will be replacing the existing structure with a new bridge on existing location using an onsite temporary detour to maintain traffic during construction.

**Rockingham County Council on Aging** has indicated that the construction of a new bridge, while maintaining traffic on an on-site temporary detour, would have no impact on their operations.

**The U.S. Environmental Protection Agency, N.C. Division of Parks & Recreation, and State Historic Preservation Office** had no special concerns for this project.

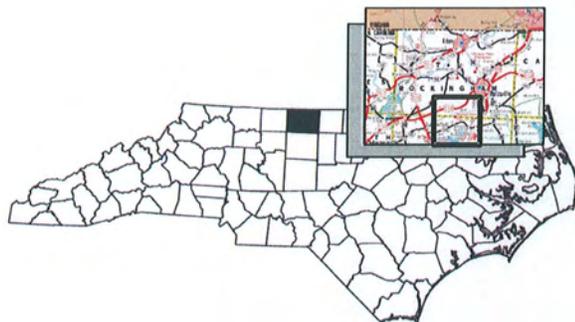
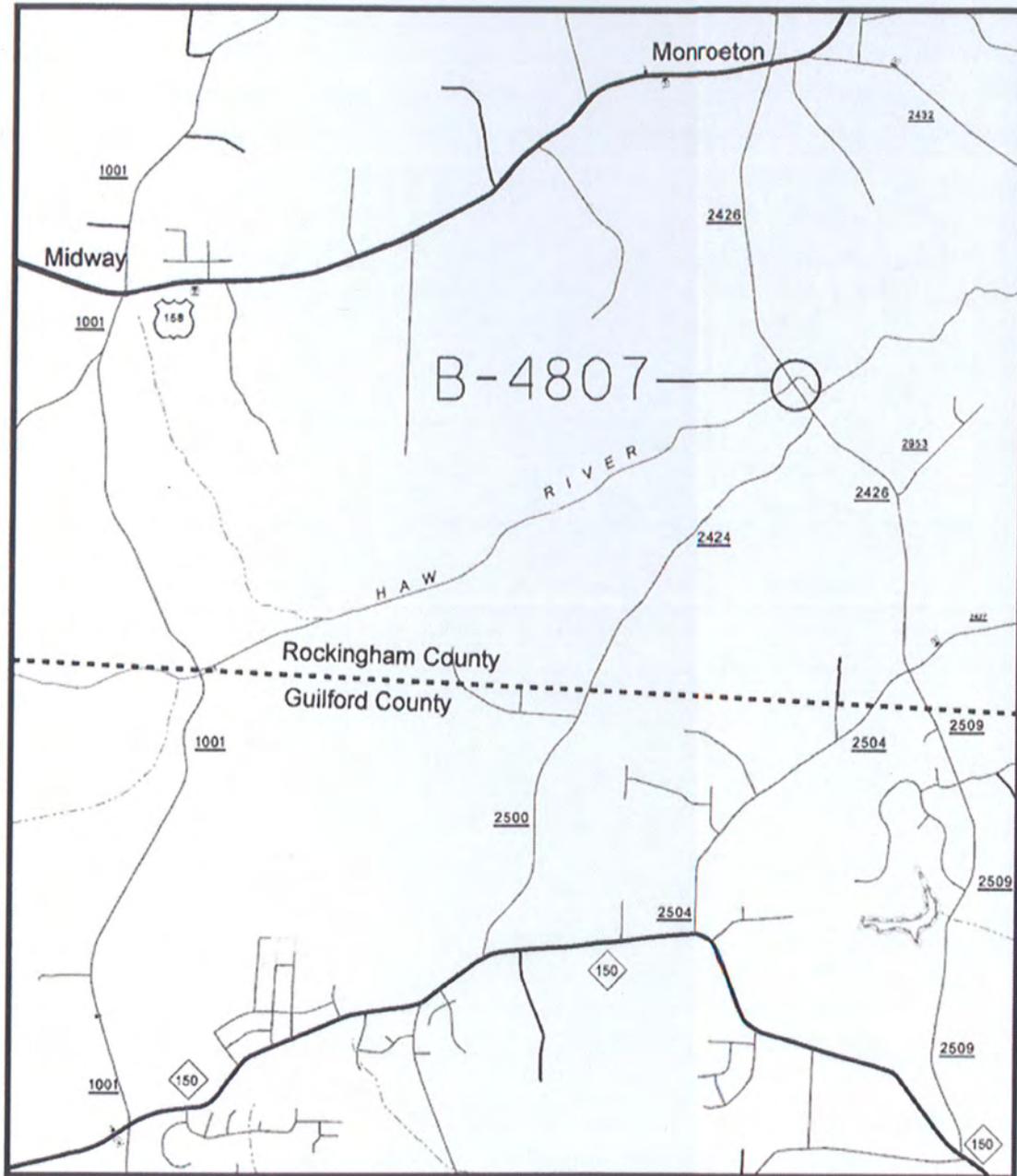
## **IX. PUBLIC INVOLVEMENT**

A newsletter was sent to local residents. No comments have been received to date.

Based on the lack of responses to the newsletter, a public meeting was determined to be unnecessary.

## **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.



	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT</p>
<p><b>ROCKINGHAM COUNTY REPLACE BRIDGE NO. 6 ON SR 2426 OVER HAW RIVER B-4807</b></p>	
<p><b>FIGURE 1</b></p>	

-LDET- V<sub>DET</sub> = 45 mph

P1 STA 10+328.43  
 Δ = 0.00 (RT)  
 L = 86.00 (LT)  
 T = 53.00  
 W = 0.00  
 SE = VAR.

