

**Bertie County  
Bridge No. 53 on US 13  
over White Oak Swamp  
Federal Aid Project No. BRNHS-0013 (25)  
W.B.S. No. 42302.1.1  
S.T.I.P. No. B-5141**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

10/17/12  
DATE

  
For Gregory J. Thorpe, PhD, Manager  
Project Development & Environmental Analysis Unit

10/24/12  
DATE

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

**Bertie County  
Bridge No. 53 on US 13  
over White Oak Swamp  
Federal Aid Project No. BRNHS-0013 (25)  
W.B.S. No. 42302.1.1  
S.T.I.P. No. B-5141**

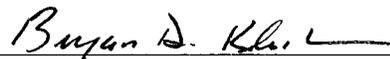
CATEGORICAL EXCLUSION

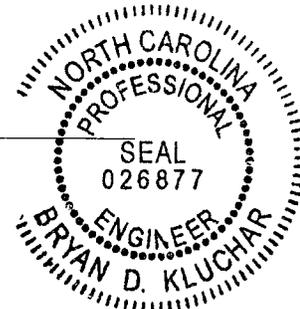
Documentation Prepared in  
Project Development and Environmental Analysis Unit By:

10/17/2012  
DATE

  
\_\_\_\_\_  
Tracy Walter  
Project Planning Engineer  
Bridge Project Development Section

10/17/12  
DATE

  
\_\_\_\_\_  
Bryan D. Kluchar, PE  
Project Engineer  
Bridge Project Development Section



**PROJECT COMMITMENTS:**

**Bertie County  
Bridge No. 53 on US 13  
Over White Oak Swamp  
Federal Aid Project No. BRNHS-0013 (25)  
W.B.S. No. 42302.1.1  
S.T.I.P. No. B-5141**

**All Design Groups/ Division Resident Construction Engineer – Moratorium**

A moratorium on in-water construction will be in place from February 15 to June 15 of any given year.

**Structure Design – Deck Drains**

Deck drains will not be permitted for this project.

**Hydraulic Unit – FEMA Coordination**

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

**Division Construction-FEMA**

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

**Natural Environment Section – Endangered Species**

The project study area will be evaluated for the Atlantic Sturgeon and any required coordination will be completed prior to the Construction Consultation for this project.

**Bertie County**  
**Bridge No. 53 on US 13**  
**over White Oak Swamp**  
**Federal Aid Project No. BRNHS-0013 (25)**  
**W.B.S. No. 42302.1.1**  
**S.T.I.P. No. B-5141**

**INTRODUCTION:** Bridge No. 53 is included in the latest approved North Carolina Department of Transportation (NCDOT) Transportation Improvement Program and is eligible for the Federal-Aid Highway Bridge Program. The location is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal “Categorical Exclusion”.

**I. PURPOSE AND NEED STATEMENT**

NCDOT Bridge Management Unit records indicate Bridge No. 53 has a sufficiency rating of 33.78 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to a Deck Condition rating, Substructure rating, and Substructure rating of 4 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA’s Highway Bridge Program. In addition, the structure is considered functionally obsolete due to a deck geometry rating of 2 out of 9.

Components of both the concrete superstructure and concrete and timber substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. The bridge is approaching the end of its useful life. Replacement of the bridge will result in safer traffic operations.

**II. EXISTING CONDITIONS**

The project is located south of the city limits of Askewville (see Figure 1). Development in the area is residential in nature.

US 13 is classified as a Minor arterial in the Statewide Functional Classification System and it is a National Highway System Route.

In the vicinity of the bridge, US 13 has a 22-foot pavement width with 2-foot grass shoulders (see Figure 3). The roadway grade is in a crest vertical curve through the project area. The existing bridge is on a tangent. The roadway is situated approximately 15.0 feet above the river bed.

Bridge No. 53 is a two span structure that consists of a concrete and asphalt deck on reinforced concrete deck girders supported by reinforced concrete abutments and RNP & Web piers with timber piles. The existing bridge (see Figure 3) was constructed in 1924 and rehabbed in 1949. The overall length of the structure is 79 feet. The clear roadway width is 26.0 feet. The bridge is presently not posted for legal load limit.

There are no utilities attached to the existing structure. Telephone and fiber optic exist along the North side of project; underground and aerial at bridge. A natural gas line runs parallel to the road along the southwest side. Utility impacts are anticipated to be high.

