

**Carteret County
Bridge No. 33 on US 70
over North River
Federal Aid Project No. BRNHS-0070 (84)
W.B.S. No. 38496.2.1
S.T.I.P. No. B-4722B**

CATEGORICAL EXCLUSION

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

9/4/12
DATE

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

9/10/12
DATE

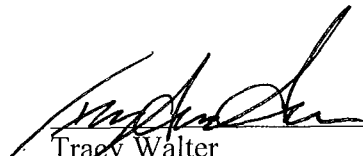
John F. Sullivan, III
for John F. Sullivan, III, Division Administrator
Federal Highway Administration

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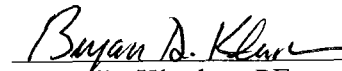
Documentation Prepared in
Project Development and Environmental Analysis Unit By:

8/30/2012
DATE

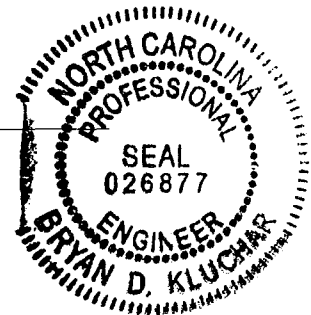


Tracy Walter
Project Planning Engineer
Bridge Project Development Section

8/30/2012
DATE



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



PROJECT COMMITMENTS:

**Carteret County
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All Design Groups/ Division Resident Construction Engineer – Primary Nursery Area

A moratorium on in-water construction will be in place from February 15 to September 30 of any given year.

Design standards in sensitive watersheds should be adhered to for this project.

Structure Design – Deck Drains

Deck drains will not be permitted for this project.

Natural Environment Section – Public Trust

The Division of Coastal Management has indicated the presence of Public Trust Resources and requested that we preserve access for fishing. They have verbally indicated that fishermen currently parking on the shoulder and fishing from the banks would be inhibited by standard applications of guardrail and of rip rap armoring on the streambanks. The Department of Transportation acknowledges the inconvenience to those accessing the stream but believes that the standard applications are warranted by the protection offered to the traveling public and to the stream bank and this inconvenience is not considered undue interference by NCDOT.

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.

Division Construction-West Indian Manatee

Suitable habitat for the West Indian Manatee exists with the project area; therefore, the United States Fish and Wildlife Service (USFWS) Guidelines for avoiding impacts to the West Indian Manatee shall be adhered to during construction.

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INTRODUCTION: Bridge No. 33 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. 33 has a sufficiency rating of 8 out of a possible 100 for a new structure. The bridge is considered structurally deficient due to a substructure rating of 3 out of 9 and a structural evaluation of 2 out of 9 according to Federal Highway Administration (FHWA) standards and therefore eligible for FHWA’s Highway Bridge Program.

Components of both the concrete superstructure and substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities. 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 north of the city limits of Beaufort (see Figure 1). Development in the area is residential in nature.

US 70 is classified as a principal arterial in the Statewide Functional Classification System and it is a National Highway System Route.

In the vicinity of the bridge, US 70 has a 24-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 21.0 feet above the river bed.

Bridge No. 33 is a forty-seven span structure that consists of a reinforced concrete monolithic slab with an asphalt-wearing surface. The end bents and interior bents consist of reinforced concrete caps on PPC piles. Steel Crutch bents have been added to assist supporting the structure. The existing bridge (see Figure 3) was constructed in 1959. The overall length of the structure is 1028 feet. The clear roadway width is 28.0 feet. The bridge is presently not posted for legal load limit.

There are utilities attached to each side of the existing structure along with overhead power lines adjacent to the bridge just to the south. Utility impacts are anticipated to be high.

The current estimated traffic volume of 10,000 vehicles per day (VPD) is expected to increase to 14,600 VPD by the year 2035. The projected volume includes one percent truck-tractor semi-trailer (TTST) and three percent dual-tired vehicles (DT). The posted speed limit is 55 miles per hour in the project area.

