

Type I and II Ground Disturbing Categorical Exclusion Action Classification Form

TIP Project No.	B-5156
WBS Element	42331.1.2
Federal Project No.	N/A

A. Project Description:

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 28 on N.C. 210 over Long Creek in southwestern Pender County (**Figure 1**). The bridge will be replaced on new location to the north of the existing bridge (**Figures 2A and 2B**).

B. Description of Need and Purpose:

The purpose of the proposed project is to replace Bridge No. 28. In 2012, NCDOT Bridge Management Unit records indicated Bridge No. 28 had a sufficiency rating of 8 out of a possible 100 for a new structure, along with a substructure condition of 4 out of a possible 9 points; therefore, the bridge was considered structurally deficient. Maintenance was performed to improve safety and extend the life of the bridge, which increased the sufficiency rating to 52.81 out of a possible 100. Since maintenance to the bridge is considered temporary and because the bridge is 98 years old, the bridge is in need of replacement.

Built in 1921 and reconstructed in 1956, Bridge No. 28 exhibits cracking on the underside of beams, spalling on concrete piers and pile caps, and areas of delamination. Rehabilitation of the bridge is not practical due to its age and deteriorated condition. Components of both the concrete superstructure and substructure have experienced an increasing degree of deterioration that can no longer be addressed by maintenance activities.

C. Categorical Exclusion Action Classification:

TYPE I A

D. Proposed Improvements:

28. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in 23 CFR 771.117(e)(1-6).

E. Special Project Information:

Existing Conditions: N.C. 210 has a 24-foot pavement width with grassed shoulders on each side.

Bridge No. 28 is a four-span structure that consists of reinforced concrete deck girders supported by reinforced concrete caps on steel and timber piles for the interior and end bents. The structure length is 170 feet with a clear roadway width of 28 feet. There is no posted weight limit on the bridge. The bridge deck is situated approximately 25 feet above the creek bed. Power lines run parallel to the bridge on both sides of the road.

Alternatives Discussion:

The No-Build Alternative would result in eventually closing the road which is unacceptable given the traffic served by N.C. 210. Additionally, N.C. 210 in the project area is designated as a Hurricane Evacuation Route. Therefore, the No-Build Alternative was eliminated from further consideration.

An offsite detour route for N.C. 210 would include primary routes; a northern or southern detour option would both be approximately 30 miles. Given the potential impacts to emergency response services and school transportation services, an offsite detour was eliminated from consideration.

Two build alternatives to replace Bridge No. 28 were studied. Alternative 1 would replace the bridge on the existing alignment with a temporary onsite detour to the north. Alternative 2 would permanently relocate the bridge to the north while maintaining traffic on the existing roadway. Alternative 2 was selected as the preferred alternative upon coordination with the NCDOT Division Office. Alternative 2 would minimize clearing and land disturbance in the project area, with the new bridge being permanently relocated to the north, where a detour bridge would have been located under Alternative 1. Additionally, the construction duration may be minimized with Alternative 2, with only one new structure required.

The replacement structure will be a four-span bridge approximately 205 feet long with prestressed concrete girders, 4-foot caps and sloping, riprap abutments (**Figures 2A and 2B**). The proposed bridge will be located on a new alignment just upstream of the existing bridge and at a 90-degree skew to the roadway. The bridge will include two 12-foot travel lanes with 4-foot offsets, providing a minimum 32-foot clear roadway width, as well as concrete barrier rail.

The approach roadway will extend approximately 980 feet from the west end of the new bridge and 890 feet from the east end of the new bridge. The approach roadway will include a 24-foot pavement width providing two 12-foot travel lanes and 8-foot shoulders on each side. Where guardrail is included, 11-foot shoulders would be provided on each side.

Traffic would be maintained on the existing structure, while the new bridge is constructed to the north of the existing alignment. After construction of the new bridge is completed, traffic would be routed onto the new structure while the existing structure is removed. Construction is anticipated to take approximately 12 months.

Estimated Cost:

	Alternative 1	Alternative 2 (Preferred)
Construction Cost	\$ 5,400,000	\$ 4,550,000
Right-of-Way Cost	\$ 51,000	\$ 93,900
Utility Cost	\$ 14,700	\$ 57,400
Total Project Cost	\$ 5,465,700	\$ 4,701,300

Note: Based on 2018 / 2019 prices

Estimated Traffic:

- Year 2020 - 3,000 vehicles per day
- Year 2040 - 3,600 vehicles per day
- TTST - 4%
- Dual - 8%

Accidents: There were three reported crashes near Bridge No. 28 during a five-year period. None of these crashes were associated with the alignment or geometry of the bridge or its approach roadway. Two crashes involved an animal and one crash involved a movable object.

Pedestrian, Bicycle, and Greenway Accommodations: The Pender County Comprehensive Transportation Plan (CTP) and the Wilmington Metropolitan Planning Organization (MPO) CTP recommend a multi-use path (bicycle and pedestrian) on this section of N.C. 210. The Pender County Comprehensive Parks and Recreation Master Plan recommends a public water access area at Long Creek.

Hazardous Materials: Based upon coordination with the GeoEnvironmental Group, there are no geoenvironmental concerns on the proposed project.

Design Information:

- Design Speed - 60 miles per hour
- Rural Major Collector using Regional Tier Guidelines
- No Design Exceptions Required

Cultural Resources:

Historic Architecture - NCDOT conducted a review of the State Historic Preservation Office (HPO) site files, GIS data, and related studies as well as an assessment of all above-ground resources present in the study area in 2010, 2015, and 2018 in response to project changes. Based on this review, there are no properties listed in or eligible for the National Register of Historic Places in the current Area of Potential Effects (APE), including the existing Bridge No. 28. There are no properties warranting additional investigation; therefore, no architectural survey is required for the project. A copy of the most recent review form (October 1, 2018) is included in **Appendix B**.

Archaeology - A map review and site file search were conducted by NCDOT at the Office of State Archaeology (OSA) on October 18, 2018. No archaeological sites have been identified within the proposed APE, nor are any recorded within one-half mile of the proposed project. Landforms within the current APE are considered very unlikely to exhibit intact, significant archaeological resources; therefore, no archaeological survey is required for this project. A copy of this correspondence is included in **Appendix B**.

Community Impacts: The majority of the project area is rural and in residential or agricultural use, swamp land, or undeveloped. Access to residential and commercial driveways along N.C. 210 may be temporarily limited during construction of the proposed project. Additionally, the proposed project may have temporary operational impacts to the mobility of farm equipment to small farms, as well as Long Creek Farms & Nursery, located within the project study area.

Notably adverse community impacts to low-income populations, including migrant workers, are not anticipated with the preferred Alternative 2, replacement of Bridge No. 28 on new location. The proposed project would affect all populations equivalently; thus, impacts to minority and low-income populations do not appear to be disproportionately high and adverse. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community.

Environmental Considerations: The wetland and stream impacts associated with this bridge replacement project are presented below. Water resources in the study area are part of the Cape Fear River basin (U.S. Geological Survey (USGS) Hydrologic Unit 03030007) (**Figures 3 and 4**). Long Creek carries a best usage classification of C;Sw waters of the State. Long Creek has been designated as warm water streams for the purposes of stream mitigation. Long Creek within the study area has been designated by the USACE as a Navigable Water under Section 10 of the Rivers and Harbors Act. Additional information regarding the wetlands can be found in the Natural Resources Technical Report.

Jurisdictional Characteristics and Estimated Impacts

	Classification	Impact
Stream (Long Creek)	Perennial	135 linear feet
Wetland	Riparian	1.09 acres

The amount of impacts to water resources and wetlands within the study area, described above, represents the maximum extent of potential fill in Waters of the United States.

Anticipated Permit or Consultation Requirements:

Clean Water Act Permits

A Nationwide Permit (NWP) 23 will likely be applicable to this project. NWP 33 may also apply for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The U.S. Army Corps of Engineers (USACE) holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required, then a Section 401 Water Quality Certification (WQC) from the N.C. Division of Water Resources (NCDWR) will be needed.

Coastal Area Management Act Areas of Environmental Concern

The N.C. Division of Coastal Management (NCDCM) identified the following Areas of Environmental Concern (AECs) that will likely be impacted: Coastal Shorelines and Public Trust Area. Therefore, a Coastal Area Management Act (CAMA) permit from the NCDCM will be required prior to the commencement of construction for all impacts to designated AECs within the study area.