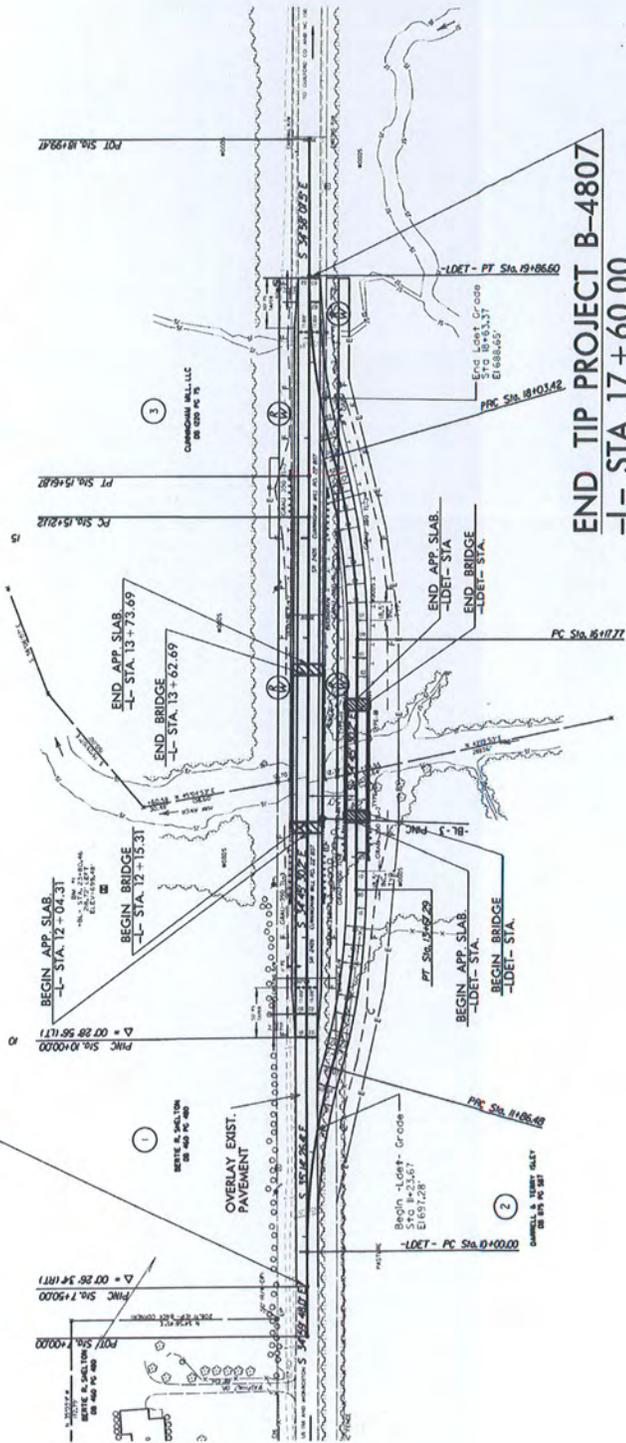
P1 STA 11+274.83  
 Δ = 0.00 (RT)  
 L = 86.00 (LT)  
 T = 53.00  
 W = 0.00  
 SE = VAR.

-L-

P1 STA 15+44.09  
 Δ = 0.00 (RT)  
 L = 86.00 (LT)  
 T = 53.00  
 W = 0.00  
 SE = VAR.

**BEGIN TIP PROJECT B-4807**  
**-L- STA. 7 + 50.00**

**END TIP PROJECT B-4807**  
**-L- STA. 17 + 60.00**



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

ROCKINGHAM COUNTY  
 REPLACE BRIDGE NO. 6 ON SR 2426  
 OVER HAW RIVER  
 B-4807

FIGURE 2

**B-4807**

**Bridge No. 6 on SR 2426 (Cunningham Mill Road) over the Haw River**



**Northbound Approach**



**West Face of Bridge No. 6**

Figure 3  
B-4807



## ROCKINGHAM COUNTY DEPARTMENT OF PLANNING AND BUILDING INSPECTIONS

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April 28, 2009

NC Department of Transportation  
Project Development and Environmental Analysis  
Bridge Project Development Unit  
Attn. Ms. Christy Wright Huff  
1598 Mail Service Center  
Raleigh, NC 27699-1598

Re: TIP Bridge Replacement Projects – Rockingham County

Dear Ms. Huff:

Please find below comments regarding various TIP Bridge Replacement Projects in Rockingham County. The comments are in response to letters that you previously sent the County requesting any information that would be helpful in evaluating potential environmental impacts.

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### **1) TIP Project No. B-4621: Replacement of Bridge No. 150 on US 220 over US 220 Business in Rockingham County**

This bridge lies within our Watershed Overlay District and is classified as a WS-IV Watershed. Essentially, our regulations regulate lot sizes and impervious surfaces within typical land use developments (e.g., residential, commercial, industrial, etc.) Roads are not classified as an actual land use and are generally exempt from watershed requirements. However, a fifty foot undisturbed vegetative buffer is required around all perennial waters (where possible) as identified on USGS topographic maps, and an erosion/sedimentation control plan is required for projects that disturb more than one acre (I am sure that you are already aware of NCDENR requirements). It is also highly recommended that you contact the following local agencies to determine possible impacts from this bridge closure (or reduced access):

Town of Mayodan, Debby Cardwell–Town Manager, (336) 427-0241  
Town of Stoneville, Kevin Baughn–Town Administrator, (336) 573-9393  
Rockingham County Sheriff's Department, Sam Page–County Sheriff, (336) 634-3232  
Rockingham County Emergency Services Department, Steve Hale–Director, (336) 634-3000  
Rockingham County Schools, Frankie Woods–Transportation Coordinator, (336) 627-2604  
Rockingham County Council on Aging (transportation services), (336) 349-2343

We believe there may be a sewer main in this project area that connects Stoneville and Mayodan's sanitary sewage systems.