There were six accidents reported in the vicinity of Bridge No. 33 during a recent three-year period. None of the accidents were associated with the alignment or geometry of the bridge or its approach roadway; speed being the primary cause.

This section of US 70 is located along state bike route NC7, Ocracoke Option. Bicycle safe rails and a minimum 4-foot wide offsets on both sides of the bridge are requested. Sidewalks do not exist on the existing bridge.

III. ALTERNATIVES

A. Preferred Alternative

Bridge No. 33 will be replaced on new alignment to the north side while traffic remains on the existing structure during construction (see Figure 2).

The permanent replacement structure will be a bridge approximately 1350 feet long providing a minimum 36 feet clear deck width. The bridge will include two 12-foot lanes and 6-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 five-foot above the existing structure.

The approach roadway will extend approximately 1000 feet from the east end of the new bridge and 1200 feet from the west end of the new bridge; tying back into an existing causeway. The approaches will be widened to include a 24-foot pavement width providing two 12-foot lanes. Ten-foot shoulders will be provided on each side (13-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 2 concurs that this is the preferred alternative.

B. Alternatives Eliminated From Further Consideration

An alternative which would replace the existing structure in the existing location was considered and eliminated do to an acceptable offsite detour not being available.

An alternative which would replace the existing structure along a new alignment to the south while maintaining traffic along the existing alignment was considered and eliminated due to the location of power lines adjacent to the existing alignment to the south.

An alternative which would replace the existing structure along a new alignment to the north with a new structure, approximately the same length of the existing, while maintaining traffic on the existing structure was considered and eliminated at the request of the environmental agencies. The agencies requested we remove a larger portion of the causeway.

An alternative which would replace the existing structure along a new alignment to the north with a new structure, approximately 1,750 feet in length, while maintaining traffic on the existing structure was considered and eliminated due to anticipated cost.

The “do-nothing” alternative will eventually necessitate closure of the bridge. This is not acceptable due to the traffic service provided by US 70.

“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 configuration will not support removal of a 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	\$ 4,419,000
Roadway Approaches	\$ 1,024,000
Temporary Work Bridge	\$ 1,094,000
Structure Removal	\$ 432,000
Misc. & Mob.	\$ 952,000
Eng. & Contingencies	\$ 1,179,000
Total Construction Cost	\$ 9,100,000
Right-of-way Costs	\$ 40,000
Utility Costs	-0-
Total Project Cost	\$ 9,140,000

V. NATURAL ENVIRONMENT

Physical Characteristics

The study area lies in the coastal plain physiographic region of NC. Topography in the project vicinity is nearly level. Elevations in the study area range from 2 to 6 foot above sea level. Land use in the project vicinity consists primarily of forest, marshland, and agriculture interspersed with residential development along the roadways.

Water Resources

Water resources in the study area are part of the White Oak river basin (U.S. Geological Survey [USGS] Hydrologic Unit 03020106). Six streams; North river and 5 unnamed tributaries, were identified in the study area.

The North River has been designated as a High Quality Water (HQW) from its source to its confluence with Back Sound. There are no designated 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 2010 Final 303 (d) list of impaired waters for sedimentation occur within 1.0 mile of the study area.

The North Carolina Division of Marine Fisheries (NCDMF) has identified the North River as a Primary Nursery Area in the study area.

Biotic Resources

Five terrestrial communities were identified in the study area: maintained-disturbed, estuarine fringe loblolly pine forest, maritime dry grassland, salt marsh, and salt scrub.

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

Surface Waters and Wetlands

Six jurisdictional streams were identified in the study area. All six have been designated as warm water streams for the purpose of stream mitigation.

Six jurisdictional wetlands were identified within the study area. All six are within the White Oak River basin (USGS Hydrologic Unit 03020106) and are Coastal Area Management Act (CAMA) coastal wetlands.

Coastal Area Management Act Areas of Environmental Concern

All jurisdictional resources in the study area have been identified as CAMA areas of Environmental Concern (AEC). The North River is a designated Public Trust Water and Estuarine Water.