Agency Comments and Local Coordination: NCDOT has sought input from the following agencies as a part of the project development: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Federal Highway Administration, N.C. Division of Coastal Management, N.C. Division of Parks and Recreation, N.C. Division of Water Resources, N.C. Wildlife Resources Commission, Wilmington Metropolitan Planning Organization, Cape Fear Rural Planning Organization, Pender County, Pender County Schools, and Pender County EMS. Agency comments are included in **Appendix B**.

The North Carolina Division of Parks and Recreation (DPR) requested that a small parking area and canoe launch be considered as part of this bridge replacement. During subsequent coordination with DPR, the small parking area and canoe launch were dropped from consideration.

The Cape Fear Rural Planning Organization (RPO) noted that Bridge No. 28 is located within a floodway and the upstream area is prone to flooding and strongly encourages that the bridge be elevated to minimize upstream flooding and ensure its availability as an evacuation route during a flood event. The RPO also commented that as a designated hurricane evacuation route, any detours or closures of N.C. 210 in the project area should be coordinated to occur outside of hurricane season, if possible.

According to Pender County Schools, eight school buses pass over the bridge four times per day. Pender County Emergency Medical Services (EMS) noted that Bridge No. 28 is in a high call volume area.

Public Involvement: A newsletter was sent to all property owners living along N.C. 210 near Bridge No. 28. No comments were received. Therefore, a Public Meeting was determined unnecessary.

F. Project Impact Criteria Checklists:

<u>Type I & II - Ground Disturbing Actions</u>			
<u>FHWA APPROVAL ACTIVITIES THRESHOLD CRITERIA</u>			
If any of questions 1-7 are marked "yes" then the CE will require FHWA approval.		Yes	No
1	Does the project require formal consultation with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Does the project involve a residential or commercial displacement, or a substantial amount of right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project require an Individual Section 4(f) approval?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Does the project include adverse effects that cannot be resolved with a Memorandum of Agreement (MOA) under Section 106 of the National Historic Preservation Act (NHPA) or have an adverse effect on a National Historic Landmark (NHL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If any of questions 8 through 31 are marked "yes" then additional information will be required for those questions in Section G.			
<u>Other Considerations</u>		Yes	No
8	Does the project result in a finding of "may affect not likely to adversely affect" for listed species, or designated critical habitat under Section 7 of the Endangered Species Act (ESA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Is the project located in anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Does the project include a Section 106 of the NHPA effects determination other than a no effect, including archaeological remains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Other Considerations (continued)</u>		Yes	No
15	Does the project involve hazardous materials and/or landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16	Does the project require work encroaching and adversely affecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g. U.S. Forest Service (USFS), USFWS, etc.) or Tribal Lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Does the project include a <i>de minimis</i> or programmatic Section 4(f)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29	Is the project considered a Type I under the NCDOT's Noise Policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
31	Are there other issues that arose during the project development process that affected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. Additional Documentation as Required from Section F

Response to Question 1: The U.S. Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the U.S. Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for NLEB for the NCDOT program is **May Affect, Likely to Adversely**

Affect. The PBO provides incidental take coverage for NLEB and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Pender County, where TIP B-5156 is located. This level of incidental take is authorized from the effective date of a final listing determination through April 30, 2020.

Response to Question 16: Pender County is a participant in the National Flood Insurance Program, administered by the Federal Emergency Management Agency (FEMA). Based on the most current information available from the N.C. Floodplain Mapping Program (FMP), Long Creek is located within a detailed study area. This project involves construction activities on or adjacent to FEMA-regulated streams.

Response to Question 17: Two CAMA Areas of Environmental Concern were identified in the study area. The proposed project will likely impact Coastal Shoreline and Public Trust Water. A CAMA permit from the NCDCEM will be required for all impacts to designated AECs within the study area.

Response to Question 30: The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. There are soils classified as prime, unique, or having state or local importance in the vicinity of the project. Therefore, the project may involve direct conversion of farmland acreage within these classifications. A preliminary screening of farmland conversion impacts in the project area was completed (NRCS Form AD-1006, Part VI only) and resulted in a score of 55 points out of 160. Since the total site assessment score does not exceed the 60-point threshold established by NRCS, notable project impacts to eligible soils are not anticipated.

H. Project Commitments

Pender County
Bridge No. 28 over Long Creek on N.C. 210
Federal Project No: N/A
WBS No: 42331.1.2
TIP Project No: B-5156

Hydraulics Unit - FEMA Coordination

The Hydraulics Unit will coordinate with the N.C. Floodplain Mapping Program (FMP) to determine the status of the 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).

Hydraulics Unit / Division 3 Construction - FEMA - As-Built Construction Plans

This project involves construction on or adjacent to a FEMA-regulated stream. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the project was built as shown on the construction plans.

Environmental Analysis Unit / Hydraulics Unit - CAMA Permit

Two Coastal Area Management Act (CAMA) Areas of Environmental Concern (AECs) were identified in the study area. Long Creek is a designated Public Trust Water and Coastal Shoreline. A CAMA permit from the N.C. Division of Coastal Management (NCDCM) will be required for all impacts to designated AECs within the study area.

TIP Project No.	<u>B-5156</u>
WBS Element	<u>42331.1.2</u>
Federal Project No.	<u>N/A</u>

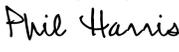
B-5156: Replace Bridge No. 28 over Long Creek on N.C. 210 in Pender County

Prepared By:

7/24/2019	<small>DocuSigned by:</small>  <small>B8BA757910214D2...</small>
<u>Date</u>	<u>Aileen S. Mayhew, P.E. Mott MacDonald</u>

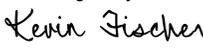
Prepared For: North Carolina Department of Transportation

Reviewed By:

7/24/2019	<small>DocuSigned by:</small>  <small>8C1643F6874A457...</small>
<u>Date</u>	<u>Philip Harris, III, P.E., Environmental Analysis Unit North Carolina Department of Transportation</u>

Approved If all of the threshold questions (1 through 7) of Section F are answered "no," NCDOT approves this Categorical Exclusion.

Certified If any of the threshold questions (1 through 7) of Section F are answered "yes," NCDOT certifies this Categorical Exclusion.