The current estimated traffic volume of 5,500 vehicles per day (VPD) is expected to increase to 9,500 VPD by the year 2035. The projected volume includes five percent truck-tractor semi-trailer (TTST) and seven percent dual-tired vehicles (DT). The posted speed limit is 55 miles per hour in the project area.

There were four accidents reported in the vicinity of Bridge No. 53 during a recent three-year period. None of the accidents were associated with the alignment or geometry of the bridge or its approach roadway; road condition being the primary cause.

This section of US 13 is not located along a designated bike route, and sidewalks do not exist on the existing bridge; therefore, accommodations for bicycles and/or pedestrians will not be provided.

### **III. ALTERNATIVES**

#### **A. Preferred Alternative**

Bridge No. 53 will be replaced on the existing alignment while traffic will be maintained onsite using a temporary structure (see Figure 2).

The permanent replacement structure will be a bridge approximately 110 feet long providing a minimum 40 feet clear deck width. The bridge will include two 12-foot lanes and 8-foot offsets on each side. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be approximately one-foot above the existing structure.

The approach roadway will extend approximately 360 feet from the east end of the new bridge and 330 feet from the west end of the new bridge. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes. Eight-foot shoulders will be provided on each side (11-foot shoulders where guardrail is included); four of which will be full depth pavement. The roadway will be designed using AASHTO guidelines with a 60 mile per hour design speed.

An offsite detour is not available for this project.

NCDOT Division 1 concurs that this is the preferred alternative.

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

An alternative which would replace the existing structure along a new alignment to the south while maintaining traffic on the existing bridge was considered and eliminated due to anticipated costs as well as permanent impacts to wetland areas.

An alternative which would replace the existing structure along a new alignment to the north while maintaining traffic on the existing bridge, phasing construction and shifting traffic, was considered and eliminated due to anticipated costs as well as permanent impacts to wetland areas.

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by US 13.

“Rehabilitation” of the old bridge is not practical due to its age and deteriorated condition.

Staged Construction is not feasible for this bridge because the deck type and substructure will not support removal of an effective portion and maintenance of traffic on the remaining portion.

#### **IV. ESTIMATED COSTS**

The estimated costs, based on 2012 prices, are as follows:

	Alternative 1 Preferred
Structure	\$ 446,000
Roadway Approaches	\$ 483,000
Temporary Bridge	\$ 162,000
Structure Removal	\$ 39,000
Misc. & Mob.	\$ 314,000
Eng. & Contingencies	\$ 256,000
Total Construction Cost	\$ 1,700,000
Right-of-way Costs	\$ 27,000
Utility Costs	\$ 69,000
Total Project Cost	\$ 1,796,000

#### **V. NATURAL ENVIRONMENT**

##### **Physical Characteristics**

The study area lies in the northern outer coastal plain physiographic region of NC. Topography in the project vicinity is generally flat. Elevations in the study area range from 2 to 10 foot above sea level. Land use in the project vicinity consists primarily of forestland, agriculture, and residential development.

##### **Water Resources**

Water resources in the study area are part of the Roanoke River basin (U.S. Geological Survey [USGS] Hydrologic Unit 03010107). One stream, White Oak Swamp, was identified in the study area.

The White Oak Swamp has not been designated as a High Quality Water (HQW), Outstanding Resource Water (ORW) or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. No waters listed on the NC 2012 Final 303 (d) list of impaired waters for sedimentation occur within 1.0 mile of the study area.

### **Biotic Resources**

Four terrestrial communities were identified in the study area: maintained-disturbed riverine swamp forest, bottomland hardwood forest, and upland hardwood forest.

Terrestrial communities in the study area are comprised of both natural and disturbed habitats that may support a diversity of wildlife species.

### **Invasive Species**

Four species from the NCDOT Invasive Exotic Plant List for North Carolina were found in the project study area; three threat level 1, and one threat level 2.

### **Surface Waters and Wetlands**

One jurisdictional stream was identified in the study area and has been designated as warm water streams for the purpose of stream mitigation.

Two jurisdictional wetlands were identified within the study area. Both are within the Roanoke River basin (USGS Hydrologic Unit 03010107).