Essential Fish Habitat

The National Marine Fisheries Service (NMFS) has identified the North River as an Essential Fish Habitat. Although footings will be placed in the North River, existing footings will be removed. Therefore, the proposed project will likely result in a negligible net effect on available Essential Fish Habitat.

Construction Moratoria

The NCDMF has identified the North River in the study area as a Primary Nursery Area (PNA). Based on this designation a mandatory in-water moratorium will be present from February 15 to September 30 for the North River.

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.

A CAMA Major Development Permit from the NC Division of Coastal Management (NCDCM) will be required for all impacts to designated Areas of Environmental Concern (AEC) within the construction area.

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 thirteen species under federal protection for Carteret County as of June 29, 2012:

American Alligator

Biological Conclusion: Not Required

The American Alligator is threatened due to similarity of appearance and does not require Section 7 consultation with the USFWS.

Piping Plover

Biological Conclusion: No Effect

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

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.

Roseate tern**Biological Conclusion: No Effect**

Suitable habitat for the roseate tern 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.

West Indian manatee**Biological Conclusion: May Affect, Not Likely to Adversely Affect**

Suitable habitat for West Indian manatee exists in the project area. The North River is of sufficient size to support West Indian manatee. A review of NCNHP records indicates there are no known occurrences within 1.0 mile of the study area.

Green sea turtle**Biological Conclusion: No Effect**

Suitable habitat for the green sea turtle 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.

Hawksbill turtle**Biological Conclusion: No Effect**

Suitable habitat for the hawksbill sea turtle 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.

Kemp's ridley sea turtle**Biological Conclusion: No Effect**

Suitable habitat for the Kemp's ridley sea turtle 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.

Leatherback sea turtle**Biological Conclusion: No Effect**

Suitable habitat for the leatherback sea turtle 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.

Loggerhead turtle**Biological Conclusion: No Effect**

Suitable habitat for the loggerhead turtle 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.

Seabeach amaranth**Biological Conclusion: No Effect**

Suitable habitat for the seabeach amaranth 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.

Rough-leaved loosestrife**Biological Conclusion: No Effect**

Suitable habitat for the rough-leaved loosestrife 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.

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 present in the study area both upstream and downstream of the North River; however, suitable nesting trees are not

present in the study area and at a distance of 660 feet on all sides. Therefore, impacts to this species will not occur from project construction.

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 form).

Archaeology

The N.C. Historic Preservation Office (HPO) indicated no surveys for archaeology is required (see attached form).

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.

Shellfish lease area #877 will be impacted by the alignment of the replacement bridge. NCDOT will establish additional lease area as compensation for area lost by the project.

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 Carteret 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.

Carteret 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, Carteret County Planning Department, N.C. Division of Marine Fisheries, National Marine Fisheries Service.

The N.C. Division of Coastal Management (NCDCM) requested a section of the existing causeway be removed to restore some of the natural hydrology of the North River.

Response: Through coordination with NCDCM and other various agencies NCDOT will remove a portion of the existing causeway.

The Carteret County Commissioners requested that multi-use paths be included into the project along both sides to support both bicycle and pedestrian traffic.

Response: No multi-use paths will be included in the project. However, bicycle safe rails and minimum offsets of 6-foot are proposed for the new structure. Sidewalks do not exist on the existing bridge.

The United States Coast Guard distributed a Public Notice (5-1200) concerning the proposed bridge replacement project requesting comment concerning the proposal from a “standpoint of navigation”. No comments were received which would influence the project.

No other specific concerns were received for this project.

IX. PUBLIC INVOLVEMENT

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

A newsletter was sent to all those living within a 1 mile radius of the project. Comments received provided historical information about the area or requested further information. Requests for further information indicated a need for a Citizen’s Informational Workshop (CIW).

