

CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

STIP Project No. **B-5362**
W.B.S. No. **46077.1.1**
Federal Project No. **BRSTP-0073(31)**

A. Project Description:

The purpose of this project is to replace Montgomery County Bridge No. 53 along NC 73 over Drowning Creek. Bridge No. 53 is 97 feet long. The replacement structure will be a bridge approximately 130 feet long providing a minimum 27-foot, 10-inch clear deck width. The bridge will include two 12-foot lanes with 1-foot, 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The proposed roadway will be constructed at a relatively similar grade as the existing facility.

The approach roadway will extend approximately 130 feet from the north end and 160 feet from the south end of the new bridge. The approaches will be constructed to include a 28-foot pavement width providing two 12-foot lanes with 2-foot wide full-depth paved shoulders. A total shoulder width of 6-feet will be provided on each side of the roadway (9-foot shoulders where guardrail is included). The roadway will be designed as minor arterial using Regional Tier guidelines with a 55 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1). The off-site detour is approximately 5.7 miles long and utilizes SR 1003 (Windblow Road) and SR 1531/SR 1124 (Derby Road).

B. Purpose and Need:

NCDOT Bridge Management Unit records indicate Bridge No. 53 has a sufficiency rating of 62.1 out of a possible 100 for a new structure.

The bridge is considered structurally deficient due to a deck condition rating of 4 out of 9 according to Federal Highway Administration (FHWA) standards. The bridge meets the criteria for functionally obsolete due to a deck geometry appraisal of 2 out of 9.

Bridge No. 53 carried 1,600 vehicles per day in 2013. The bridge is projected to carry 2,100 vehicles per day in 2040. The 23-foot wide deck only allows for a 20-foot wide roadway, which is substandard and unacceptable. The replacement of the bridge will result in safer traffic operations.

C. Proposed Improvements:

Circle one or more of the following Type II improvements which apply to the project:

1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
 - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
 - b. Widening roadway and shoulders without adding through lanes
 - c. Modernizing gore treatments
 - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
 - e. Adding shoulder drains
 - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
 - g. Providing driveway pipes
 - h. Performing minor bridge widening (less than one through lane)
 - i. Slide Stabilization
 - j. Structural BMP's for water quality improvement
2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
 - a. Installing ramp metering devices
 - b. Installing lights
 - c. Adding or upgrading guardrail
 - d. Installing safety barriers including Jersey type barriers and pier protection
 - e. Installing or replacing impact attenuators
 - f. Upgrading medians including adding or upgrading median barriers
 - g. Improving intersections including relocation and/or realignment
 - h. Making minor roadway realignment
 - i. Channelizing traffic
 - j. Performing clear zone safety improvements including removing hazards and flattening slopes
 - k. Implementing traffic aid systems, signals, and motorist aid
 - l. Installing bridge safety hardware including bridge rail retrofit
3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
 - a. Rehabilitating, reconstructing, or replacing bridge approach slabs
 - b. Rehabilitating or replacing bridge decks
 - c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
 - d. Replacing a bridge (structure and/or fill)
4. Transportation corridor fringe parking facilities.
5. Construction of new truck weigh stations or rest areas.
6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
7. Approvals for changes in access control.

8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.
10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.
13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.

D. Special Project Information:

The estimated costs, based on 2016 prices, are as follows:

Structure	\$ 637,000
Roadway Approaches	\$ 183,000
Misc. & Mob.	128,000
Eng. & Contingencies	152,000
Total Construction Cost	\$ 1,100,000
Right-of-way Costs	\$ 8,100
Utility Relocation Costs	\$ 35,000
Total Project Cost	\$ 1,143,000

Estimated Traffic:

Current (2013)-		1,600 vpd
Year 2040	-	2,100 vpd
TTST	-	3%
Dual	-	7%

Accidents: The NCDOT Transportation Mobility and Safety Division has evaluated a ten year period from January 1, 2003 to December 31, 2012 and found that five accidents have occurred in the vicinity of the bridge. These include one fatal accident.

Design Exceptions: No design exceptions are anticipated for the proposed project.

Pedestrian and Bicycle Accommodations: This portion of NC 73 is not a part of a designated bicycle route nor is it listed in the State Transportation Improvement Program (STIP) as a bicycle project.

Bridge Demolition: Bridge No. 53 is constructed entirely of concrete and reinforcing steel. The substructure consists of two large steel and it should be possible to remove the structure with no resulting debris in the water based on standard demolition practices.

Alternatives Discussion:

No Build – The no-build alternative was not selected because it would have resulted in the closure of Bridge No. 53, which is unacceptable given that this section of NC 73 serves over 1,600 vehicles per day (vpd) and is projected to serve over 2,400 vpd by the design year (2040).

Rehabilitation – The bridge was constructed in 1926 and the timber materials within the bridge are reaching the end of their useful life. Rehabilitation would require replacing the timber components which would constitute effectively replacing the bridge.