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Rockingham County Governmental Center  
371 NC 65, Suite 100 – PO Box 105 – Wentworth, NC 27375-0105  
Building Inspections (336) 342-8130    Planning and Zoning (336) 342-8134

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**2) TIP Project No. B-4803: Replacement of Bridge No. 97 on SR 1925 over Wolf Island Creek in Rockingham County**

This bridge project lies within a Special Flood Hazard Area as designated on the Rockingham County Flood Insurance Rate Map (FIRM) #3710892800J and must meet all applicable requirements of the Rockingham County Flood Damage Prevention Ordinance. It is also highly recommended that you contact the following local agencies to determine possible impacts from this bridge closure (or reduced access):

Rockingham County Sheriff's Department, Sam Page—County Sheriff, (336) 634-3232  
Rockingham County Emergency Services Department, Steve Hale—Director, (336) 634-3000  
Rockingham County Schools, Frankie Woods—Transportation Coordinator, (336) 627-2604  
Rockingham County Council on Aging (transportation services), (336) 349-2343

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**3) TIP Project No. B-4806: Replacement of Bridge No. 3 on SR 2409 over a Creek in Rockingham County**

This bridge lies within our Watershed Overlay District and is classified as a WS-III Critical Area Watershed. (For watershed requirements see comments above—TIP Project No. B-4621.) This bridge project lies within a Special Flood Hazard Area as designated on the Rockingham County Flood Insurance Rate Map (FIRM) #3710798300J and must meet all applicable requirements of the Rockingham County Flood Damage Prevention Ordinance. It is also highly recommended that you contact the following local agencies to determine possible impacts from this bridge closure (or reduced access):

Rockingham County Sheriff's Department, Sam Page—County Sheriff, (336) 634-3232  
Rockingham County Emergency Services Department, Steve Hale—Director, (336) 634-3000  
Rockingham County Schools, Frankie Woods—Transportation Coordinator, (336) 627-2604  
Rockingham County Council on Aging (transportation services), (336) 349-2343

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**4) TIP Project No. B-4807: Replacement of Bridge No. 6 on SR 2426 over the Haw River in Rockingham County**

This bridge project lies within a Special Flood Hazard Area as designated on the Rockingham County Flood Insurance Rate Map (FIRM) #3710798100J and must meet all applicable requirements of the Rockingham County Flood Damage Prevention Ordinance. The 2006 Rockingham County Land Use Plan identifies this project area as the Upper Haw River Floodplain and Slopes Natural Heritage Area. This is an environmentally sensitive area as identified by the North Carolina Natural Heritage Program in 1999. It is also highly recommended that you contact the following local agencies to determine possible impacts from this bridge closure (or reduced access):

Rockingham County Sheriff's Department, Sam Page—County Sheriff, (336) 634-3232  
Rockingham County Emergency Services Department, Steve Hale—Director, (336) 634-3000  
Rockingham County Schools, Frankie Woods—Transportation Coordinator, (336) 627-2604  
Rockingham County Council on Aging (transportation services), (336) 349-2343

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**5) TIP Project No. B-4964: Replacement of Bridge No. 85 on SR 2600 over Southern Railroad in Rockingham County**

This bridge does not lie within any designated flood hazard area or watershed. It is highly recommended that you contact the following local agencies to determine possible impacts from this bridge closure (or reduced access):

Rockingham County Sheriff's Department, Sam Page—County Sheriff, (336) 634-3232  
Rockingham County Emergency Services Department, Steve Hale—Director, (336) 634-3000  
Rockingham County Schools, Frankie Woods—Transportation Coordinator, (336) 627-2604  
Rockingham County Council on Aging (transportation services), (336) 349-2343

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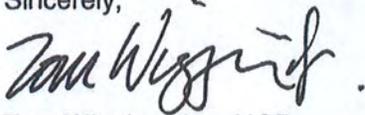
**6) TIP Project No. B-4965: Replacement of Bridge No. 249 on SR 1165 over a creek in Rockingham County**

This bridge project lies within a Special Flood Hazard Area as designated on the Rockingham County Flood Insurance Rate Map (FIRM) #3710790600J and must meet all applicable requirements of the Rockingham County Flood Damage Prevention Ordinance. It is also highly recommended that you contact the following local agencies to determine possible impacts from this bridge closure (or reduced access):

Rockingham County Sheriff's Department, Sam Page—County Sheriff, (336) 634-3232  
Rockingham County Emergency Services Department, Steve Hale—Director, (336) 634-3000  
Rockingham County Schools, Frankie Woods—Transportation Coordinator, (336) 627-2604  
Rockingham County Council on Aging (transportation services), (336) 349-2343

I hope this information is helpful. Please do not hesitate to contact me with any questions or concerns that you may have regarding this matter.

