TIP Project No.	<b>B-5304</b>
W.B.S. No.	46018.1.1
Federal Project No.	<b>BRZ-1324(7)</b>

#### A. <u>Project Description:</u>

The proposed project involves replacing Pender County Bridge No. 203 on SR 1324 (Crooked Run Road) over Sill's Creek. In addition, minor pavement and shoulder widening will be performed along SR 1324 within the project limits.

The proposed project is included in the federally-approved 2016-2025 North Carolina State Transportation Improvement Program (STIP). Right of way acquisition and construction are scheduled for fiscal years 2017 and 2018, respectively in the STIP.

The total cost for the project included in the 2016-2025 STIP is \$1,225,000. This total includes \$100,000 for right of way acquisition and \$1,025,000 for construction.

The current estimated total cost for the project is \$765,500. This includes \$15,500 for right of way acquisition, no utility relocation needed and \$750,000 for construction.

The existing Bridge No. 203 is 70 feet long with a clear roadway width of 24 feet. The replacement structure will be a bridge approximately 110 feet long providing a 27-foot 6-inch clear deck width. The bridge will include two 10-foot lanes and 3-foot 9-inch offsets. The bridge length is based on preliminary design information and is set by hydraulic requirements. The roadway grade of the new structure will be raise approximately one foot higher than the existing structure.

Project construction will extend approximately 170 feet from the northwest end of the new bridge and 190 feet from the southeast end of the new bridge. The approaches will be widened to include a 20 foot pavement width providing two 10-foot lanes, and 3-foot grass shoulders on each side (6-foot shoulders where guardrail is included).

The roadway will be designed as a Local Rural Sub-regional Tier with a 60 mile per hour design speed.

Traffic will be detoured off-site during construction (see Figure 1). The offsite detour route (from west to east) is SR 1324 (Crooked Run Road), SR 1325 (Sills Creek Road), SR 1328 (Garden Road), NC 11 and back to Crooked Run Road. The majority of traffic on the road is through traffic. The detour for the average road user would result in 5 minutes additional travel time (2.3 miles additional travel). Up to a 6 month duration for construction is expected on this project.

One month prior to road closure, the Pender County Schools will be contacted. Also, Pender County Emergency Services will be contacted to make the necessary temporary reassignments to primary response units.

#### B. <u>Purpose and Need:</u>

The purpose of the proposed project is to replace a deficient bridge.

The existing bridge was built in 1962. The bridge has wood / timber deck with an asphalt wearing surface, timber piles, and timber caps.

NCDOT Bridge Management Unit records indicate the following: The Bridge has a sufficiency rating of 50.14. The superstructure and substructure of the bridges have timber elements that are 53 years old. Timber components have a typical life expectancy of between 40 to 50 years due to the natural deterioration rate of wood. Rehabilitation of a timber structure is generally practical only when a few elements are damaged or prematurely deteriorated. However, past a certain degree of deterioration, most timber elements become impractical to maintain and upon eligibility are programmed for replacement. The timber components are experiencing an increasing degree of deterioration that can no longer be addressed by reasonable maintenance activities; therefore the bridges are approaching the end of their useful life.

The bridges carried 350 vehicles per day in the year 2014 and 600 vehicles per day are projected for the future (year 2035). The substandard deck width is becoming increasingly unacceptable and replacement of the bridges will result in safer traffic operations.

# C. <u>Proposed Improvements</u>

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

- 1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
  - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
  - b. Widening roadway and shoulders without adding through lanes
  - c. Modernizing gore treatments
  - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
  - e. Adding shoulder drains
  - f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments
  - g. Providing driveway pipes
  - h. Performing minor bridge widening (less than one through lane)
  - i. Slide Stabilization
  - j. Structural BMP's for water quality improvement
- 2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
  - a. Installing ramp metering devices
  - b. Installing lights
  - c. Adding or upgrading guardrail
  - d. Installing safety barriers including Jersey type barriers and pier protection
  - e. Installing or replacing impact attenuators
  - f. Upgrading medians including adding or upgrading median barriers
  - g. Improving intersections including relocation and/or realignment
  - h. Making minor roadway realignment
  - i. Channelizing traffic

d.

- j. Performing clear zone safety improvements including removing hazards and flattening slopes
- k. Implementing traffic aid systems, signals, and motorist aid
- 1. Installing bridge safety hardware including bridge rail retrofit
- 3. Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
  - a. Rehabilitating, reconstructing, or replacing bridge approach slabs
  - b. Rehabilitating or replacing bridge decks
  - c. Rehabilitating bridges including painting (no red lead paint), scour repair, fender systems, and minor structural improvements
    - Replacing a bridge (structure and/or fill)

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

#### D. Special Project Information:

See attached list of project commitments.

It is expected a Section 404 of the Clean Water Act Nationwide Permit 23 will likely be required from the US Army Corps of Engineers. The Corps of Engineers holds the final discretion as to what permit will be required for the project. If a Section 404 permit is required, then a Section 401 Water Quality Certification from the NC Division of Water Resources will also be required.

The bridge is constructed of timber and it should be possible to remove with no resulting debris in the water based on standard demolition practices.