Offsite Detour – Bridge No. 53 will be replaced on the existing alignment. Traffic will be detoured offsite (see Figure 1) during the construction period. NCDOT Guidelines for Evaluation of Offsite Detours for Bridge Replacement Projects considers multiple project variables beginning with the additional time traveled by the average road user resulting from the offsite detour. The offsite detour for this project consists of SR 1003 (Windblow Road) and SR 1531/SR 1124 (Derby Road). The majority of traffic on the road is through traffic. The detour for the average road user would result in 3 to 4 minutes additional travel time (2.9 miles additional travel). The project is expected to take approximately 18 months to construct.

Based on the Guidelines, the criteria above indicate that on the basis of delay alone, the detour is acceptable. NCDOT Division 8 has indicated the condition of all roads, bridges, and intersections on the offsite detour

are acceptable without improvements and concur with the use of the detour.

In order to have time to adequately reroute school buses, Moore and Montgomery County Schools Transportation Offices will be contacted at (910) 947-5481 and (910) 576-4281, respectively, at least one month prior to road closure.

Moore and Montgomery County Emergency Management will be contacted at (910) 947-6317 and (910) 571-7107, respectively, at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Onsite Detour – An onsite detour alternative was developed and would have run to the south of the existing bridge. However, the onsite detour was eliminated due to the presence of wetlands along both sides of NC 73 within the study corridor and the availability of a feasible offsite detour.

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

New Alignment – Construction on a new alignment was not considered because of the availability of an acceptable offsite detour. In addition, a new alignment would have resulted in considerable impacts to the wetlands along both sides of NC 73 within the project study area.

Other Agency Comments:

The **North Carolina Wildlife Resources Commission (NCWRC)** noted in the letter included in Appendix A this portion of Drowning Creek is designated as a Significant Aquatic Habitat by the NC Natural Heritage Program. The NCWRC recommends that NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of the project. They also recommend replacing the existing structure with another bridge.

Response: The project will be designed and constructed utilizing the *Design Standards for Sensitive Watersheds*. NCDOT will replace the existing bridge with a new bridge along the existing alignment.

The **U.S. Army Corps of Engineers (USACE)** recommended in the email included in Appendix A that the existing bridge be replaced with a bridge with a hydraulic opening as large or larger than the existing bridges. USACE also recommends that an off-site detour be utilized for this project. USACE noted that Drowning Creek is designated as high quality waters (HQW) and is listed as a Section 303(d) stream.

Response: The bridge structure will span the active channel providing adequate clearance for the passage of aquatic species and the movement of debris and stream bed material. An offsite detour will be utilized during the construction of the project. The project will be designed and constructed utilizing the *Design Standards for Sensitive Watersheds*.

The **U.S. Environmental Protection Agency (EPA)** recommended that all Section 303(d) listed, HWQ/ORW, and Water Supply streams be afforded the greatest protection using the most stringent NCDOT BMPs during construction. EPA also recommends that replacement bridges provide hydraulic opens as large (or larger) than the structures that are being replaced. EPA also recommends the use of offsite detours.

Response: The project will be designed and constructed utilizing the *Design Standards for Sensitive Watersheds*. The bridge structure will span the active channel providing adequate clearance for the passage of aquatic species and the movement of debris and stream bed material. An offsite detour will be utilized during the construction of the project.

The **N.C Department of Environmental Quality (formerly called NCDENR)** has stated that due to the stream being classified as WSII, SW, and HQW, NCDOT will be required to obtain a State Stormwater Permit prior to construction.

Response: The project will be designed and constructed utilizing the *Design Standards for Sensitive Watersheds* and NCDOT will submit an application for a State Stormwater Permit pursuant to 15A NCAC 2H.1006 and 15A NCAC 2B.0224.

No additional correspondence was received from other resource agencies

Public Involvement:

A letter was sent by the Project Development and Environmental Analysis Unit's Natural Environment Section on February 18, 2013 to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

E. Threshold Criteria

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

ECOLOGICAL

YES

NO

(1) Will the project have a substantial impact on any

- | | | | |
|-----|--|-------------------------------------|--------------------------|
| | unique or important natural resource? | <input type="checkbox"/> | <u> X </u> |
| (2) | Does the project involve habitat where federally listed endangered or threatened species may occur? | <input checked="" type="checkbox"/> | <u> </u> |
| (3) | Will the project affect anadromous fish? | <input type="checkbox"/> | <u> X </u> |
| (4) | If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated? | <u> X </u> | <input type="checkbox"/> |
| (5) | Will the project require the use of U. S. Forest Service lands? | <input type="checkbox"/> | <u> X </u> |
| (6) | Will the quality of adjacent water resources be adversely impacted by proposed construction activities? | <input type="checkbox"/> | <u> X </u> |
| (7) | Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)? | <input checked="" type="checkbox"/> | <u> </u> |
| (8) | Will the project require fill in waters of the United States in any of the designated mountain trout counties? | <input type="checkbox"/> | <u> X </u> |
| (9) | Does the project involve any known underground storage tanks (UST's) or hazardous materials sites? | <input type="checkbox"/> | <u> X </u> |

PERMITS AND COORDINATION

YES NO

- | | | | |
|------|--|-------------------------------------|-------------------|
| (10) | If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)? | <input type="checkbox"/> | <u> X </u> |
| (11) | Does the project involve Coastal Barrier Resources Act resources? | <input type="checkbox"/> | <u> X </u> |
| (12) | Will a U. S. Coast Guard permit be required? | <input type="checkbox"/> | <u> X </u> |
| (13) | Could the project result in the modification of any existing regulatory floodway? | <input checked="" type="checkbox"/> | <u> </u> |
| (14) | Will the project require any stream relocations or channel changes? | <input type="checkbox"/> | <u> X </u> |