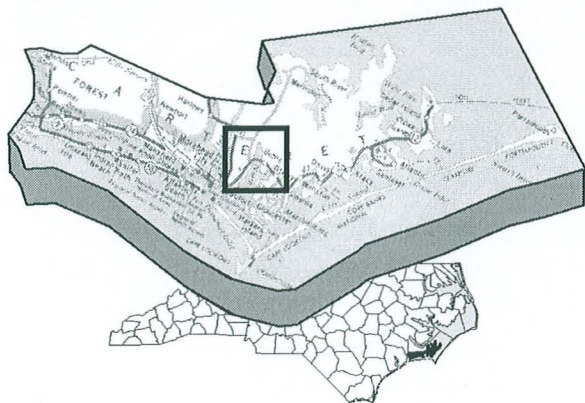
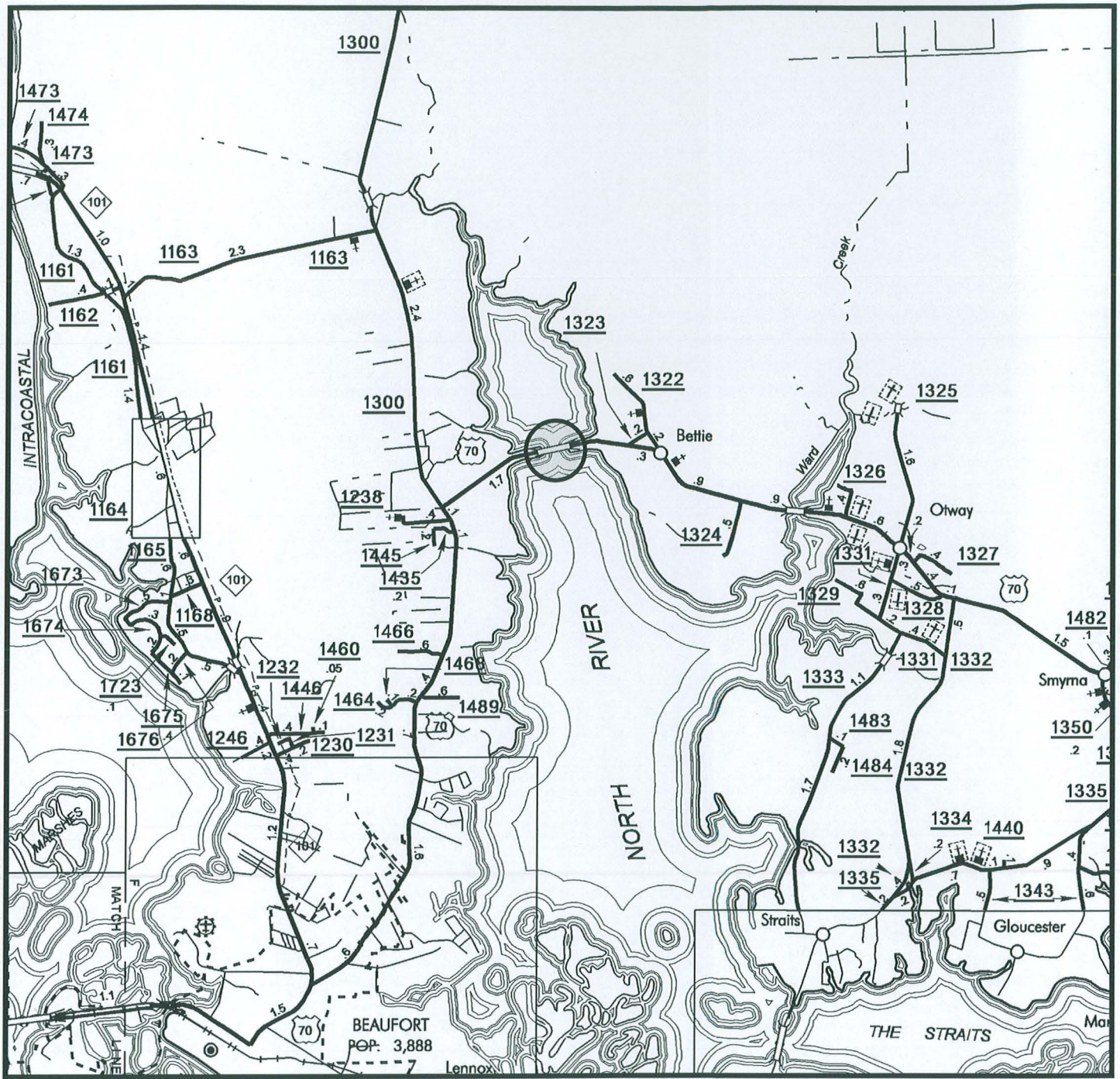
A CIW was held to propose two alternatives for replacement of the existing bridge. One alternative would replace the existing structure with a new structure to the north approximately 1,150-foot long and the other being along the same alignment being 1,750-foot long. Many of the comments were in support of removing the larger amount of causeway while the minority didn’t favor any removal of the causeway and sited concern for the present ecosystem.