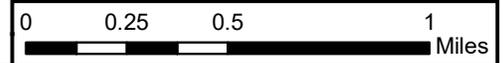
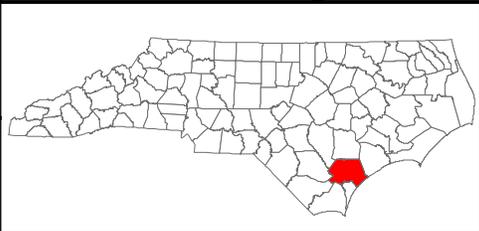
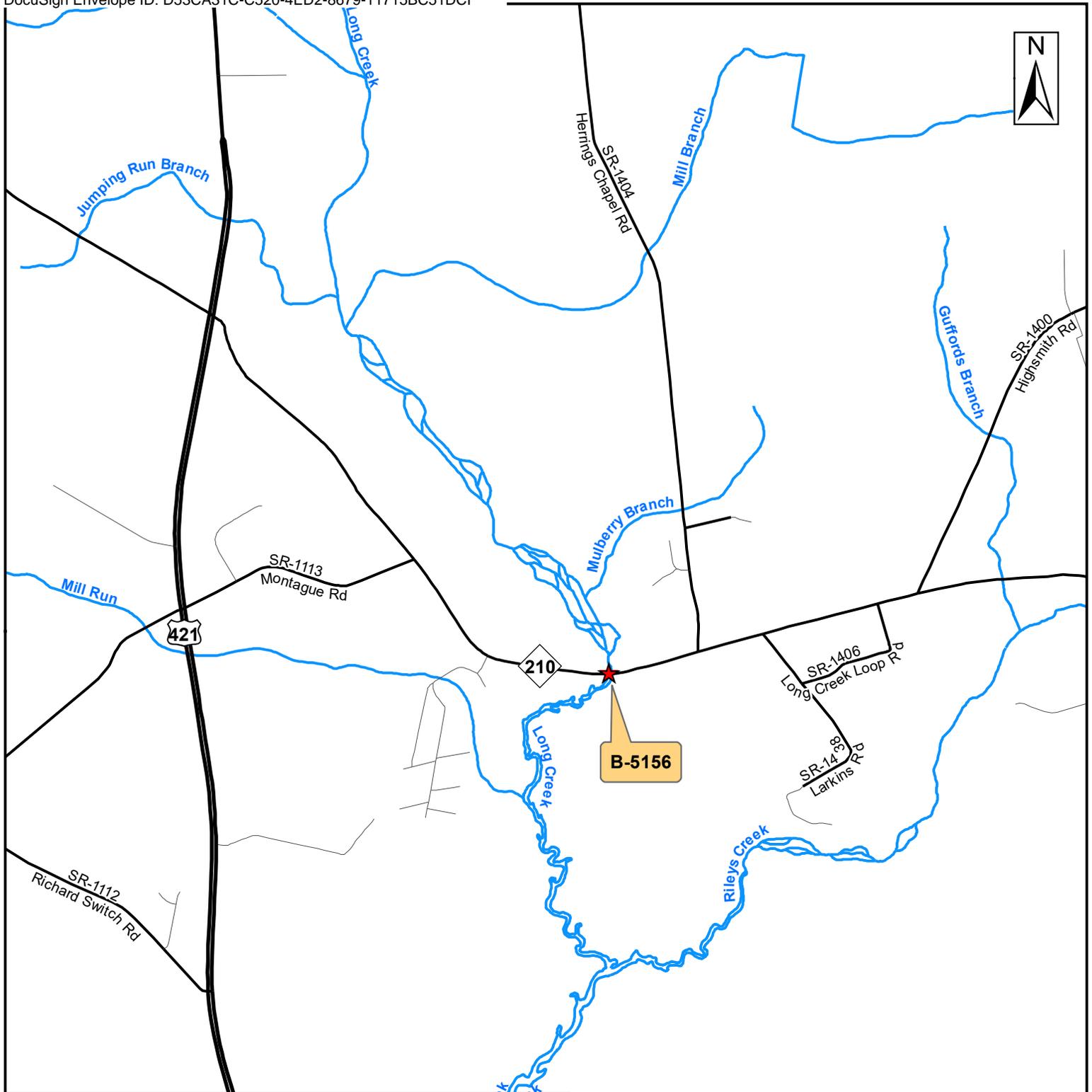
7/29/2019	<small>DocuSigned by:</small>  <small>ED19A18D98EC496...</small>
<u>Date</u>	<u>Kevin Fischer, P.E., Structures Management Unit North Carolina Department of Transportation</u>

FHWA Approved: For Projects Certified by NCDOT, FHWA signature required.

<u>N/A</u>	<u>N/A</u>
<u>Date</u>	<u>John F. Sullivan, III, P.E., Division Administrator Federal Highway Administration</u>

APPENDIX A

Figures

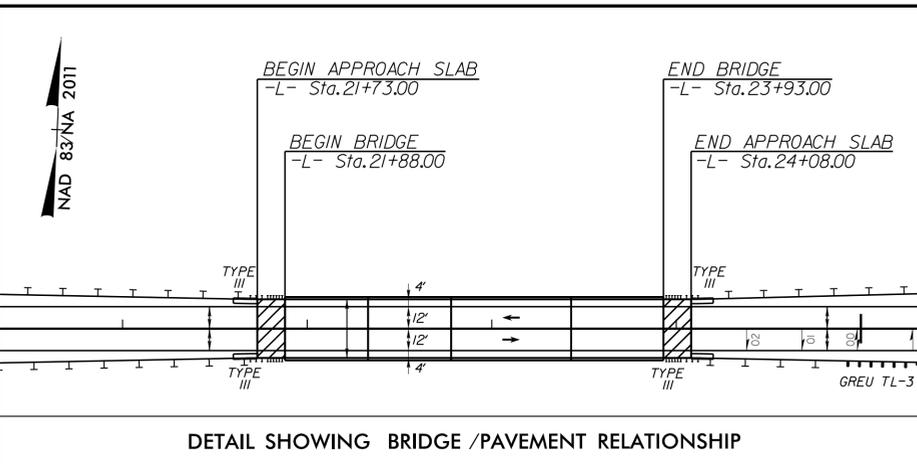


North Carolina Department of Transportation
Structures Management Unit

B-5156
Replace Bridge No. 28
on N.C. 210 over Long Creek
Pender County

Vicinity Map
Figure 1

5/14/1999

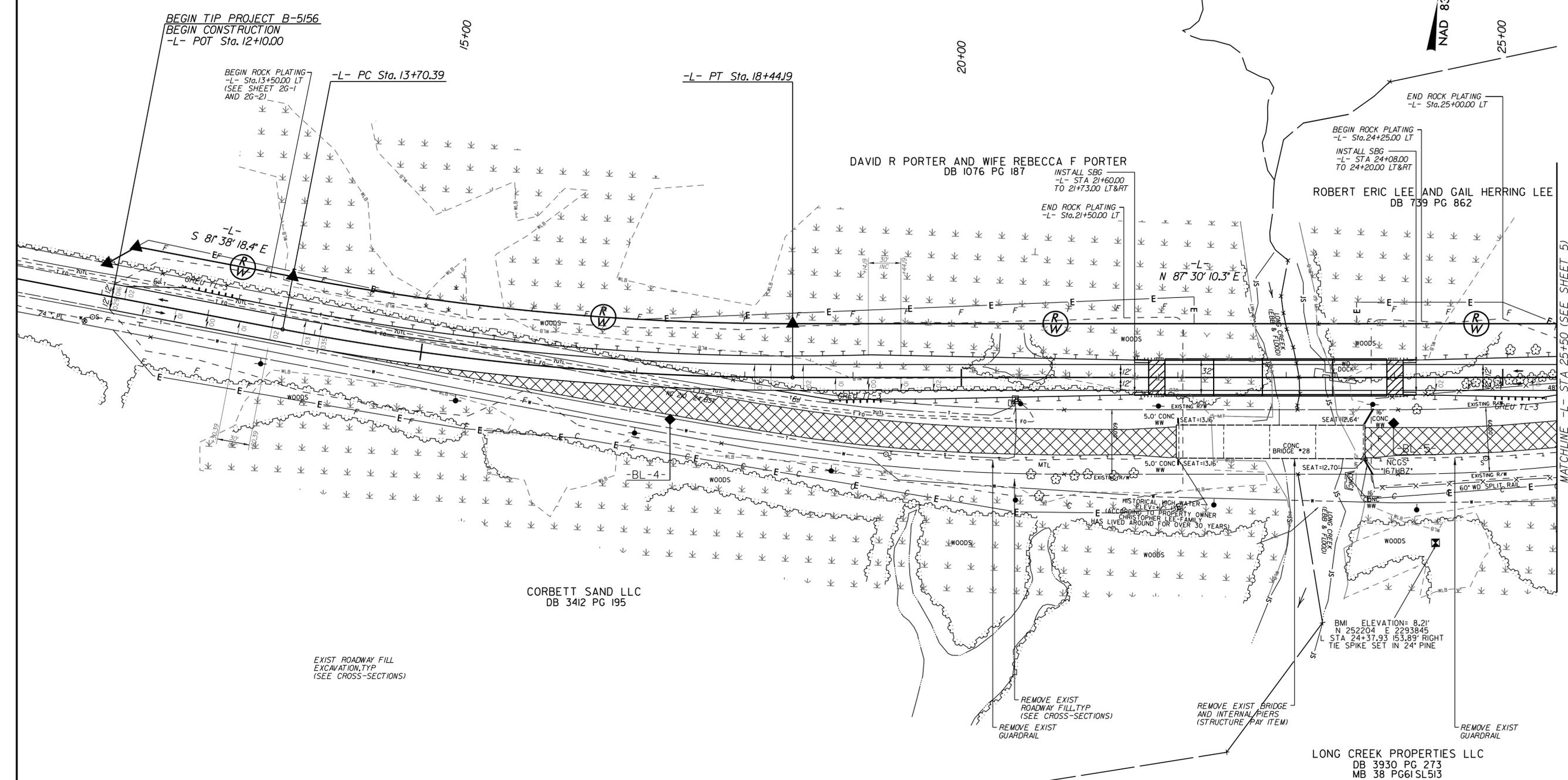


DETAIL SHOWING BRIDGE / PAVEMENT RELATIONSHIP

Kimley Horn
 P.O. BOX 33068 • RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. B-5156	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-L-
 PI Sta. 16+08.01
 $\Delta = 10' 51'' 31.3'' (LT)$
 $D = 2' 17'' 30.6''$
 $L = 473.80'$
 $T = 237.61'$
 $R = 2,500.00'$
 $SE = 0.035$
 $RO = 105'$