Sincerely,



Tom Wiggins, Jr., AICP  
Planning Director



North Carolina Department of Environment and Natural Resources

Division of Water Quality  
Coleen H. Sullins  
Director

Beverly Eaves Perdue  
Governor

Dee Freeman  
Secretary

May 12, 2009

MEMORANDUM

TO: Christy Wright Huff, NCDOT PDEA

FROM: Amy Euliss, NCDWQ, Winston Salem Regional Office

SUBJECT: Scoping Review of NCDOT's Proposed Bridge Replacement Projects: <sup>B4757</sup> B-4965, B-4964, B-4807, B-4725, and B-5119 (Caswell, Guilford, and Rockingham Counties),

In reply to your correspondence dated April 14, 2009 (received April 16, 2009) in which you requested comments for the above referenced projects, the NCDWQ offers the following comments:

**Project-Specific Comments**

**B-4965, Bridge No. 249 Over Little Beaver Island Creek, Rockingham County**

\*no project specific conditions

**B-4964, Bridge No. 85 Over Southern Railroad, Rockingham County with potential impacts to UTs to Troublesome Creek and Little Troublesome Creek**

1. UTs to Little Troublesome Creek are class C;NSW; 303(d) waters of the State. Little Troublesome Creek is on the 303(d) list for impaired use for aquatic life due to impervious surface, road construction, andMS4 NPDES. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* to reduce the risk of nutrient runoff to Little Troublesome Creek. 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 *Stormwater Best Management Practices*.
2. UTs to Troublesome Creek and Little Troublesome Creek are class C; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to UTs to Troublesome Creek and Little Troublesome Creek. 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*.

**B-4807, Bridge No. 6 Over Haw River, Rockingham County**

1. The Haw River is class C; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to the Haw River. 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*.

Transportation 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/>

One  
North Carolina  
*Naturally*

**B-4725, Bridge No. 12 Over County Line Creek, Caswell County**

\*no project specific conditions

**B-5119, Bridge No. 349 and No. 291 Over US 29-70-220, Guilford County**

1. South Buffalo Creek and its unnamed tributaries are class C;NSW; 303(d) waters of the State. South Buffalo Creek is on the 303(d) list for impaired use for aquatic life due to turbidity. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* to reduce the risk of nutrient runoff to South Buffalo Creek. 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 *Stormwater Best Management Practices*.
2. South Buffalo Creek, its unnamed tributaries, Mile Run Creek, and Ryan Creek are class C; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to South Buffalo Creek, its unnamed tributaries, Mile Run Creek, and Ryan Creek. 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*.

**B-4757, Bridge 175 over Buffalo Creek**

1. Buffalo Creek are class C; NSW waters of the State. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Buffalo Creek. 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*.

**General Comments Regarding All of the Above Bridge Replacement Projects**

1. 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.
2. 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.
3. 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.
4. 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.
5. 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).

6. 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.
7. 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.
8. 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*.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.

#### **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 disequilibrium 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.

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 Amy Euliss at (336) 771-4959.

cc: Andy Williams, US Army Corps of Engineers, Raleigh Field Office  
Federal Highway Administration  
Jerry Parker, Division 7 Environmental Officer  
Kathy Matthews, Environmental Protection Agency (electronic copy only)  
Travis Wilson, NC Wildlife Resources Commission  
Wetlands/401 Transportation Permitting Unit  
File Copy

- 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

CW B-4807



# 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

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:

- C.W. B-4780 Montgomery County Bridge No. 22 on SR 1111 over Richland Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.
- C.W. 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.

- EW B-4953 Alamance County Bridge No. 64 on SR 1912 over Quaker Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.
- D.B. 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.
- D.B. 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.
- D.B. 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.
- CW 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.
- CW 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.
- D.B. 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.
- CW B-4757 Guilford County Bridge No. 175 on SR 2795 over Buffalo Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.
- CW 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.
- CW B-4807 Rockingham County Bridge No. 6 on SR 2426 over Haw River. We recommend replacing this bridge with a bridge. Standard recommendations apply.
- EW B-4964 Rockingham County Bridge No. 85 on SR 2600 over Southern Railroad. We recommend replacing this bridge with a bridge. Standard recommendations apply.
- CW 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*

b.B. 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.

(Creeper: 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.

CW 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.

CW 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.

CW 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.

CW 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.

CW 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.

CW 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.

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

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

**From:** nnlockhart@ncdot.gov  
**Sent:** Tuesday, April 07, 2015 3:00 PM  
**To:** Felix.Davila@dot.gov  
**Cc:** Dehler, Brian; peason@ncdot.gov  
**Subject:** FW: Bridge# 6, Replacement on SR 2426 Cunningham Mill Rd

This is an email from Emergency Services regarding the offsite detour for B-4807.

**From:** Johnny Bowles [<mailto:jbowles@co.rockingham.nc.us>]  
**Sent:** Tuesday, April 07, 2015 2:55 PM  
**To:** Lockhart, Natalie N  
**Subject:** Bridge# 6, Replacement on SR 2426 Cunningham Mill Rd

Ms Lockhart,

Per our conversation today concerning the bridge replacement on Cunningham Mill Rd. With the bridge being out for 4-6 months, this will cause a major impact on Emergency Services response to that area. Even with using an alternative route - US 29 South to Benaja Rd, to Cunningham Mill Rd, we are looking to increase response time to this area 15 + minutes. longer than normal.

--

*Johnny Bowles*, Director  
Rockingham County Emergency Services  
336.634.3017 Office  
336.634.3002 Fax  
336.589.5827 Cell  
[jbowles@co.rockingham.nc.us](mailto:jbowles@co.rockingham.nc.us)

If you are not the intended recipient, you must destroy this message and inform the sender immediately. This electronic mail message and any attachments, as well as any electronic mail message(s) sent in response to it may be considered public record and as such subject to request and review by anyone at any time. It also may contain information which is confidential within the meaning of applicable federal and state laws.