### **Construction Moratoria**

White Oak Swamp has been identified by the North Carolina Wildlife Resources Commission (NCWRC) as an anadromous fish habitat. Based on this designation a mandatory in-water construction moratorium will be in effect from February 15 to June 15.

### **Permits**

In accordance with provisions of Section 404 of the Clean Water Act (33 USC 1344), a section 404 Nationwide Permit (NWP) 23 from the USACE is likely to be applicable for all impacts to Waters of the United States resulting from this project. A NWP 33 may be required for this project. A North Carolina Division of Water Quality (DWQ) Section 401 Water Quality General Certification is required prior to the issuance of the Section 404 NWP 23 and/or NWP 33.

### **Federally Protected Species**

Plants and animals with a federal classification 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 three species under federal protection for Carteret County as of September 20, 2012:

**Red cockaded woodpecker**

**Biological Conclusion: No Effect**

Suitable habitat for the red cockaded woodpecker does not exist in the study area. A review of NCNHP records indicates there are no known occurrences within 1.0 mile of the study area.

**Shortnose sturgeon**

**Biological Conclusion: No Effect**

Suitable habitat for the shortnose sturgeon does not exist in the study area. A review of NCNHP records indicates there are no known occurrences within 1.0 mile of the study area.

**Atlantic sturgeon**

**Biological Conclusion: Undetermined**

This species has recently been added to the Bertie County list as an Endangered or Threatened species. The project study area will be evaluated for possible habitat and, if necessary, NCDOT will coordinate with the appropriate agencies.

**Bald 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 dominate trees are utilized for nesting sites, typically within 1.0 mile of open water. Suitable habitat for the bald eagle is not present in the study area or within a distance of 660 feet on all sides.

**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**

The N.C. Historic Preservation Office (HPO) evaluated data provided by NCDOT and concluded that no properties qualified for consideration for the National Register of Historic Places (see attached letter dated December 11, 2008).

**Archaeology**

The N.C. Historic Preservation Office (HPO) indicated no surveys for archaeology is required (see attached letter dated December 11, 2008).

## **Community Impacts**

No adverse impact on families or communities is anticipated. Right-of-way acquisition will be limited. No relocations 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 project will not have a disproportionately high and adverse human health and environmental effect on any minority or low-income population.

## **Noise & Air Quality**

The project is located in Bertie County, which has been determined to comply with the National Air Quality Standards. The proposed project is located in an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

This project will not result in any meaningful changes in traffic volume, 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. As such 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 MSAT's.

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

## **VII. GENERAL ENVIRONMENTAL EFFECTS**

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

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

Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C 303) protects the use of publicly owned parks, recreational areas, wildlife/waterfowl refuges, and historic

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

An examination of records at the North Carolina Department of Environment and Natural Resources, Division of Environmental Management, Groundwater Section and the North Carolina Department of Human Resources, Solid Waste Management Section revealed no underground storage tanks or hazardous waste sites in the project area.

Bertie 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.

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

NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, NC Department of Natural Resources, U.S. Fish & Wildlife Service, N.C. Wildlife Resource Commission, N.C. Division of Coastal Management, N.C. Division of Parks & Recreation, North Carolina State Historic Preservation Office, Bertie County Planning Department, N.C. Division of Marine Fisheries, National Marine Fisheries Service.

The **N.C. Wildlife Resource Commission** and **U.S. Fish & Wildlife Service** in standardized letters provided a request that they prefer any replacement structure to be a spanning structure.