NCDOT developed a third alternative which replaces the existing structure along the same alignment approximately 1,350-foot long. Since this alternative was within the previous parameters, advertisement was limited to the local newspaper. No comments were received.

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

X. CONCLUSION

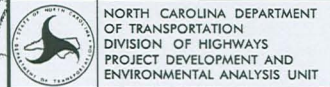
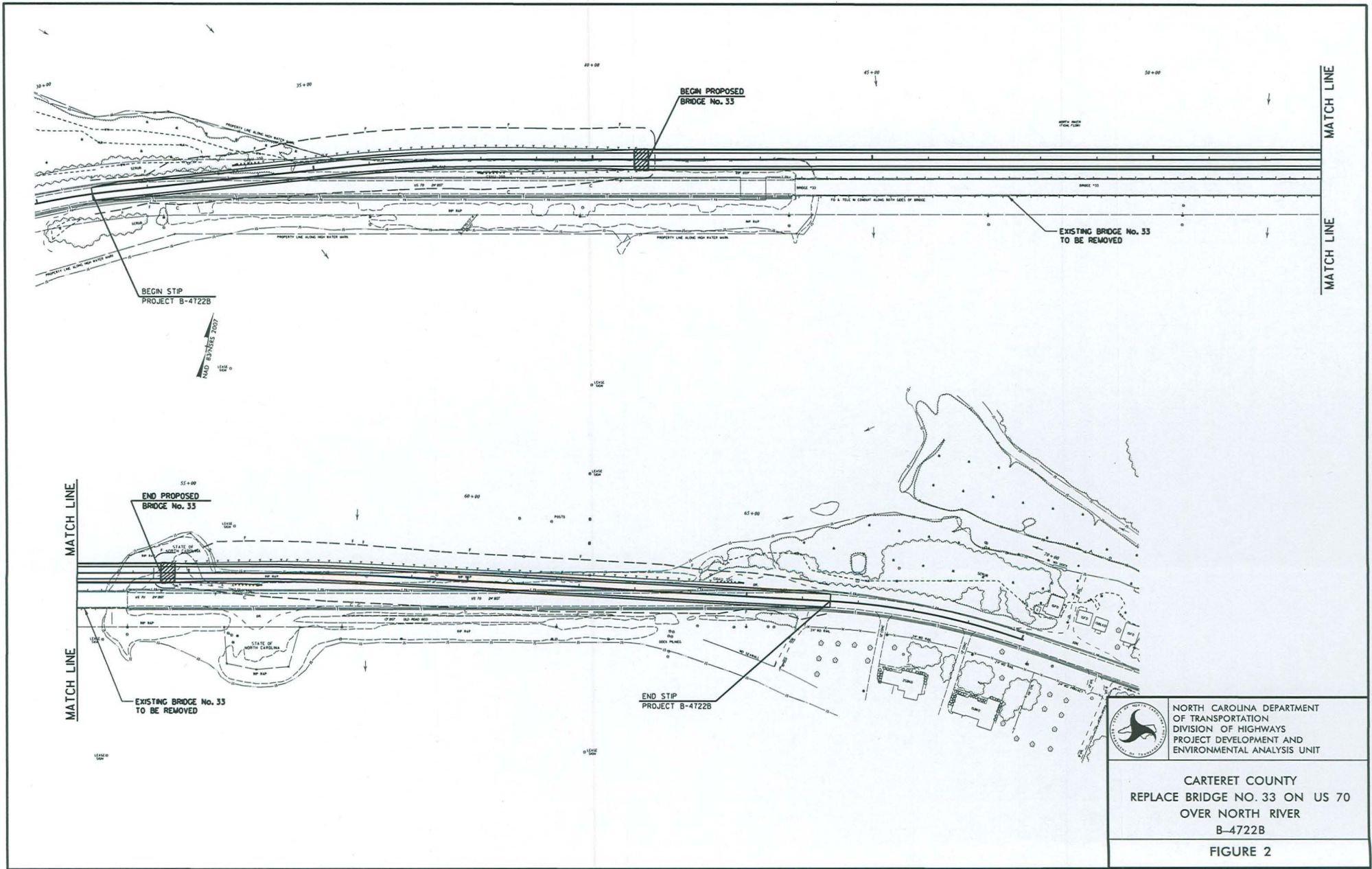
On the basis of the above discussion, it is concluded that no substantial adverse environmental impacts will result from implementation of the project. The project is therefore considered to be a federal “Categorical Exclusion” due to its limited scope and lack of substantial environmental consequences.