15-05-0004



## ARCHAEOLOGICAL SURVEY REQUIRED FORM

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.



### PROJECT INFORMATION

Project No: **B-4807** County: **Rockingham**  
 WBS No: **38577.1.1** Document: **CE**  
 F.A. No: **BRZ-2426(1)** Funding:  State  Federal  
 Federal Permit Required?  Yes  No Permit Type:

**Project Description:** The NCDOT proposes to replace Bridge No. 6 on SR 2426 (Cunningham Mill Road) over the Haw River in Rockingham County. Bridge No. 6 was built in 1961, and is considered to be structurally deficient and functionally obsolete. There may be minor ditch-line impacts, and an on-site detour (temporary structure to the south) is to be used during construction. Based on the size of the existing bridge and the size of the proposed temporary structure, the Area of Potential Effects (APE) will encompass approximately 125,525 square feet or about 2.88 acres, inclusive of the existing roadway and the existing structure to be replaced.

### SUMMARY OF ARCHAEOLOGICAL RESOURCES REVIEW: *SURVEY REQUIRED*

#### *Brief description of review activities, results of review, and conclusions:*

A map review and site file search was conducted at the Office of State Archaeology (OSA) on Thursday, May 28, 2015. An archaeological survey at this particular bridge location has never been conducted, and no archaeological sites have been recorded within one-half (1/2) mile of the proposed project. Digital copies of HPO's maps (Reidsville Quadrangle) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpoweb/>) were last reviewed on Monday, June 8, 2015. Although there are known historic architectural resources (i.e. the Cunningham Mill, the Patrick Family Cemetery, and the Patrick Springhouse [RK0999]) within the vicinity of the project area, intact archaeological deposits associated with these resources are not anticipated within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the archaeological APE.

Although the submittal for this Federally-funded project states that a Federal permit will not be required, this review will proceed as if one will be required since a temporary structure and easements crossing the Haw River will be needed in order for Bridge No. 6 to be replaced. All proposed project activities are to take place within the proposed APE, which encompasses the proposed temporary structure and easement. Since NCDOT's existing ROW along SR 2426 (Cunningham Mill Road) measures 60 feet wide, there will be environmental impacts beyond what is currently owned/maintained by the NCDOT. From an environmental perspective, the APE falls within the Piedmont physiographic region, consists primarily of the floodplain for the Haw River and the rolling/undulating terrain characteristic of the region, and is composed of five (5) soil types (north to south): Cecil sandy clay loam, 2-8% slopes, eroded (CdB2), Wickham sandy loam, 1-4% slopes (WhB), Wehadkee silt loam (We), Pacolet sandy loam, 25-40% slopes (PaF), and Chewacla loam (Ck). Much of the proposed project area consists of poorly drained and

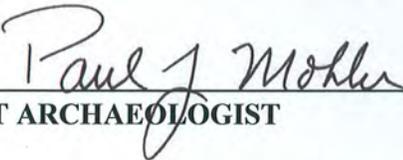
**15-05-0004**

somewhat poorly drained soils that are frequently flooded for brief periods of time. In fact, a large section of the project area is categorized as a Flood Hazard Zone, based on overlays of floodplain mapping. The drainage is also flanked by eroded and steeply sloped soils, which would call into question stratigraphic integrity. However, a small section of well-drained, nearly level soils (WhB) typical of high stream terraces is present within the APE on the north side of the river. Although this project was reviewed and cleared previously by the Office of State Archaeology (OSA) (ER 08-2621), based on the presence of poorly drained soils, it should be noted that when this project was original submitted, it was to be a replace-in-place project with an off-site detour. Plans have since changed, utilizing an on-site detour/ structure on the south side of the existing bridge. This temporary structure will impact the stream terrace on the north side of the river. Numerous archaeological sites have been located along the Haw River, from Rockingham County all the way down through Chatham County, suggesting that the drainage served as a major network throughout prehistory and into the Contact period. With the change in the project, there is the potential for intact archaeological deposits to be located within the defined APE for proposed project. Based on the information provided, an archaeological survey is, therefore, recommended for the proposed project. A visual inspection of the entire Area of Potential Effects (APE) should be conducted first, followed then by systematic archaeological excavations within areas of moderate to high archaeological probability. Should the description of this project change or design plans be made available prior to construction, additional consultation regarding archaeology will be required.

**SUPPORT DOCUMENTATION**

See attached:  Map(s)     Previous Survey Info     Photos     Correspondence  
 Photocopy of County Survey Notes    Other:

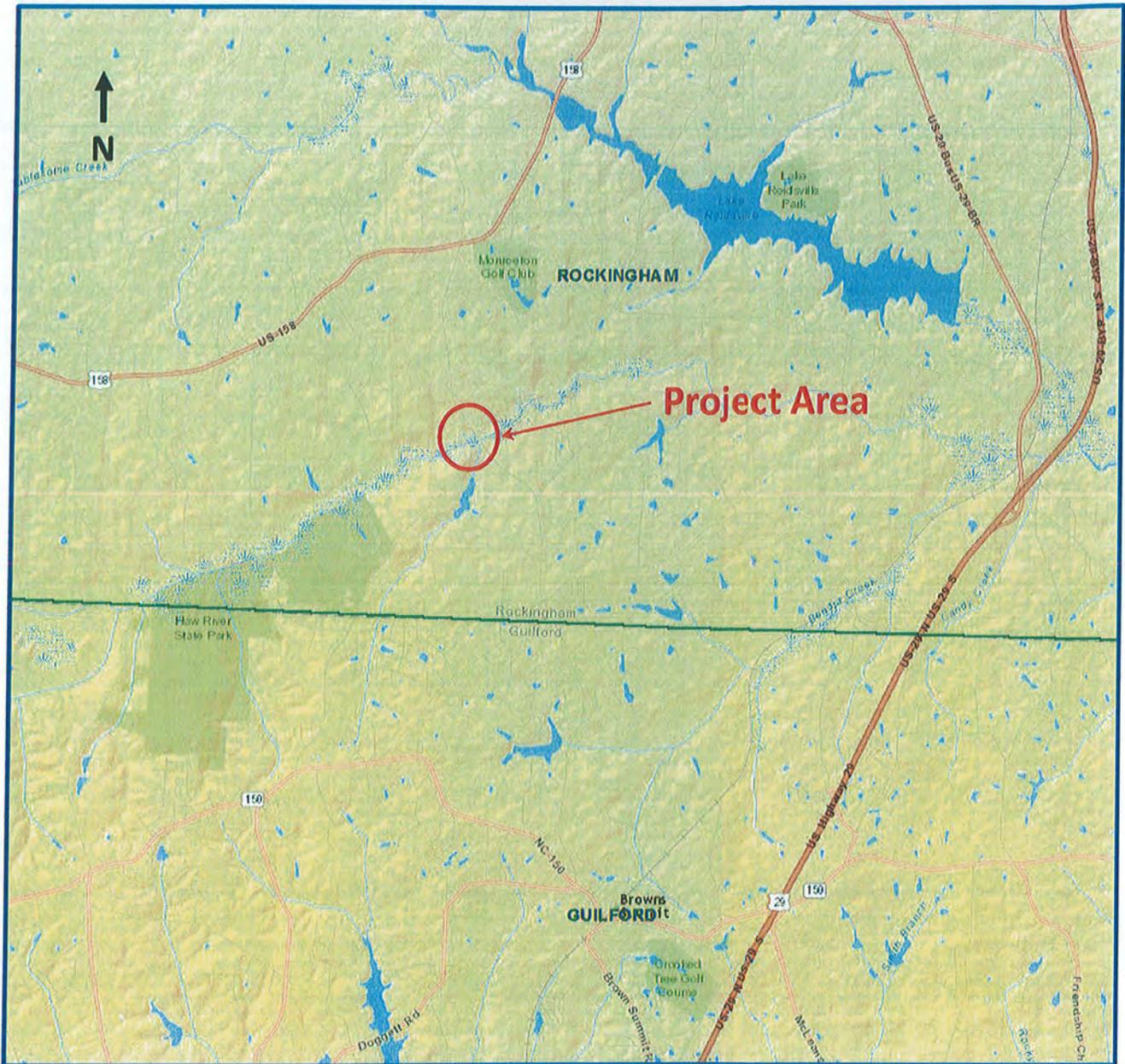
**FINDING BY NCDOT ARCHAEOLOGIST – SURVEY REQUIRED**

  
 \_\_\_\_\_  
 NCDOT ARCHAEOLOGIST

June 8, 2015

**Date****PROPOSED FIELDWORK COMPLETION DATE**

September 8, 2015



B-4807

Bridge No. 6 Replacement

Rockingham County

WBS No. 38577.1.1

Base map: HPOWeb, nts

**B-4807, Rockingham County  
Bridge No. 6 on SR 2426 (Cunningham Mill Road) over Haw River**

**SUPPORT DOCUMENTATION**

X Map(s)     Previous Survey Info.     Photos     Correspondence     Design Plans

**FINDING BY NCDOT ARCHITECTURAL HISTORIAN**

Historic Architecture and Landscapes -- NO SURVEY REQUIRED

*Vanessa C. Patrick*

*11 June 2015*

NCDOT Architectural Historian

Date

15-05-0004



## HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

### PROJECT INFORMATION

<b>Project No:</b>	B-4807	<b>County:</b>	Rockingham
<b>WBS No.:</b>	38577.1.1	<b>Document Type:</b>	
<b>Fed. Aid No:</b>	BRZ-2426(1)	<b>Funding:</b>	State    X Federal
<b>Federal Permit(s):</b>	Yes    X No	<b>Permit Type(s):</b>	
<b>Project Description:</b> Replace Bridge No. 6 on SR 2426 (Cunningham Mill Road) over Haw River (no off-site detour planned).			

### SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

**DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS:** HPOWeb reviewed on 21 May 2015 and yielded no NR, SS, SL, LD, or DE properties in the Area of Potential Effects (APE). Rockingham County current GIS mapping, aerial photography, and tax information indicated a predominantly wooded APE, containing two houses dating respectively to the final quarter of the twentieth century and the first decade of the twenty-first century, as well as a mid-twentieth-century house and outbuilding of unexceptional design and form (viewed 21 May 2015). The APE also intersects a large parcel (PIN: 7981 00 44 4251 00) to the southeast of the bridge on which stand several historically associated resources: a circa-1910 house, the 1824 Patrick Springhouse (RK0999-SL), the mill pond and stone dam (early nineteenth century) of the non-extant Patrick-Cunningham Mill, and the Patrick Cemetery (gravestones dating from 1771 to 1863). All are located south/southeast of the SR 2424 (Spearman Road)/SR 2426 (Cunningham Mill Road) intersection, outside the APE, approximately 1000 feet and more distant from the bridge, and well beyond likely project impact. Bridge No. 6, built in 1961, is not eligible for the National Register as it is not representative of any distinctive engineering or aesthetic type. Google Maps "Street View" confirmed the relative placement of the various resources and the absence of critical historic structures and landscapes in the APE (viewed 21 May 2015).