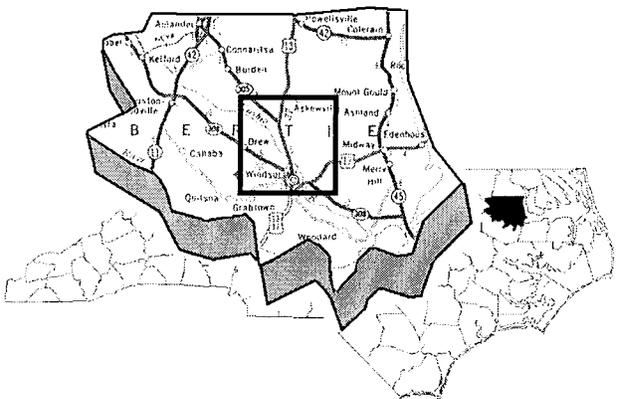
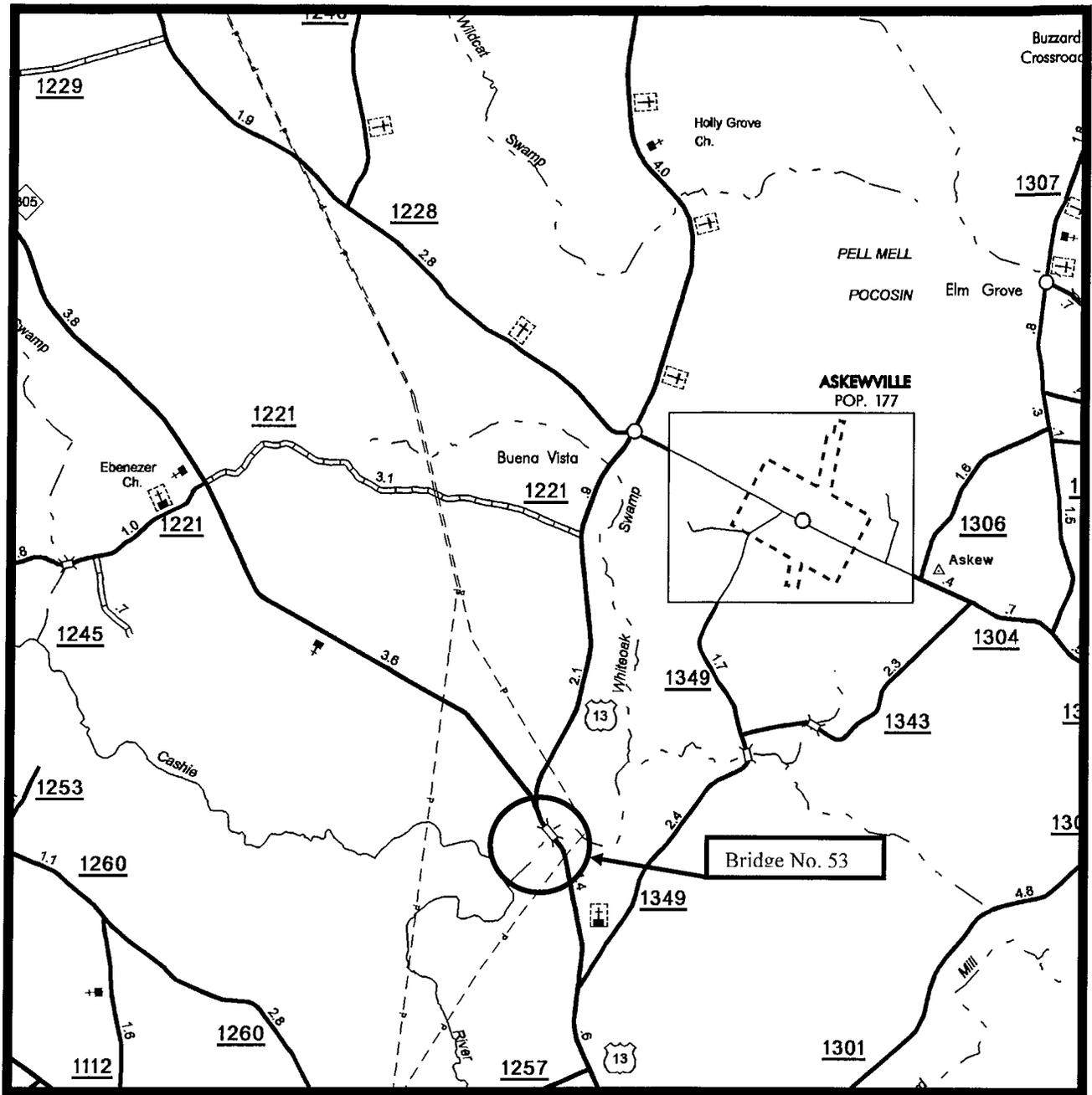
## **IX. PUBLIC INVOLVEMENT**

A letter was sent by the Location & Surveys Unit to all property owners affected directly by this project. Property owners were invited to comment. No comments have been received to date.