SOCIAL, ECONOMIC, AND CULTURAL RESOURCES

YES NO

- | | | | |
|------|---|--------------------------|--------------------------|
| (15) | Will the project induce substantial impacts to planned growth or land use for the area? | <input type="checkbox"/> | <u> X </u> |
| (16) | Will the project require the relocation of any family or business? | <input type="checkbox"/> | <u> X </u> |
| (17) | Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population? | <input type="checkbox"/> | <u> X </u> |
| (18) | If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor? | <u> X </u> | <input type="checkbox"/> |
| (19) | Will the project involve any changes in access control? | <input type="checkbox"/> | <u> X </u> |
| (20) | Will the project substantially alter the usefulness and/or land use of adjacent property? | <input type="checkbox"/> | <u> X </u> |
| (21) | Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness? | <input type="checkbox"/> | <u> X </u> |
| (22) | Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)? | <u> X </u> | <input type="checkbox"/> |
| (23) | Is the project anticipated to cause an increase in traffic volumes? | <input type="checkbox"/> | <u> X </u> |
| (24) | Will traffic be maintained during construction using existing roads, staged construction, or on-site detours? | <u> X </u> | <input type="checkbox"/> |
| (25) | If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility? | <u> X </u> | <input type="checkbox"/> |
| (26) | Is there substantial controversy on social, economic, or environmental grounds concerning the project? | <input type="checkbox"/> | <u> X </u> |
| (27) | Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project? | <u> X </u> | <input type="checkbox"/> |
| (28) | Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places? | <input type="checkbox"/> | <u> X </u> |
| (29) | Will the project affect any archaeological remains which are important to history or pre-history? | <input type="checkbox"/> | <u> X </u> |
| (30) | Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, | | |

- historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)? X
- (20) Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended? X
- (32) Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers? X

F. Additional Documentation Required for Unfavorable Responses in Part E

Response to Question 2: The USFWS lists the following protected species for Montgomery and Moore Counties

Scientific Name	Common Name	Federal Status	Habitat Present	County	Biological Conclusion
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No	Montgomery	No Effect
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	E	No	Montgomery	No Effect
<i>Echinacea laevigata</i>	Smooth coneflower	E	No	Montgomery	No Effect
<i>Myotis septentrionalis</i>	Northern long-eared bat	E	Yes	Montgomery	May Effect, Likely to Adversely Effect
<i>Notropis mekistocholas</i>	Cape Fear shiner	E	No	Moore	No Effect
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No	Moore	No Effect
<i>Schwalbea Americana</i>	American chaffseed	E	No	Moore	No Effect
<i>Rhus michauxii</i>	Michaux's sumac	E	No	Moore	No Effect
<i>Myotis septentrionalis</i>	Northern long-eared bat	E	Yes	Moore	May Effect, Likely to Adversely Effect

Endangered species surveys were conducted in February 2013. Potential habitat for none of the species listed was identified. A review of the North Carolina Natural Heritage Program (NHP) database was conducted on March 25, 2016 and indicated that there are no known occurrences of any federally-protected species within one mile of the project study area.

The northern long-eared bat (*Myotis septentrionalis*) is listed as a protected species for Montgomery and Moore Counties. Suitable habitat for the Northern long-eared bat (NLEB) exists within one mile of the project study area.

The US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat in eastern

North Carolina. The PBO provides incidental take coverage for the 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 Division 1-8, which includes Montgomery and Moore Counties, where project B-5362 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020. The programmatic determination for NLEB for the NCDOT program is "May Affect, Likely to Adversely Affect."

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

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

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

Response to Question 7: The project will be designed and constructed utilizing the *Design Standards for Sensitive Watersheds* and NCDOT will submit an application for a State Stormwater Permit pursuant to 15A NCAC 2H. 1006 and 15A NCAC 2B.0224.

Response to Question 13: Montgomery and Moore Counties are participants in the Federal Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). The project is within a Flood Hazard Zone, designated as Zone AE, for which the 100-year base flood elevations and corresponding regulatory floodway have been established.

The Hydraulics Unit will coordinate with FEMA to determine if a Conditional Letter of Map Revision (CLOMR) and a subsequent final Letter of Map Revision (LOMR) are required for this project. The Division will submit sealed as-built construction plans to the Hydraulics Unit upon project completion certifying the project was built as shown on the construction plans.

G. CE Approval

STIP Project No.	B-5362
W.B.S. No.	46077.1.1
Federal Project No.	BRSTP-0073(31)

The purpose of this project is to replace Montgomery County Bridge No. 53 along NC 73 over Drowning Creek. Bridge No. 53 is 97 feet long. The replacement structure will be a bridge approximately 130 feet long providing a minimum 27-foot, 10-inch clear deck width. The bridge will include two 12-foot lanes with 1-foot, 11-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The proposed roadway will be constructed at a slightly steeper grade, approximately 0.3215%, which will result in an improved roadway approach and better bridge deck drainage.