4/22/2019

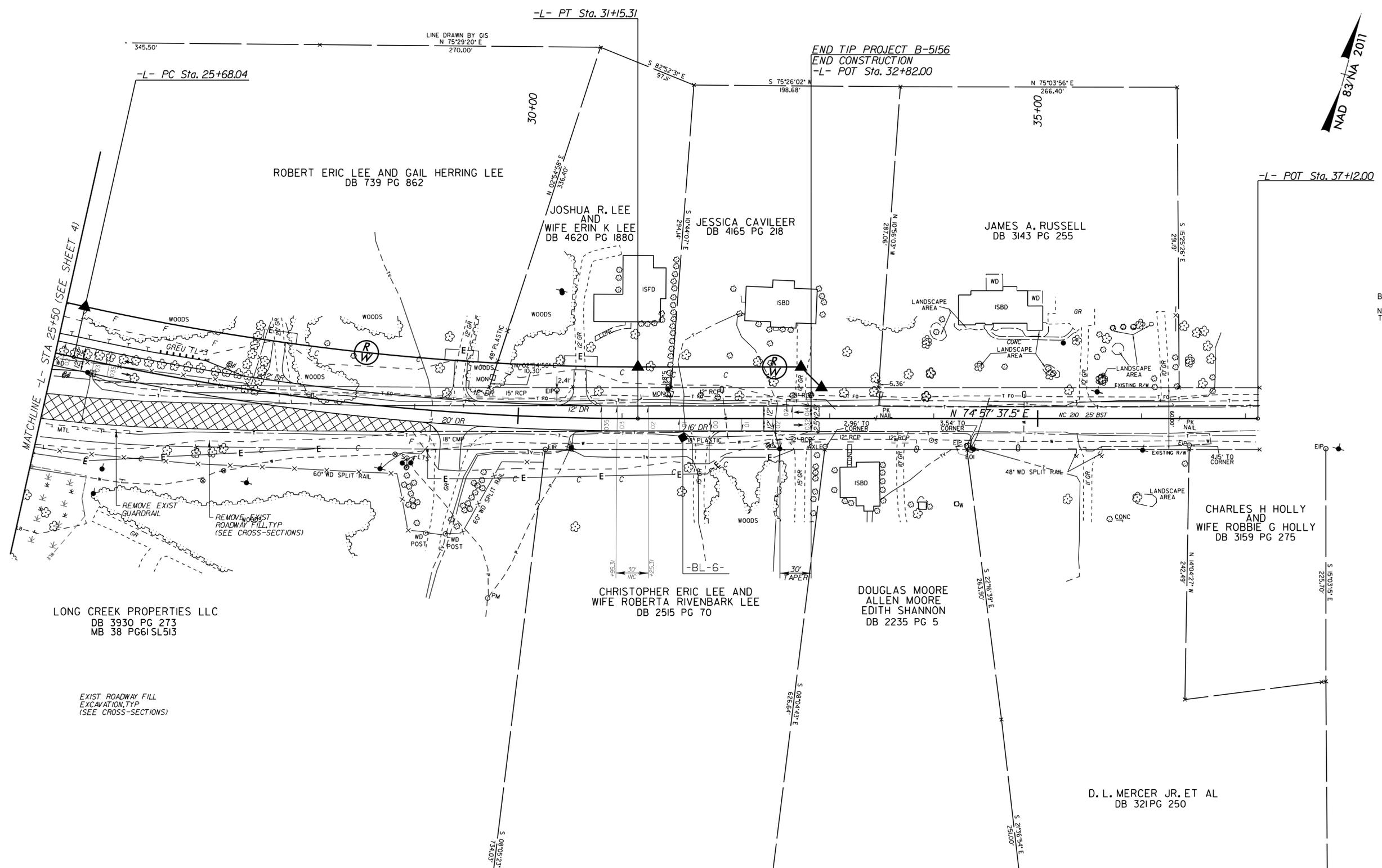
5/14/19

-L-
 PI Sta 28+42.77
 $\Delta = 12' 32" 32.8" (LT)$
 $D = 217' 30.6"$
 $L = 547.27'$
 $T = 274.73'$
 $R = 2,500.00'$
 $SE = 0.035$
 $RO = 105'$

Kimley » Horn
 P.O. BOX 33068 • RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO. B-5156	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

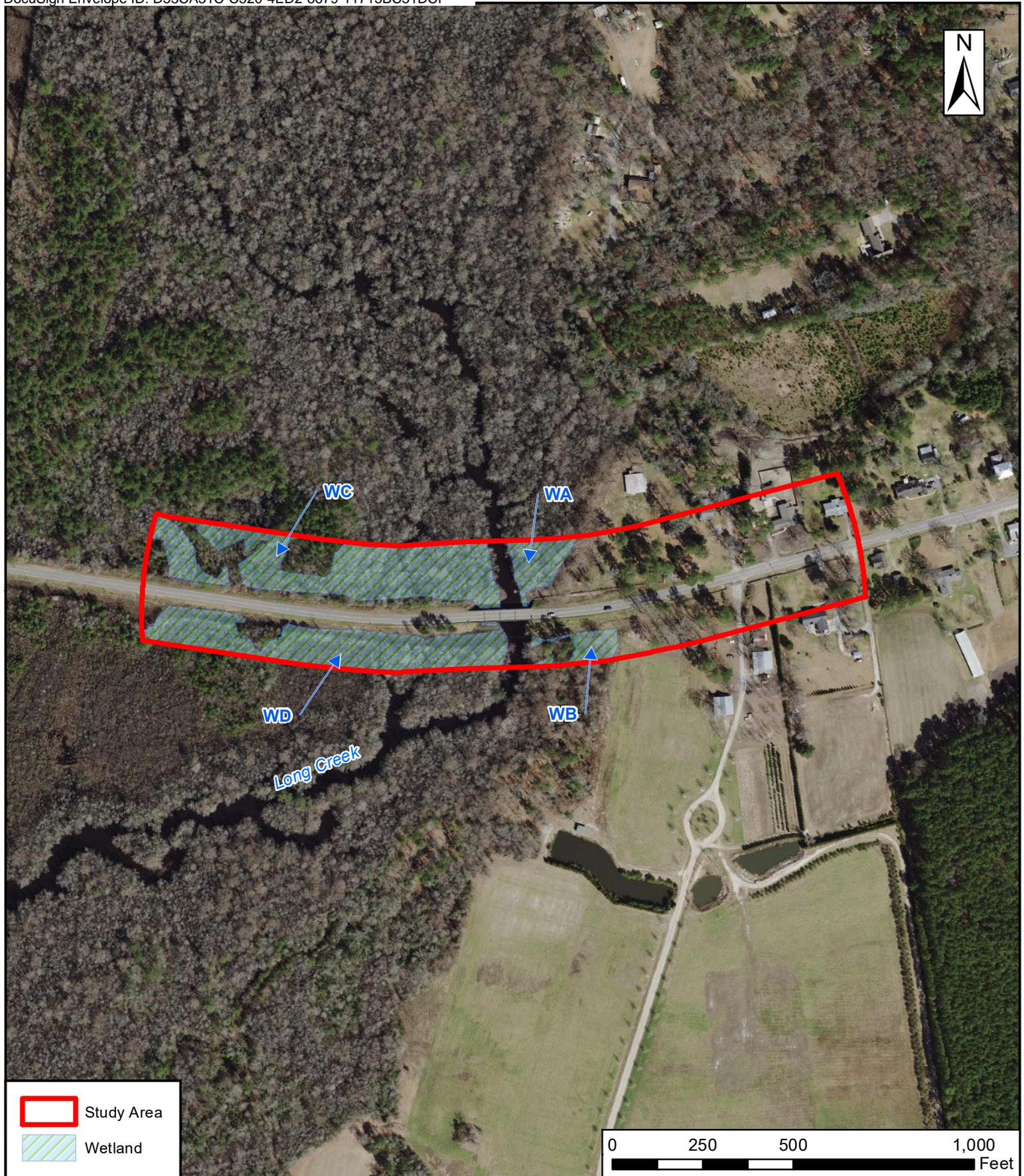
REVISIONS



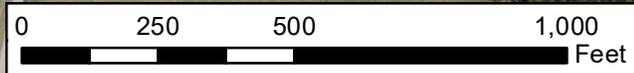
BM2 ELEVATION= 23.72'
 L STA 37+12.00
 N 53°07'23.5" DIST 217.96'
 TIE SPIKE SET IN 2" OAK