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

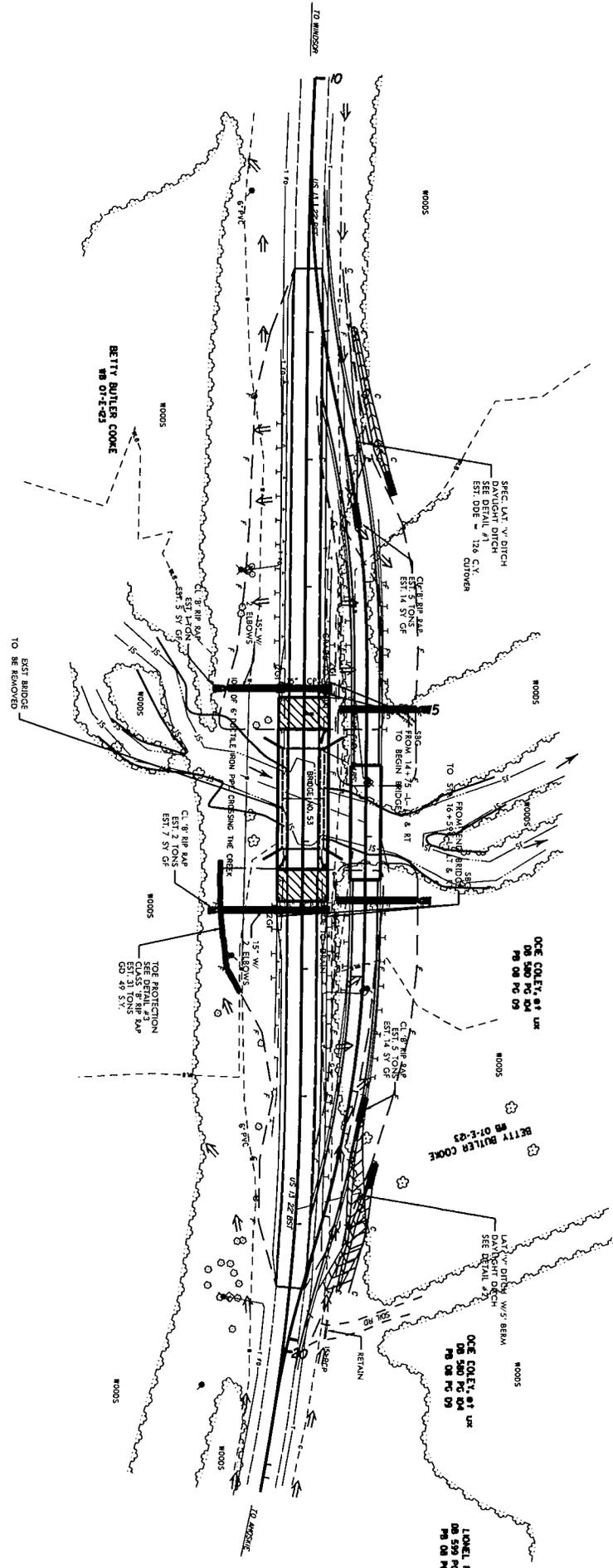
## **X. CONCLUSION**

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



	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT &amp; ENVIRONMENTAL ANALYSIS BRANCH</p>
<p align="center"><b>BERTIE COUNTY REPLACE BRIDGE NO. 53 ON US 13 OVER WHITE OAK SWAMP B-5141</b></p>	
<p align="right">Figure 1</p>	

COOPER FELL PROPERTIES, LLC  
 DB 017 PC 329  
 WB 014 PC 25



TAMERLANDS UNINCORPORATED, INC.  
 DB 633 PC 28  
 WB 014 PC 250

	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT
	BERTIE COUNTY REPLACE BRIDGE NO. 53 ON US 13 OVER WHITE OAK SWAMP B-5141

FIGURE 2



RECEIVED  
Division of Highways

DEC 16 2008

Preconstruction  
Project Development and  
Environmental Analysis Branch

North Carolina Department of Cultural Resources  
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor  
Lisbeth C. Evans, Secretary  
Jeffrey J. Crow, Deputy Secretary

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

December 11, 2008

MEMORANDUM

TO: Tracy Walter  
Project Development and Environmental Analysis Branch  
NCDOT Bridge Unit

FROM: Peter Sandbeck *RSE for Peter Sandbeck*

SUBJECT: Bridge 53 on US 13 over White Oak Swamp, B-5141, Bertie County, ER 08-2899

We have conducted a review of the proposed undertaking and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr, NCDOT  
Matt Wilkerson, NCDOT