The approach roadway will extend approximately 130 feet from the north end and 160 feet from the south end of the new bridge. The approaches will be constructed to include a 28-foot pavement width providing two 12-foot lanes with 2-foot wide full-depth paved

shoulders. A total shoulder width of 6-feet will be provided on each side of the roadway (9-foot shoulders where guardrail is included). The roadway will be designed as a minor arterial using Regional Tier guidelines with a 55 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1). The off-site detour is approximately 5.7 miles long and utilizes SR 1003 (Windblow Road) and SR 1531/SR 1124 (Derby Road).

Categorical Exclusion Action Classification:

TYPE II(A)
 TYPE II(B)

Approved:

6-14-16

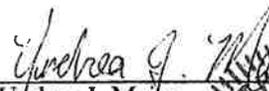
Date



Brian Yamamoto, PE
Project Development Group Supervisor
Project Development & Environmental Analysis Unit

6/14/16

Date



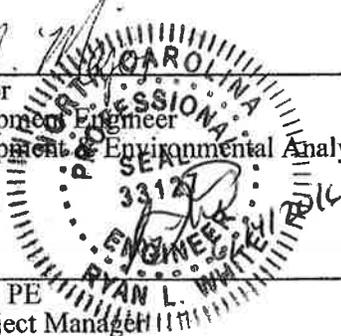
Urdrea J. Major
Project Development Engineer
Project Development & Environmental Analysis Unit

6/14/2016

Date



Ryan L. White, PE
Consultant Project Manager
Stantec Consulting



For Type II(B) projects only:

Date

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

PROJECT COMMITMENTS

**Montgomery and Moore Counties
Bridge No. 53 along NC 73
Over Drowning Creek
Federal Aid Project No. BRSTP-0073(31)
W.B.S. No. 46077.1.1
S.T.I.P. No. B-5362**

Hydraulics Unit – FEMA Coordination

NCDOT 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 Letter of Map Revision (LOMR).

Division 8 Construction-FEMA Coordination

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

Division 8 Construction, Resident Engineer's Office – Offsite Detour

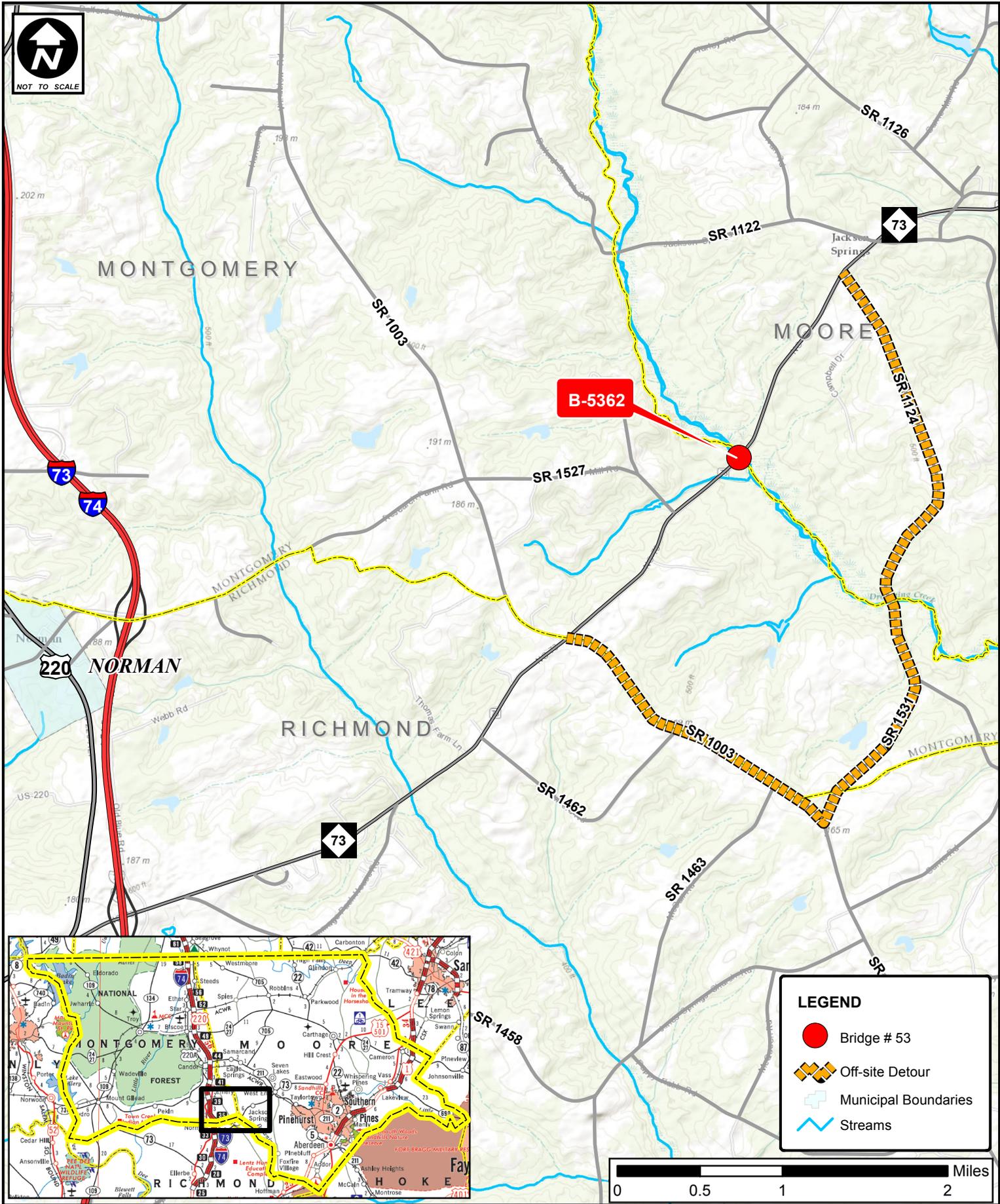
In order to have time to adequately reroute school buses, Moore and Montgomery County Schools Transportation Offices will be contacted at (910) 947-5481 and (910) 576-4281, respectively, at least one month prior to road closure.