4/22/2019

ALTERNATIVE 2
FIGURE 2B



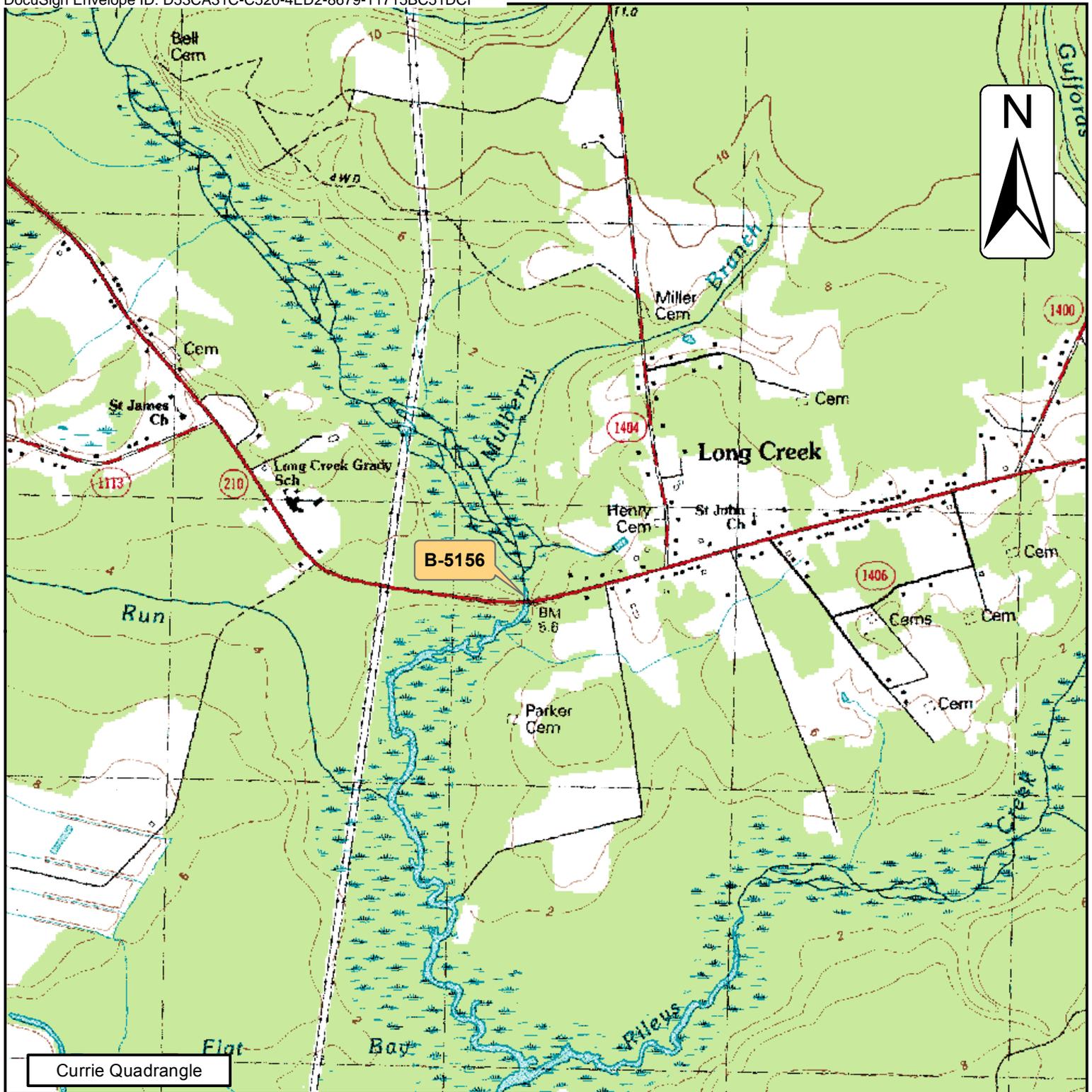
 Study Area
 Wetland



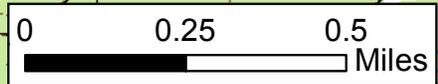
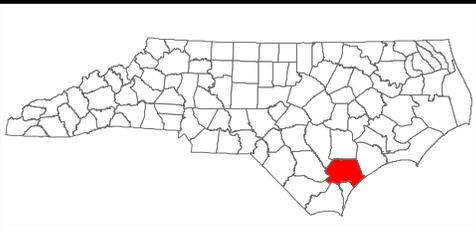
North Carolina Department of Transportation
Structures Management Unit

B-5156
Replace Bridge No. 28
on N.C. 210 over Long Creek
Pender County

Jurisdictional Features
Figure 3



Currie Quadrangle



North Carolina Department of Transportation
Structures Management Unit

B-5156
Replace Bridge No. 28
on N.C. 210 over Long Creek
Pender County

Quad Map
Figure 4

APPENDIX B

Supporting Documents

15-01-0005



HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

This form supercedes that dated 25 September 2018

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

PROJECT INFORMATION

Project No:	B-5156	County:	Pender
WBS No.:	42331.1.2	Document Type:	
Fed. Aid No:	BRSTP-0210(21)	Funding:	State X Federal
Federal Permit(s):	X Yes No	Permit Type(s):	USACE
Project Description: Replace Bridge No. 28 on NC 210 over Long Creek (no off-site detour specified in review request).			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

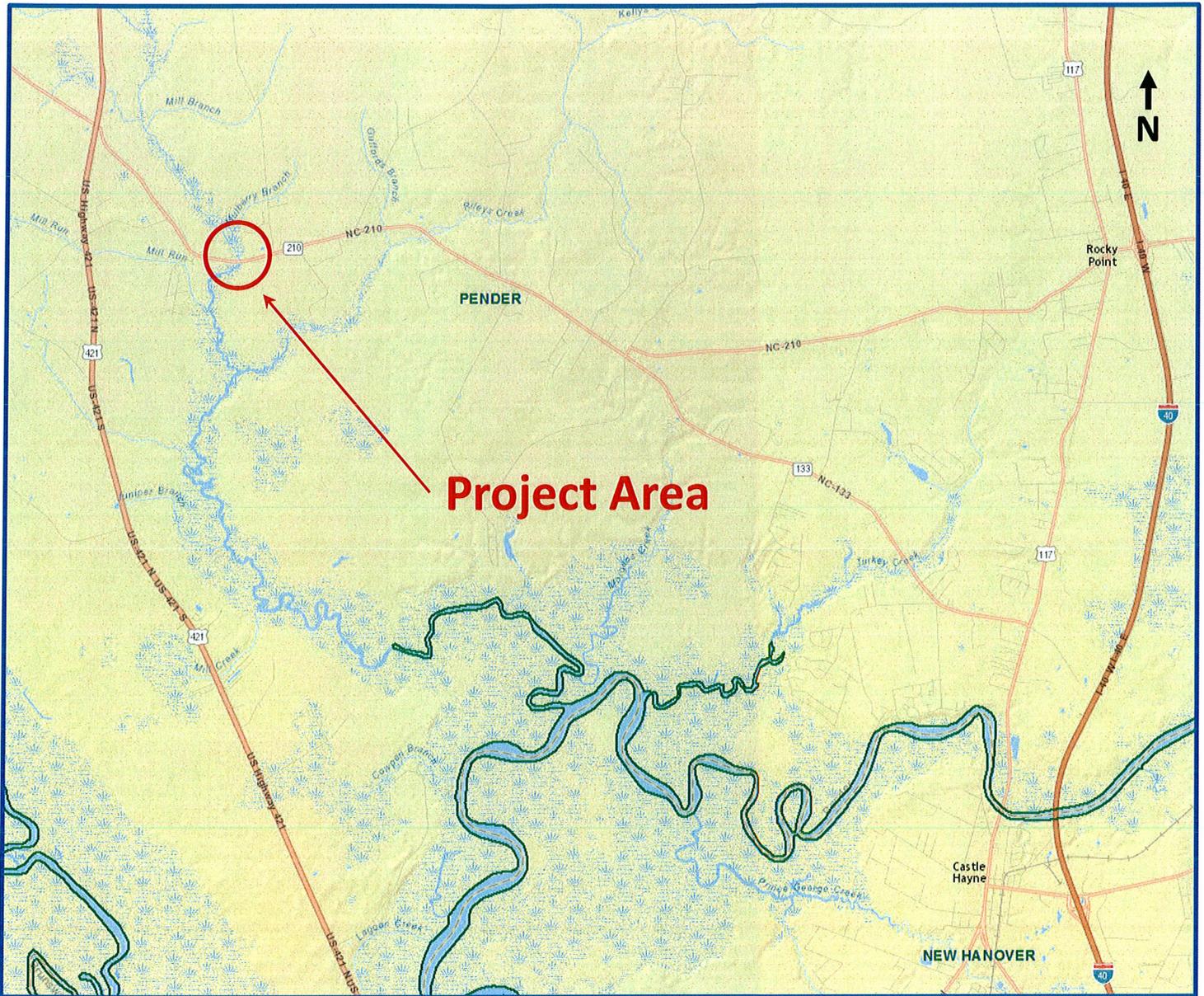
Description of review activities, results, and conclusions: HPOWeb reviewed on 3 February 2015 and yielded no NR, SL, DE, LD, or SS properties in the Area of Potential Effects (APE). The Penny Henry House (PD0213 – SL) is located near, but outside (east) of the study area. Pender County current GIS mapping, aerial photography, and tax information indicated a mostly wooded APE with cleared residential development at the eastern end (viewed 3 February 2015). Several resources dating from the middle decades (1930s-1960s) of the twentieth century, standing approximately 750 feet and more east of the existing bridge, are unexceptional examples of their types. Bridge No. 28, built in 1921, is not eligible for the National Register as it is neither aesthetically nor technologically significant according to the NCDOT Historic Bridge Inventory. Google Maps "Street View" confirmed the absence of critical architectural and landscape resources in the APE. Selection of a preferred alternative (bridge on new location north of existing) necessitated the current review (25 September 2018). This form reflects the application of federal funding. The original APE contains the proposed construction activities and possible impacts, as well as no resources of concern, and thus the "no survey required" finding remains valid.