**No architectural survey is required for the project as currently defined.**

**WHY THE AVAILABLE INFORMATION PROVIDES A RELIABLE BASIS FOR REASONABLY PREDICTING THAT THERE ARE NO UNIDENTIFIED SIGNIFICANT HISTORIC ARCHITECTURAL OR LANDSCAPE RESOURCES IN THE PROJECT AREA:** APE extends 750 feet from each end of the existing bridge (NW-SE) and 150 feet to either side of the existing SR 2426 (Cunningham Mill Road) center line (NE-SW) to encompass proposed construction. The comprehensive county architectural survey (2001-2003) is recent and reliable and includes no properties in the APE. County GIS/tax materials and other visuals support the absence of significant architectural and landscape resources in the APE. No National Register-listed or -eligible properties are located within the APE.

**Should any aspect of the project design change,  
please notify NCDOT Historic Architecture as additional review may be necessary.**



15-05-0004



**NO NATIONAL REGISTER OF HISTORIC PLACES  
ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES  
PRESENT OR AFFECTED FORM**



This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Group.

**PROJECT INFORMATION**

*Project No:* **B-4807** *County:* **Rockingham**  
*WBS No:* **38577.1.1** *Document:* **CE**  
*F.A. No:* **BRZ-2426(1)** *Funding:*  State  Federal

*Federal Permit Required?*  Yes  No *Permit Type:* **N/A**

**Project Description:** The NCDOT proposes to replace Bridge No. 6 on SR 2426 (Cunningham Mill Road) over the Haw River in Rockingham County. Bridge No. 6 was built in 1961, and is considered to be structurally deficient and functionally obsolete. There may be minor ditch-line impacts, and an on-site detour (temporary structure to the south) is to be used during construction. Based on the size of the existing bridge and the size of the proposed temporary structure, the Area of Potential Effects (APE) will encompass approximately 125,525 square feet or about 2.88 acres, inclusive of the existing roadway and the existing structure to be replaced.

**SUMMARY OF ARCHAEOLOGICAL FINDINGS**

*The North Carolina Department of Transportation (NCDOT) Archaeology Group reviewed the subject project and determined:*

- There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects.
- No subsurface archaeological investigations were required for this project.
- Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- There are no National Register Eligible or Listed ARCHAEOLOGICAL SITES present or affected by this project. (*Attach any notes or documents as needed*)

**Brief description of review activities, results of review, and conclusions:**

A map review and site file search was conducted at the Office of State Archaeology (OSA) on Thursday, May 28, 2015. An archaeological survey at this particular bridge location has never been conducted, and no archaeological sites have been recorded within one-half (1/2) mile of the proposed project. Digital copies of HPO's maps (Reidsville Quadrangle) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpoweb/>) were last reviewed on Monday, June 8, 2015. Although there are known

## Dehler, Brian

---

**From:** Meggan Odell <modell@adtsrc.org>  
**Sent:** Wednesday, November 18, 2015 1:41 PM  
**To:** Dehler, Brian  
**Subject:** Bridge Replacement (No. 6) in Rockingham County

In response to your email below...

The replacement of the bridge in question will not harmfully impact our organization's operations or the ability to serve our residents. Thank you for the opportunity for us to provide input on the project.

### ***Meggan Roberts Odell***

Senior Director of Transit Services  
RCATS Transportation/skat Bus  
Aging, Disability and Transit Services of Rockingham County  
105 Lawsonville Avenue  
PO Box 1915  
Reidsville, NC 27320  
Direct Line: 336-394-1300  
Main Office: 336-349-2343  
Fax Line: 336-347-3004  
[www.adtsrc.org](http://www.adtsrc.org)  
[www.rideskat.org](http://www.rideskat.org)



***\*PLEASE CONSIDER A TAX DEDUCTIBLE DONATION TO ADTS. SIMPLY [CLICK HERE](#) TO SECURELY DONATE ONLINE. 100% OF YOUR DONATION STAYS IN ROCKINGHAM COUNTY.***

---

Ms. Powers,

The North Carolina Department of Transportation (NCDOT) has begun studies to replace Bridge No. 6 over the Haw River on SR 2426 in Rockingham County. The bridge was built in 1961 and while it is safe to drive on, it needs to be upgraded or replaced in order to meet state and federal criteria and to ensure that it stays safe for many years to come. The bridge is likely to be replaced in its existing location, and traffic maintained on an on-site detour bridge adjacent to the existing structure. (See attached Figure 1.)

We are seeking your input on the project and any potential impact on your organization's operations and ability to serve its customers.

If you have any questions, please give me a call at the number below. We appreciate your time.

Thank you,

**15-05-0004**

terraces. To the north, the stream terrace is bordered by two types of eroded soils: Pacolet sandy clay loam, 8-15% slopes (PcD2) and Cecil sandy clay loam, 2-8% slopes (CdB2). Based on the typical WhB soil profile, what was revealed in the excavated shovel tests represents the middle portion of the recorded subsoil for that type, a yellowish red sandy clay loam. If so, then the northern stream terrace has succumbed to further erosion, washing away the upper layers of the typical soil profile and any possibility of there being any intact archaeological deposits on this landform.