Moore and Montgomery County Emergency Management will be contacted at (910) 947-6317 and (910) 571-7107, respectively, at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

Natural Environment Section– Northern long-eared bat

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

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



LEGEND

-  Bridge # 53
-  Off-site Detour
-  Municipal Boundaries
-  Streams



**REPLACE BRIDGE NO. 53 OVER DROWNING
CREEK ON NC 73
MONTGOMERY & MOORE COUNTIES
STIP # B-5362**

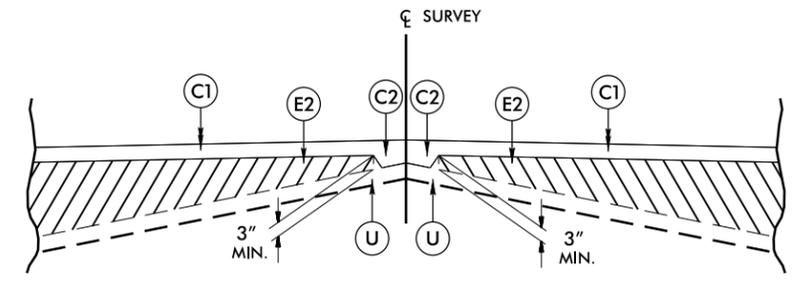
Exhibit 1
Project Vicinity Map

6/2/99

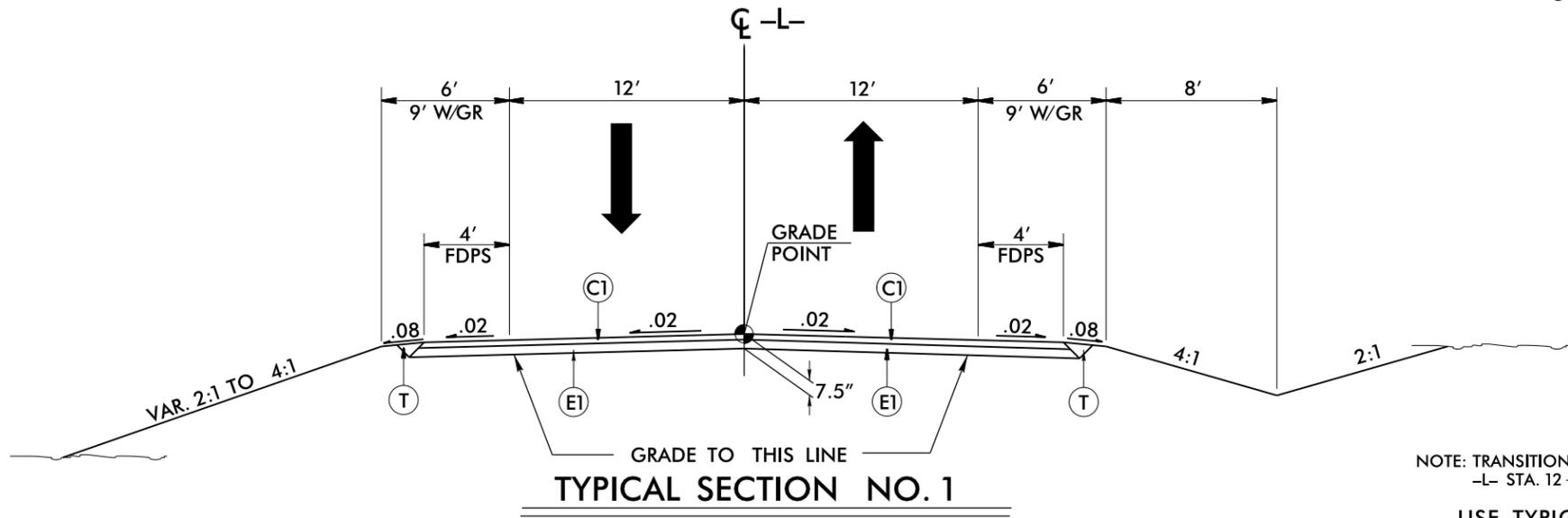
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. B-5362	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