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

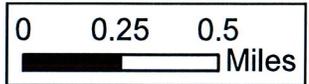
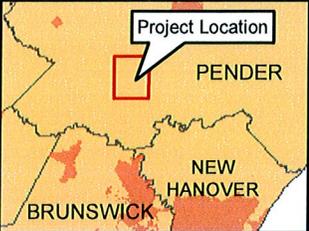
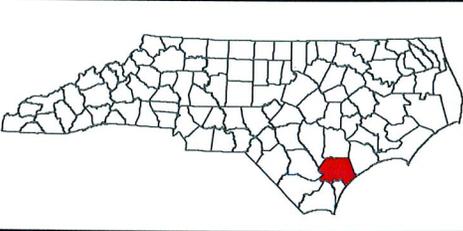
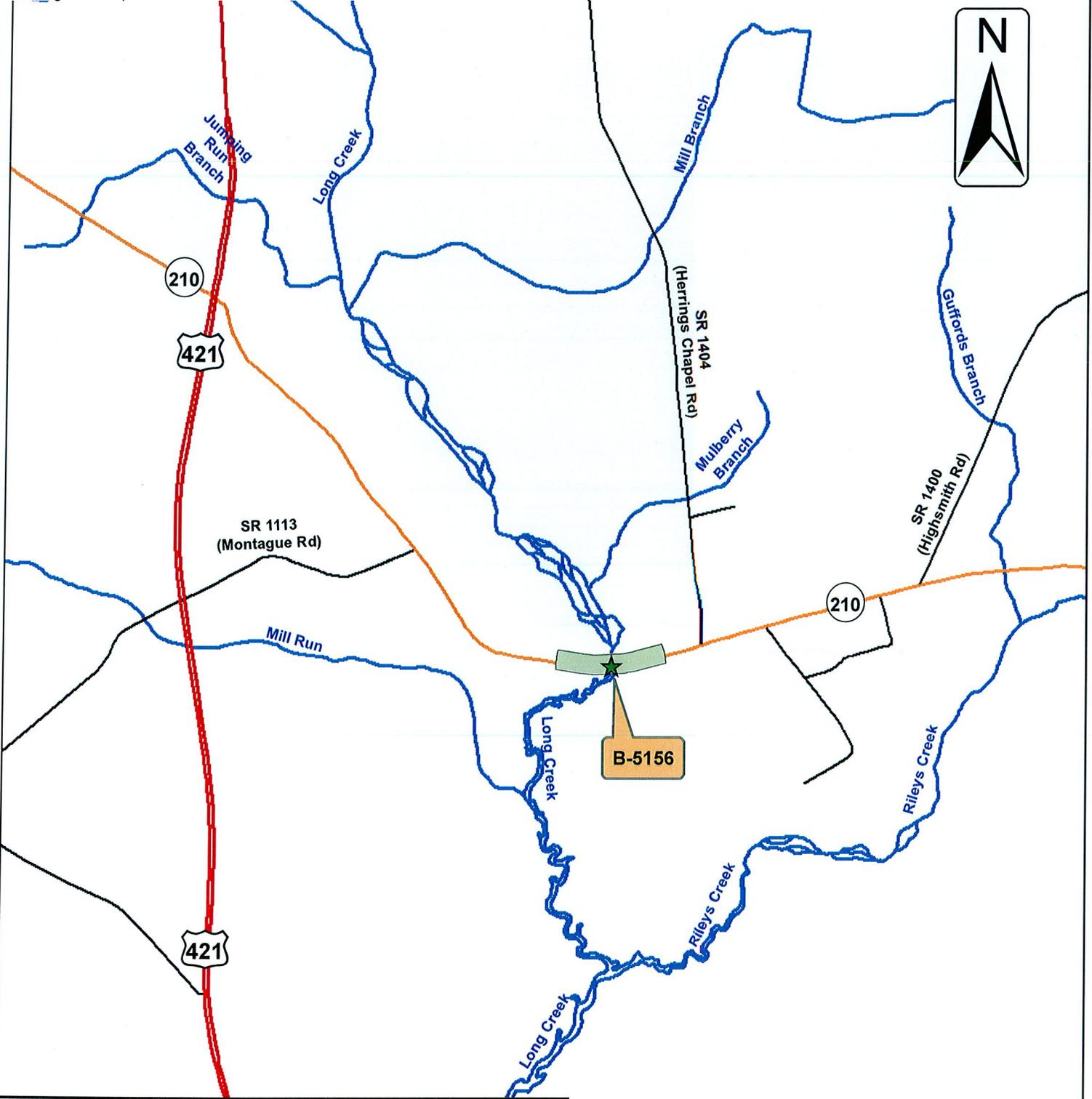
Why the available information provides a reliable basis for reasonably predicting that there are no unidentified significant historic architectural or landscape resources in the project area:

The APE extends 1200 feet to either end of the existing bridge (W-E) and 200 to either side of the NC 210 centerline (N-S) to encompass proposed construction activities. Comprehensive architectural survey of Pender County (1996-1997) and subsequent studies recorded no properties in the APE. Review of the essentially identical project in 2010 included an on-site investigation and concluded that no properties of concern appeared in the APE. County GIS and other visuals illustrate the locations and characteristics of architectural and landscape resources in the APE. No National Register-listed properties are located within the APE.

Should any aspect of the project design change , including the addition of an off-site detour, please notify NCDOT Historic Architecture as additional review may be necessary. Page 1 of 2



B-5156 Bridge No. 28 on NC 210 over Long Creek Pender County
WBS No. 42331.1.2 Base map: HPOweb, nts



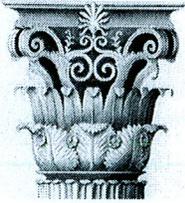
North Carolina Department of Transportation
Project Development & Environmental Analysis Unit

B-5156
Replace Bridge No. 28
on NC 210 over Long Creek
Pender County

Tracking No. 15-01-0005

Vicinity Map
Figure 1

15-01-0005



HISTORIC ARCHITECTURE AND LANDSCAPES NO SURVEY REQUIRED FORM

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

PROJECT INFORMATION

Project No.:	B-5156	County:	Pender
WBS No.:	42331.1.2	Document Type:	
Fed. Aid No.:		Funding:	X State Federal
Federal Permit(s):	X Yes No	Permit Type(s):	Stated "unknown at this time" in review request
Project Description: Replace Bridge No. 28 on NC 210 over Long Creek (detour stated as "unknown at this time" in review request; study area adjusted for possible on-site detour).			