Overall, no archaeological sites were recorded within the project's Area of Potential Effects (APE). No additional archaeological work should be required. Therefore, a finding of "no historic properties affected" is considered appropriate in association with this bridge replacement project. Should the description of this project or design plans change prior to construction, then additional consultation regarding archaeology will be required. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," to include notification of NCDOT's Archaeology Group.

#### Shovel Test Discussion:

STP 1: 0-20cmbs, 5YR 4/6, fine sandy loam; 20-28cmbs, 5YR 5/6, baked out clay loam; open pasture, no cultural material

STP 2: 0-20cmbs, 2.5YR 4/6, baked out clay loam; 20-30cmbs, 2.5YR 4/6, clay loam; offset next to a man-made drainage ditch through the pasture, no cultural material

STP 3: 0-16cmbs, 5YR 4/6, fine sandy loam; 16-23cmbs, 5YR 5/6, baked out clay loam; some quartz was evident but determined to be non-cultural, no cultural material

STP 4: 0-32cmbs, 2.5YR 4/6, baked out clay loam; fallow hayfield/pasture, no cultural material

STP 5: 0-20cmbs, 2.5YR 4/6, baked out clay loam; hard and compact, moderate erosion, no cultural material

STP 6: 0-20cmbs, 2.5YR 4/6, baked out clay loam; hard and compact, moderate erosion, no cultural material

STP 7: 0-5cmbs, root mat; 5-15cmbs, 2.5YR 4/6, baked rock hard clay, eroded, no cultural material

#### SUPPORT DOCUMENTATION

See attached:  Map(s)     Previous Survey Info     Photos     Correspondence  
Signed:

*Paul J. Mohler*

July 20, 2015

NCDOT ARCHAEOLOGIST

Date

historic architectural resources (i.e. the Cunningham Mill, the Patrick Family Cemetery, and the Patrick Springhouse [RK0999]) within the vicinity of the project area, intact archaeological deposits associated with these resources are not anticipated within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or prehistoric settlement within the project limits, and to assess the level of modern, slope, agricultural, hydrological, and other erosive-type disturbances within and surrounding the archaeological APE.

As stated in the Survey Required Form for this project, "Although the submittal for this Federally-funded project states that a Federal permit will not be required, this review will proceed as if one will be required since a temporary structure and easements crossing the Haw River will be needed in order for Bridge No. 6 to be replaced. All proposed project activities are to take place within the proposed APE, which encompasses the proposed temporary structure and easement. Since NCDOT's existing ROW along SR 2426 (Cunningham Mill Road) measures 60 feet wide, there will be environmental impacts beyond what is currently owned/maintained by the NCDOT. From an environmental perspective, the APE falls within the Piedmont physiographic region, consists primarily of the floodplain for the Haw River and the rolling/undulating terrain characteristic of the region, and is composed of five (5) soil types (north to south): Cecil sandy clay loam, 2-8% slopes, eroded (CdB2), Wickham sandy loam, 1-4% slopes (WhB), Wehadkee silt loam (We), Pacolet sandy loam, 25-40% slopes (PaF), and Chewacla loam (Ck). Much of the proposed project area consists of poorly drained and somewhat poorly drained soils that are frequently flooded for brief periods of time. In fact, a large section of the project area is categorized as a Flood Hazard Zone, based on overlays of floodplain mapping. The drainage is also flanked by eroded and steeply sloped soils, which would call into question stratigraphic integrity. However, a small section of well-drained, nearly level soils (WhB) typical of high stream terraces is present within the APE on the north side of the river. Although this project was reviewed and cleared previously by the Office of State Archaeology (OSA) (ER 08-2621), based on the presence of poorly drained soils, it should be noted that when this project was original submitted, it was to be a replace-in-place project with an off-site detour. Plans have since changed, utilizing an on-site detour/ structure on the south side of the existing bridge. This temporary structure will impact the stream terrace on the north side of the river. Numerous archaeological sites have been located along the Haw River, from Rockingham County all the way down through Chatham County, suggesting that the drainage served as a major network throughout prehistory and into the Contact period. With the change in the project, there is the potential for intact archaeological deposits to be located within the defined APE for proposed project. Based on the information provided, an archaeological survey is, therefore, recommended for the proposed project. A visual inspection of the entire Area of Potential Effects (APE) should be conducted first, followed then by systematic archaeological excavations within areas of moderate to high archaeological probability. Should the description of this project change or design plans be made available prior to construction, additional consultation regarding archaeology will be required."

Field investigations around Bridge No. 6 on SR 2426 (Cunningham Mill Road) over the Haw River occurred on Friday, July 17, 2015, and were comprised of pedestrian survey and systematic shovel testing to locate and assess potentially significant archaeological remains that could be damaged or destroyed by the proposed project as described above. The entire extent of the project's APE was visually inspected in order to determine the need for excavations. Based on current soil conditions, shovel tests were positioned strategically to investigate the terrace on the north side of the Haw River. Three (3) shovel tests were positioned in the Northwest Quadrant, and four (4) shovel tests were positioned in the Northeast Quadrant. The placement of radial shovel tests was not necessary since no archaeological material was recovered. In all, seven (7) shovel tests were excavated. Please refer to the Shovel Test Discussion for detailed descriptions (soil strata, color, and texture) of each shovel test. Both fields on either side of SR 2426 (Cunningham Mill Road) that were investigated currently serve as open pasture. They also form the stream terrace overlooking the north side of the Haw River, and are supposed to consist of Wickham sandy loam (WhB), a well-drained soil located on narrow, slightly elevated stream