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

**CARTERET COUNTY
REPLACE BRIDGE NO. 33 ON US 70
OVER NORTH RIVER
B-4722B**

Figure 1



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

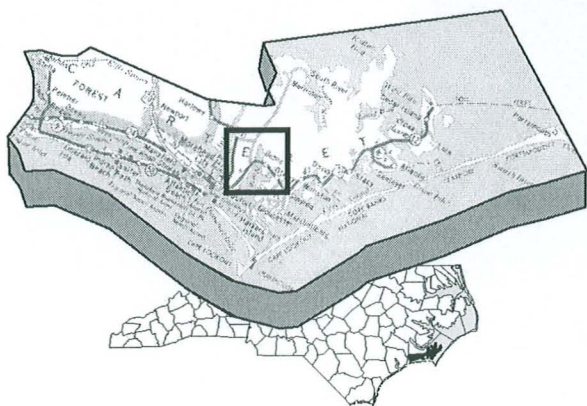
CARTERET COUNTY
 REPLACE BRIDGE NO. 33 ON US 70
 OVER NORTH RIVER
 B-4722B


FIGURE 2

Bridge No. 33
(Looking east)



Bridge No. 33
(Looking west)



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
CARTERET COUNTY REPLACE BRIDGE NO. 33 ON US 70 OVER NORTH RIVER B-4722B	
Figure 3	

Bridge Construction CFY 2013-2014

SHPO Number	TIP	Project	County	Division	Project Engineer	Archaeological Survey	Architectural Survey
ER 08-2578	B-4722	Bridge 33 on US 70 over North River	Carteret	2	H. Schwab	NO	YES

A - NO ARCHAEOLOGICAL SURVEY RECOMMENDED -
 (NC) 11/17/08 LEB

S - REQUEST SURVEY.
 11/12/08
 LEB

Das 12/31/08

Peter B Sandbuh
 1/27/09

Entered & filed
 11/17/2009

NOV 12 2008

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Replace Bridge No. 33 on US 70 over North River

On August 4, 2009 representatives of the

- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (HPO)
- Other

Reviewed the subject project at historic architectural resources photograph review session/consultation and

All parties present agreed

- There are no properties over fifty years old within the project's Area of Potential Effects (APE).
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's APE.
- There are properties over fifty years old within the project's APE, but based on the historical information available and the photographs of each property, the properties identified as ~~X1-6~~ are considered not eligible for the National Register and no further evaluation of them is necessary. Photographs of these properties are attached.
- There are no National Register-listed or Study Listed properties within the project's APE.
- All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- More information is requested on properties _____.

Signed:

Vanessa Patrick

8-4-09

Representative, NCDOT

Date

FHWA, for the Division Administrator, or other Federal Agency

Date

Representative, HPO

Date

Renee Bleedhill-Ealey

8.4.09

State Historic Preservation Officer

Date

If a survey report is prepared, a final copy of this form and the attached list will be included