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

DESCRIPTION OF REVIEW ACTIVITIES, RESULTS, AND CONCLUSIONS: HPOWeb reviewed on 3 February 2015 and yielded no NR, SL, DE, LD, or SS properties in the Area of Potential Effects (APE). The Penny Henry House (PD0213 – SL) is located near, but outside (east) of study area. Pender County current GIS mapping, aerial photography, and tax information indicated a mostly wooded APE with cleared residential development at the eastern end (viewed 3 February 2015). Several resources dating from the middle decades (1930s-1960s) of the twentieth century, standing approximately 750 feet and more east of the existing bridge, are unexceptional examples of their types. According to the NCDOT Historic Bridge Survey, Bridge No. 28, built in 1921, is not eligible for the National Register as it is not representative of any distinctive engineering or aesthetic type. Google Maps "Street View" confirmed the absence of critical architectural and landscape resources in the APE.

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

WHY THE AVAILABLE INFORMATION PROVIDES A RELIABLE BASIS FOR REASONABLY PREDICTING THAT THERE ARE NO UNIDENTIFIED SIGNIFICANT HISTORIC ARCHITECTURAL OR LANDSCAPE RESOURCES IN THE PROJECT AREA: APE extends 1200 feet to either end of the existing bridge (W-E) and 200 feet to either side of the NC 210 centerline (N-S) to encompass proposed construction activities. Comprehensive architectural survey of Pender County (1996-1997) and subsequent studies recorded no notable properties in the APE. Review of the essentially identical project in 2010 included an on-site investigation and concluded that no properties of concern appeared in the APE (see attached). County GIS and other visuals illustrate the locations and characteristics of architectural and landscape resources in the APE. No National Register-listed properties are located within the APE.

Should the design of the project change, including the addition of an off-site detour, please notify NCDOT Historic Architecture as additional review may be necessary.

SUPPORT DOCUMENTATION

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

FINDING BY NCDOT ARCHITECTURAL HISTORIAN

Historic Architecture and Landscapes -- **NO SURVEY REQUIRED**

Vanessa C. Patrick

NCDOT Architectural Historian

4 February 2015

Date

10-01-0008

NO PREHISTORIC OR HISTORIC PROPERTIES PRESENT FORM

PROJECT INFORMATION

Project No: B-5156 County: Pender
 WBS No: 42331.1.1 Document: CE
 F.A. No: BRSTP-0210 (21) Funding: State Federal
 Federal (USACE) Permit Required? Yes No Permit Type:

Project Description:
Replace Bridge No. 28 over Long Creek on NC 210

SUMMARY OF FINDINGS

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

Historic Architecture/Landscapes

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's area of potential effects.
- There are no properties within the project's area of potential effects.
- There are properties over fifty years old within the area of potential effects, but they do not meet the criteria for listing on the National Register.
- All properties greater than 50 years of age located in the APE have been considered and 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.

Archaeology

- There are no National Register-listed or Study Listed properties within the project's area of potential effects.
- No subsurface archaeological investigations are required for this project.
- Subsurface investigations did not reveal the presence of any archaeological resources.
- Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.
- All identified Archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

10-01-0008

SUMMARY OF CULTURAL RESOURCES REVIEW

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

Pender County Bridge No. 28 is a 1956 example of a tee beam bridge and was determined not eligible for National Register listing in the NCDOT 1995 Historic Bridge Survey.

Review of HPO quad maps, historic designations roster, and indexes was undertaken on 8 January 2010. Based on this review, there were no existing NR, SL, LD, DE, or SS properties in the Area of Potential Effects. The CRS also accessed Google Maps Streetview online that same day. Based on this information, there appeared to be properties within the APE that were built prior to 1960. Since the county architectural survey is over 10 years old, a historic architecture site visit was recommended.

During the site visit the CRS observed several ranch houses dating from the 1950s that do not meet any of the criteria for National Register listing.

Signed:


Cultural Resources Specialist, NCDOT

25 JANUARY 2010
Date

Representative, HPO

Date

HPO/OSA Comments:

15-01-0005

following soil types fall within the delineated APE: Goldsboro fine sandy loam, 0 to 2 percent slopes (GoA); Kalmia loamy fine sand, 0 to 2 percent slopes (KaA); and Muckalee loam, frequently flooded (Mk).

No further archaeological investigations are required for the project within the area established as the current APE. Should the project change to include a larger footprint than covered by the current APE, further consultation will be necessary. In the unlikely event that archaeological remains are encountered during the bridge replacement project, work should cease in that area and the NCDOT Archaeology Group should be notified immediately.

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

As noted above, no previous archaeological resources have been identified in the vicinity of the proposed project, but, from a regional perspective, elevated and well-drained landforms along tributaries on the southern Coastal Plain tend to have a higher probability of archaeological resources. This reasoning factored heavily in previous screenings of the proposed project. The currently proposed bridge replacement footprint is drastically smaller than the original study area and largely limited to existing right-of-way (ROW). Where the project footprint expands beyond existing ROW (as depicted in the preliminary designs), the project is either dominated by hydric/wetland soils or appears to have been modified by the existing transportation facility or adjacently placed utilities. The very small portion of the current APE that sits on better drained and elevated landforms appears to be very unlikely to possess archaeological remains that would be considered to be significant.