Detail Showing Method of Wedging



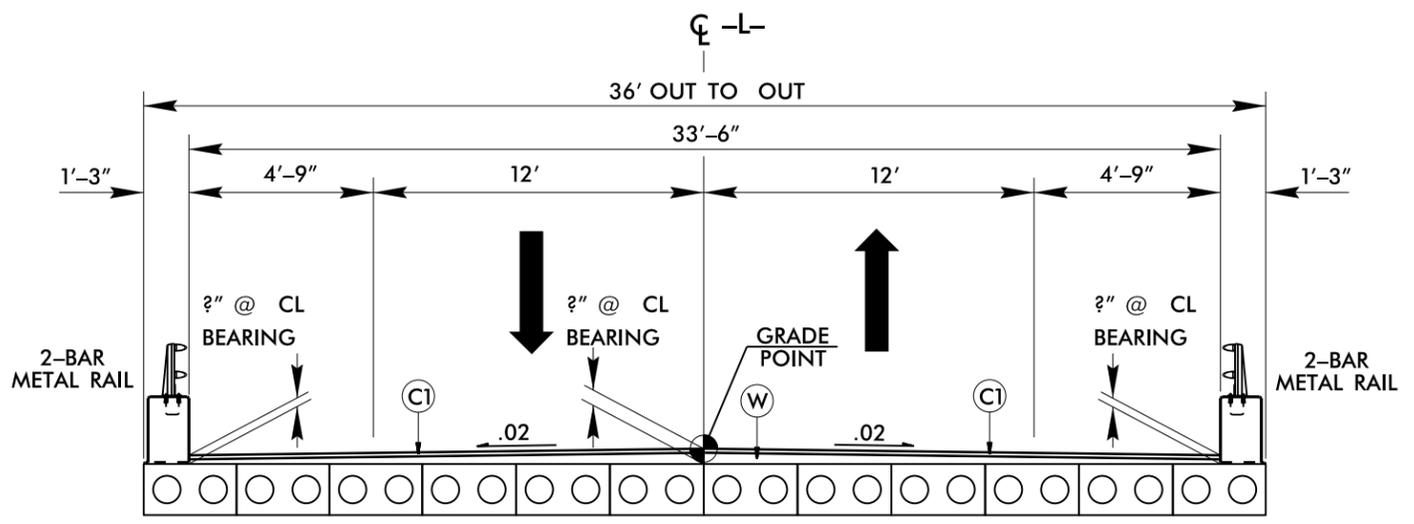
TYPICAL SECTION NO. 1

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1
 -L- STA. 12+95.00 TO STA. 13+45.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS

- L- STA 13+45.00 TO STA ??+?? (BEGIN BRIDGE)
- L- STA ??+?? (END BRIDGE) TO STA 16+80.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING
 -L- STA. 16+80.00 TO STA. 17+30.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS

- L- STA. ??+?? (BEGIN BRIDGE) TO STA. ??+?? (END BRIDGE)

NOTE: NC 73 IS USED FREQUENTLY BY BICYCLISTS, EXISTING BICYCLE ROUTES ARE APPROXIMATELY 1.5 MILES NORTH ON JACKSON SPRINGS ROAD AND 1.5 MILES SOUTH ON WINDBLOW ROAD/DERBY ROAD.

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APPENDIX A

CORRESPONDENCE



☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

MEMORANDUM

TO: Rachelle Beauregard
NCDOT, PDEA-NES

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: April 10, 2013

SUBJECT: Bridge Replacements

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

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

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

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

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

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

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

reconnected to floodplain benches as appropriate. This may be accomplished by utilizing sills on the upstream and downstream ends to restrict or divert flow to the base flow barrel(s). Silled barrels should be filled with sediment so as not to cause noxious or mosquito breeding conditions. Sufficient water depth should be provided in the base flow barrel(s) during low flows to accommodate fish movement. If culverts are longer than 40-50 linear feet, alternating or notched baffles should be installed in a manner that mimics existing stream pattern. This should enhance aquatic life passage: 1) by depositing sediments in the barrel, 2) by maintaining channel depth and flow regimes, and 3) by providing resting places for fish and other aquatic organisms. In essence, base flow barrel(s) should provide a continuum of water depth and channel width without substantial modifications of velocity.

2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.
3. Culverts or pipes should be situated along the existing channel alignment whenever possible to avoid channel realignment. Widening the stream channel must be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
4. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be professionally designed, sized, and installed.

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

Project specific comments:

B-4550, Hoke County, replace bridge No. 41 and 42 on SR 1432 over Rockfish Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4729, Chatham County, replace bridge No. 306 on SR 1303 over North Prong Rocky River: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4802, Rockingham County, replace bridge No. 18 on SR 1002 over the Haw River: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4805, Rockingham County, replace bridge No. 9 on SR 2406 over prong of Troublesome Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4624, Rockingham County, replace bridge No. 80 on SR 1929 over Wolf Island Creek: The potential exist for Roanoke logperch (*Percina rex*: state E, federal E) to be found at this site. NCDOT should coordinate with NCWRC and USFWS in conducting a survey to determine the presence or absence of this species. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4662, Wake County, replace bridge No. 196 on SR 2308 over Moccasin Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4828, Vance County, replace bridge No. 56 on SR 1526 over Sandy Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4831, Wake County, replace bridge No. 371 on SR 1152 over White Oak Creek: Harris Game Land is located within the project study area, DOT should coordinate closely during the design and construction of this project to avoid and minimize impacts to this area. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4794, Randolph County, replace bridge No. 18 on SR 1107 over Bettie McGees Creek: This portion of Bettie McGees Creek is designated as Significant Aquatic Habitat by the NC Natural Heritage Program. Our records also indicate the potential for listed species to be present within the project area, including: Carolina creekshell (*Villosa vaughaniana*: state E, FSC), Notched rainbow (*Villosa constricta*: state SC), and Eastern creekshell (*Villosa delumbis*: state SR). We recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5322, Person County, replace bridge No. 51 on SR 1343 over Richland Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5323, Granville County, replace bridge No. 143 on SR 1442 over Johnston Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5326, Wake County, replace bridge No. 247 on SR 2555 over White Oak Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5328, Franklin County, replace bridge No. 129 on SR 1406 over Sandy Creek: This portion of Sandy Creek is designated as Significant Aquatic Habitat by the NC Natural Heritage Program. Our records also indicate the potential for listed species to be present within the project area, including: Carolina creekshell Notched rainbow (*Villosa constricta*: state SC), Atlantic pigtoe (*Fusconaia masoni*: state E, FSC), and Creeper (*Strophitus undulatus*: state T). We recommend NCDOT follow the Design Standards for Sensitive Watersheds during the design and construction of this project. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5346, Alamance County, replace bridge No. 3 on SR 1529 UT: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5347, Alamance County, replace bridge No. 170 on SR 1212 over prong of Alamance Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5348, Orange County, replace bridge No. 85 on SR 1005 over Phil's Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5349, Alamance County, replace bridge No. 173 on SR 1149 over Little Alamance Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5350, Alamance County, replace bridge No. 44 on SR 1768 over Jordan's Creek: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5351, Guilford County, replace bridge No. 242 on US29/US70/I-85 Business over the Deep River: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5353, Guilford County, replace bridge No. 147 on US29/US 70/I-85 Business over US 311: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5354, Guilford County, replace bridge No. 360 on SR 4771 over US 29: We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5362, Montgomery County, replace bridge No. 53 on NC 73 over Drowning Creek: This portion of Drowning Creek is designated as Significant Aquatic Habitat by the NC Natural Heritage Program. 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.

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



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

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

John Skvarla
Secretary

January 15, 2013

MEMORANDUM

TO: Dionne C. Brown, NCDOT

FROM: David Wainwright, NC Division of Water Quality, Central Office *DW*

SUBJECT: Scoping Review of NCDOT's Proposed Bridge Replacement Projects: B- 4550(Hoke County), B-4729 (Chatham County), B-4794 (Randolph County), and B-5362 (Montgomery County).

In reply to your correspondence dated December 12, 2012 (received December 12, 2012) in which you requested comments for the above referenced projects, the NC Division of Water Quality offers the following comments:

B-5362

1. Review of the project reveals the presence of surface waters classified as WSII,SW; High Quality Waters of the State in the project study area. This is one of the highest classifications for water quality. Pursuant to 15A NCAC 2H .1006 and 15A NCAC 2B .0224, NC DOT will be required to obtain a State Stormwater Permit prior to construction.

General Comments Regarding Bridge Replacement Projects

2. 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.
3. 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.
4. DWQ is very concerned with sediment and erosion impacts that could result from these projects. NC DOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
5. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3883/Nationwide Permit No. 6 for Survey Activities.

Transportation and Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1617
Location: 512 N. Salisbury St. Raleigh, North Carolina 27604
Phone: 919-807-6300 \ FAX: 919-807-6492 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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North Carolina
Naturally

6. If a bridge is being replaced with a hydraulic conveyance other than another bridge, DWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).
7. 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.
8. Whenever possible, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the stream banks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.
9. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NC DWQ *Stormwater Best Management Practices*.
10. 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.
11. Bridge supports (bents) shall not be placed in the stream when possible.
12. 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.
13. 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.
14. All work in or adjacent to stream waters shall be conducted in a dry work area unless otherwise approved by NC DWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
15. 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.
16. In most cases, the DWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour shall be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills shall be removed and restored to the natural

ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.

General Comments if Replacing the Bridge with a Culvert

17. 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 DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
18. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.
19. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures shall be properly designed, sized and installed.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact David Wainwright at (919) 807-6405.

cc: Ronnie Smith, US Army Corps of Engineers, Wilmington Field Office (electronic copy only)
Chris Militscher, Environmental Protection Agency (electronic copy only)
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)
File Copy

Brown, Dionne C

From: Smith, Ronnie D SAW <Ronnie.D.Smith@usace.army.mil>
Sent: Wednesday, January 02, 2013 1:04 PM
To: Brown, Dionne C
Cc: felix.davila@fhwa.dot.gov; Chris Militscher; Gary_Jordan@fws.gov; Wilson, Travis W.; Gledhill-earley, Renee; Wainwright, David; King, Art C
Subject: B-4550, B-4729, B-4794 and B-5362 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

AID #s: SAW-2012-02001, B-4550, Replacement of Bridge Numbers 41 and 42 on SR 1422 over Rockfish Creek, Hoke County
SAW-2012-02002, B-4729, Replacement of Bridge Number 306 on SR 1303 over North Prong Rocky River, Chatham County
SAW-2012-02003, B-4794, Replacement of Bridge Number 18 on SR 1107 over Bettie McGees Creek, Randolph County
SAW-2012-02004, B-5362, Replacement of Bridge Number 53 on NC 73 over Drowning Creek, Montgomery County

Ms. Brown,

Reference is made to your letter of December 12, 2012, regarding the proposed bridge replacement projects described above. The letter requested information to assist in evaluating potential environmental impacts of the project.