SUPPORT DOCUMENTATION

See attached: Map(s) Previous Survey Info Photos Correspondence
 Other: soil map

FINDING BY NCDOT ARCHAEOLOGIST

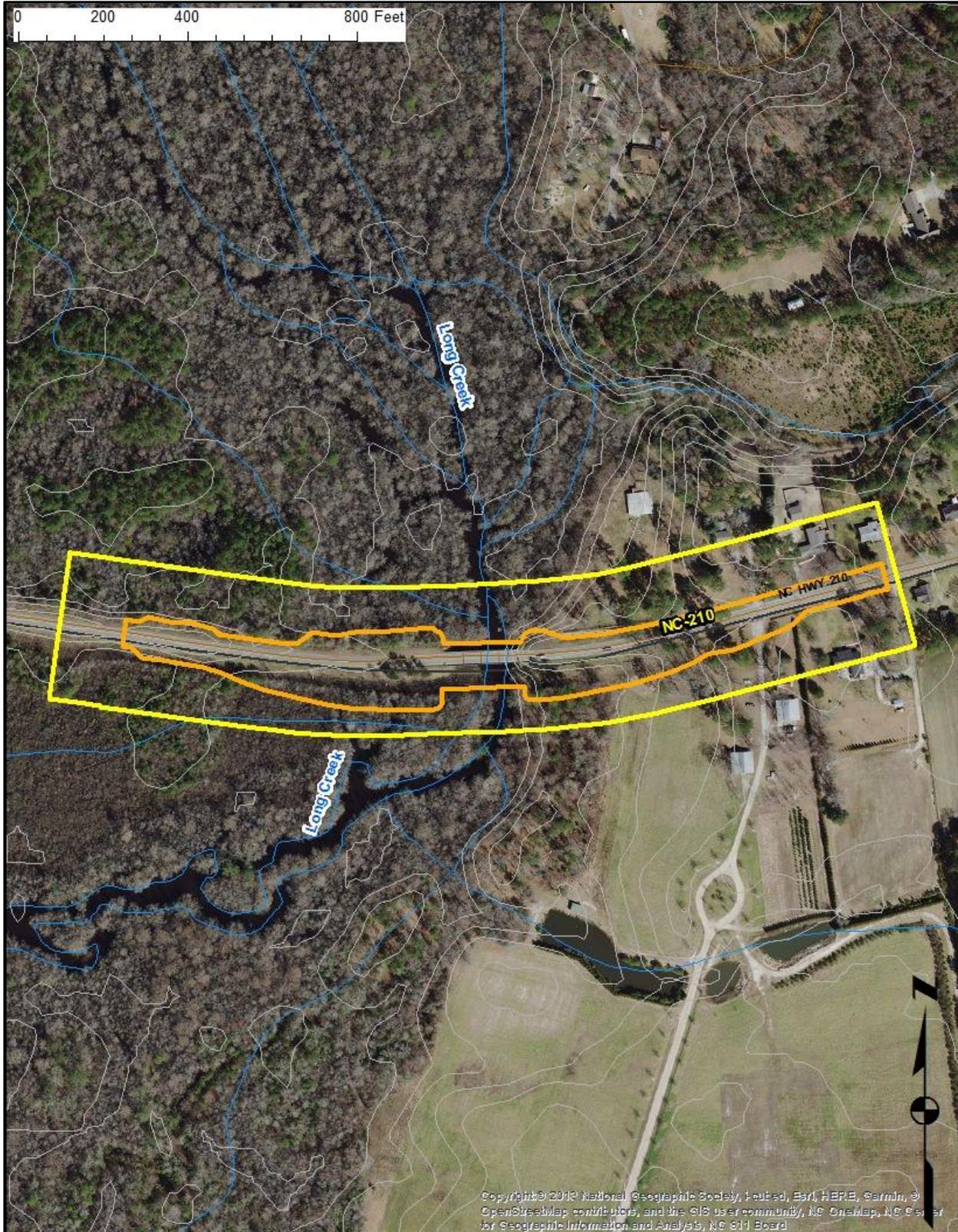
NO ARCHAEOLOGY SURVEY REQUIRED



NCDOT ARCHAEOLOGIST

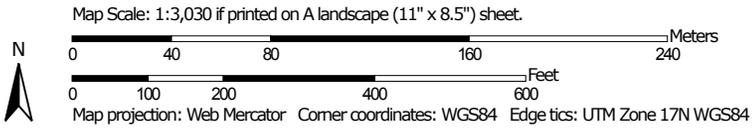
October 31, 2018

Date



Aerial photograph with 2-contours of the location for the APE (orange lines) for the proposed replacement of Bridge No. 28 on NC 210; the previous study area/APE is depicted as yellow lines.

Soil Map—Pender County, North Carolina
(Revised Replacement of Bridge No. 28 on NC 210)



Soil Map—Pender County, North Carolina
(Revised Replacement of Bridge No. 28 on NC 210)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pender County, North Carolina
Survey Area Data: Version 20, Sep 10, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Aug 24, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GoA	Goldsboro fine sandy loam, 0 to 2 percent slopes	0.2	4.1%
KaA	Kalmia loamy fine sand, 0 to 2 percent slopes	1.4	28.5%
Mk	Muckalee loam, frequently flooded	3.3	67.4%
Totals for Area of Interest		4.9	100.0%



⊠ North Carolina Wildlife Resources Commission ⊠

Gordon Myers, Executive Director

MEMORANDUM

TO: Chris Rivenbark
NCDOT, PDEA Natural Environment Unit

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: September 1, 2009

SUBJECT: NCDOT Bridge Replacements

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

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

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

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

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

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

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

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

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

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

Project specific comments:

B-4916: Bertie County, replace bridge No. 57 on US 13 over Quioccosian Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4577: Martin County, replace bridge No. 71 on SR 1159 over Flat Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4488: Craven County, replace bridge No. 176 on SR 1763 over Slocum Creek. This portion of Slocum Creek is designated as an inland Primary Nursery Area. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30. Furthermore there is a public access facility within the project study area, DOT should coordinate closely with NCWRC during the design and

construction of this project to avoid and minimize impacts to this facility. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4926: Lenoir County, replace bridge No. 20 on NC 55 over Neuse River. This portion of the Neuse River is designated as an inland Primary Nursery Area. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to September 30.

B-4603: Pitt County, replace bridge No. 29 on SR 1715 over Fork Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4788: Pitt County, replace bridge No. 171 on SR 1418 over Johnson Mill Run. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4781: Onslow County, replace bridge No. 226 on SR 1557 over Branch of New River. This area is characterized by higher salinity water primarily supporting species under the jurisdiction of the NC Division of Marine Fisheries; therefore NCDOT should coordinate with NCDMF to address impacts to aquatic species. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4920: Northampton County, replace bridge No. 15 on SR 1505 over Wildcat Swamp. Anadromous species are found in this portion of Wildcat Swamp. NCDOT should follow all stream crossing guidelines for anadromous fish passage, including an in-water work moratorium from February 15 to June 15. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4440: Brunswick County, replace bridge No. 163 on SR 1349 over Mulberry Swamp. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4480: Columbus County, replace bridge Nos. 275 and 278 on SR 1824 over Livingston Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4481: Columbus County, replace bridge Nos. 279 and 288 on SR 1831 over Livingston Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4950: Cumberland County, replace bridge Nos. 171 and 172 on SR 1851 over South River. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-5156: Pender County, replace bridge No. 28 on NC 210 over Long Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

B-4636: Sampson County, replace bridge No. 56 on NC 24 over Six Runs Creek. We recommend replacing this bridge with a bridge. Standard recommendations apply.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 528-9886. Thank you for the opportunity to review and comment on this project.



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

TO: Aileen S. Mayhew
Hatch Mott MacDonald

FROM: Steve Sollod, DCM Transportation Project Coordinator ^{SOS}

CC: Ted Devens, NCDOT

DATE: March 16, 2015

SUBJECT: Scoping Comments
Bridge Replacement Project
B-5156, Bridge No. 28 on NC 210 over Long Creek, Pender County

The North Carolina Division of Coastal Management (DCM) has reviewed your scoping request and performed site reconnaissance to evaluate the proposed projects. We appreciate the opportunity to provide information relevant to the potential permitting of the proposed project by our agency.

Based on the information provided and site reconnaissance by DCM's Transportation Field Representative for NCDOT's Divisions 2 and 3, it appears that the following Areas of Environmental Concern (AECs) will be impacted: Coastal Shorelines and Public Trust Area. Therefore, a CAMA permit will be required prior to the commencement of construction. The scope of each project will determine whether a CAMA General Permit or Major Development Permit is necessary to authorize the work. NCDOT is encouraged to coordinate with DCM during the project development process to determine the appropriate permitting requirements for the projects. DCM recommends that the AEC impacts and the CAMA permitting requirements be addressed in the Categorical Exclusion (CE) document.

If you have any questions or concerns, please contact Mr. Stephen Lane, at Stephen.lane@ncdenr.gov or 252-808-2808. Thank you for your consideration of the North Carolina Coastal Management Program.

Division of Coastal Management
400 Commerce Ave., Morehead City, NC 28557
Phone: 252-808-2808 \ FAX: 252-247-3330 Internet: www.nccoastalmanagement.net



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

April 24, 2015

Aileen S. Mayhew, PE
Transportation Planning Engineer
Hatch Mott MacDonald
7621 Purfoy Rd, Suite 115
Fuquay-Varina, NC 27526

Subject: Scoping/Start of Study – Proposed Replacement of Bridge No. 28 on NC 210 (B-5156)

Dear Ms. Mayhew,

The North Carolina Division of Parks and Recreation (DPR) has reviewed the project area using available Geographic Information System (GIS) data of the proposed replacement of Bridge No. 28 on NC 210 over Long Creek in Pender County, NC. DPR understands that NCDOT is seeking comments from stakeholders in preparation for project development per your e-mail sent February 5, 2015.

DPR's State Trails Program is responsible for coordinating the planning, development and management of this states paddle trails. Based on our review, DPR respectfully requests that NCDOT consider including a small parking area and canoe launch as part of this bridge replacement. This would allow for pedestrian and paddle access to Long Creek.

Ms. Jan Trask with DPR's State Trails Program can be reached at (919) 707-9325 if there are additional questions or concerns. DPR appreciates the opportunity to comment on this proposed project.

Sincerely,

Justin Williamson
Environmental Review Coordinator
Division of Parks and Recreation
NC Department of Environment and Natural Resources
(919) 707-9329 / Justin.williamson@ncparks.gov



Division of Parks and Recreation
NC Department of Natural and Cultural Resources

Governor Roy Cooper

Secretary Susi H. Hamilton

July 7, 2018

Aileen S. Mayhew, PE
Project Manager
Mott MacDonald
7621 Purfoy Road, Suite 115
Fuquay Varina, NC 27526

Dear Ms. Mayhew:

I am responding to your request for review regarding NCDOT STIP B-5156, Bridge No. 28 over Long Creek in Pender County, NC. Based on the projects as proposed, the North Carolina Division of Parks and Recreation (DPR) has no objections and therefore no comments.

Please let me know if you need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Justin Williamson".

Justin Williamson
Environmental Review Coordinator
North Carolina Division of Parks and Recreation
(919) 707-9329 / justin.williamson@ncparks.gov