We have reviewed the subject documents and determined that, based upon a review of the information provided and available maps, the construction of this project may impact streams and/or wetlands within the work corridor. Please be aware that impacts associated with the discharge of fill into waters of the United States are subject to our regulatory authority pursuant to Section 404 of the Clean Water Act. 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.

Until additional data is furnished which details the extent of the construction limits of the proposed project, and an onsite inspection is completed with regard to determinations of the presence of jurisdictional waters in the project area, we are unable to verify that the project will not have regulated impacts, or to provide specific comments concerning DA permit requirements. To assist you with determining permitting requirements, we recommend that you perform a detailed delineation of the streams and/or wetlands present on the project site. When this information becomes available, it should be forwarded to our office for review and comment, as well as a determination of DA permit eligibility.

The Corps has the following additional recommendations and comments concerning the proposed project:

- The Corps recommends that all bridges be replaced with bridges that have hydraulic openings as large or larger than the existing bridges.
- Off-site detours should be used for all projects.
- If any underground utility lines will have to be relocated as a result of the projects, they should be directionally drilled under all waters of the United States, including wetlands. If overhead utility lines will have to be relocated within wetland areas, the new corridors should be cleared in a way that does not disturb the root mat or result in re-deposition of soil.
- The categorical exclusion (CE) for this project should include a bridging alternative.
- At the location of project B-5362, Drowning Creek is designated as a high quality water (HQW) and the waterway is listed as a 303d water.

Should you have any further questions related to DA permits for this project, please contact me at (910) 251-4829.

Sincerely,

Ronnie Smith
Project Manager

U.S. Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403

Office: 910-251-4829

Fax: 910-251-4025

Website: <http://www.saw.usace.army.mil/WETLANDS>

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://per2.nwp.usace.army.mil/survey.html> to complete the survey online.

Classification: UNCLASSIFIED

Caveats: NONE



United States Department of the Interior

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

December 28, 2012

Dionne C. Brown
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Ms. Brown:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the following proposed bridge replacement projects.

B-4550: Replace Bridge Nos. 41 & 42 on SR 1422 over Rockfish Creek in Hoke County
B-4729: Replace Bridge No. 306 on SR 1303 over North Prong of Rocky River in Chatham County
B-4794: Replace Bridge No. 18 on SR 1107 over Bettie McGees Creek in Randolph County
B-5362: Replace Bridge No. 53 on NC 73 over Drowning Creek in Montgomery County

These comments provide information in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

For bridge replacement projects, the Service recommends the following general conservation measures to avoid or minimize impacts to fish and wildlife resources:

1. Wetland, forest and designated riparian buffer impacts should be avoided and minimized to the maximum extent practical;
2. If unavoidable wetland or stream impacts are proposed, a plan for compensatory mitigation to offset unavoidable impacts should be provided early in the planning process;
3. Off-site detours should be used rather than construction of temporary, on-site bridges. For projects requiring an on-site detour in wetlands or open water, such detours should be aligned along the side of the existing structure which has the least and/or least quality of fish and wildlife habitat. At the completion of construction, the detour area should be entirely removed and the impacted areas be replanted with appropriate tree species;

4. In streams utilized by anadromous fish, the NCDOT policy entitled “Stream Crossing Guidelines for Anadromous Fish Passage” should be implemented;
5. New bridges should be long enough to allow for sufficient wildlife passage along stream corridors;
6. On each side of the stream bank underneath bridges, at least 10 feet of the bank should remain clear of riprap;
7. “Best Management Practices (BMP) for Construction and Maintenance Activities” should be implemented;
8. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;
9. Bridge designs should not alter the natural stream and stream-bank morphology or impede fish passage. To the extent possible, piers and bents should be placed outside the bank-full width of the stream; and
10. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain. If spanning the flood plain is not feasible, culverts should be installed in the flood plain portion of the approach to restore some of the hydrological functions of the flood plain and reduce high velocities of flood waters within the affected area.

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

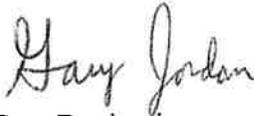
Although the North Carolina Natural Heritage Program (NCNHP) database does not indicate any known occurrences of listed species near the project vicinity, use of the NCNHP data should not be substituted for actual field surveys if suitable habitat occurs near the project site. The NCNHP database only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

If you determine that the proposed action may affect (i.e. likely to adversely affect or not likely to adversely affect) a listed species, you should notify this office with your determination, the results of your surveys, survey methodologies and an analysis of the effects of the action on listed species, including consideration of direct, indirect and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action

will have no effect (i.e. no beneficial or adverse, direct or indirect effect) on listed species, then you are not required to contact our office for concurrence.

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

Sincerely,


for Pete Benjamin
Field Supervisor