# E. <u>Threshold Criteria</u>

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

<u>ECOL</u>	<u>OGICAL</u>	<u>YES</u>	<u>NO</u>
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?	x	
(3)	Will the project affect anadramous fish?		<u> </u>
(4)	If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?		x
(5)	Will the project require the use of U.S. Forest Service lands?		<u>X</u>
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		_X
(7)	Does the project involve waters classified as Outstanding Resources Waters (ORW) and/or High Quality Waters (HQW)?		<u> </u>
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?		_ <u>X</u> _
(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		<u> </u>
PERM	IITS AND COORDINATION	<u>YES</u>	<u>NO</u>
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		N/A
(11)	Does the project involve Coastal Barrier Resources Act resources?		X
(12)	Will a U. S. Coast Guard permit be required?		<u>x</u>

(13)	Could the project result in the modification of any existing regulatory floodway?	x	
(14)	Will the project require any stream relocations or channel changes?		<u>X</u>
<u>SOCL</u>	AL, ECONOMIC, AND CULTURAL RESOURCES	<u>YES</u>	<u>NO</u>
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or business?		<u>X</u>
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		_X
(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	X	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		_X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	_X	
(23)	Is the project anticipated to cause an increase in traffic volumes?		<u>X</u>
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?	_X	
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility) and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	_ <u>x</u> _	



#### F. Additional Documentation Required for Unfavorable Responses in Part E

#### **Response to Question 2**

Although not listed for Pender County, the US Fish and Wildlife Service has developed a programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long-eared bat (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.

#### **Response to Question 13**

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 NC Floodplain Mapping Program (FMP), this stream crossing is in a designated flood hazard zone which is within a detailed flood study reach, having a regulated 100-year floodway.

The proposed bridge replacement will provide equivalent or greater conveyance than that of the existing bridge. The Hydraulics Unit will coordinate with the FMP, the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities 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 drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

#### **Response to Question 28**

The proposed project is located within the National Register-listed Penderlea Homesteads Historic District. Approximately 10 feet of additional right of way is proposed on both sides of SR 1324 within the project limits. It was determined this project will result in "no adverse effect" to the Historic District. The State Historic Preservation Office concurred with this finding at a meeting held on June 30, 2016. A copy of the effects form is attached.

## **Response to Question 30**

Although the proposed project will require the use of land from the Penderlea Homesteads Historic District, which is protected by Section 4(f) of the USDOT Act of 1966, as amended, the project will have "no adverse effect" on the historic district. In accordance with Section 6009(a) of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), a no adverse effect determination for a historic site is considered a de minimis impact and no further evaluation is required under Section 4(f).

## G. <u>CE Approval</u>

TIP Project No.	B-5304
W.B.S. No.	46018.1.1
Federal Project No.	BRZ-1324(7)

## Project Description:

The proposed project involves replacing Pender County Bridge No. 203 on SR 1324 (Crooked Run Road) over Sill's Creek. In addition, minor pavement and shoulder widening will be performed along SR 1324 within the project limits.

Categorical Exclusion Action Classificatio	n:

	TYPE II(A)
Χ	TYPE II(B)

Approved:

	DocuSigned by:
7/25/2016	la Mh-h.
Date	Eastern Project Development Section Head
	Project Development & Environmental Analysis Unit
7/25/2016 Date	Project Development & Environmental Analysis Unit
7/25/2016 Date	DocuSigned by: Joseph Qubaín OC7236D0002C462 Project Planning Engineer Project Development & Environmental Analysis Unit
7/25/2016 Date	PocuSigned by: Ronald G. Lwas, Jr. BBCE736AA1BA4EE Division Administrator Federal Highway Administration

# PROJECT COMMITMENTS

Pender County Bridge No 203 SR 1324 (Crooked Run Road) Over Sill's Creek Federal Aid Project No. BRZ-1324(7) W.B.S. No. 46018.1.1 T.I.P. No. B-4304

## Division Three Construction, Resident Engineer's Office – Offsite Detour

In order to have time to adequately reroute school busses, Pender County Schools will be contacted at least one month prior to road closure. (910-259-2187)

Pender County Emergency Services will be contacted at least one month prior to road closure to make the necessary temporary reassignments to primary response units. (910-259-1210)

## 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.

## **Structures Management Unit and Division Three Office – Bridge Rail**

Due to the project being within the boundaries of a Historic District, the bridge rail for the new structure will be a standard 2-bar metal.







NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT

PENDER COUNTY REPLACE BRIDGE NO 203 ON SR 1324 OVER SILL'S CREEK

B-5304

FIGURE 2

Project Tracking No. (Internal Use)

13-04-0047



## HISTORIC ARCHICTECTURE AND LANDSCAPES ASSESSMENT OF EFFECTS 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-5304	County:	Pender
WBS No.:	46018.1.1	Document	PCE or CE
	ж.	Type:	
Fed. Aid No:	BRZ-1324(7)	Funding:	State Kederal
Federal	Yes No	Permit	
Permit(s):		Type(s):	
D ' / D ' /'			

## **Project Description**:

Replace Bridge No. 203 over Sill's Creek on SR 1324 (Crooked Run Road) in Pender County. Project length is approximately 1,000 feet. The existing right-of-way is assumed to be 60 feet and will be increased to 80 feet. Detour route is unknown.

# SUMMARY OF HISTORIC ARCHICTECTURE AND LANDSCAPES REVIEW Description of review activities, results, and conclusions:

Review of HPO quad maps, HPOweb GIS mapping, historic designations roster, and indexes was conducted on 4/17/13. Based on the review at that time, there were no existing NR, SL, LD, DE or SS properties in the Area of Potential Effects (APE). The APE lies just northeast of the Penderlea community and consists of mostly farmland and residences. Built in 1962, Bridge No. 203 has not yet been evaluated for listing to the National Register of Historic Places (NRHP) according to the NCDOT Historic Bridge Inventory. The architectural historian was made aware in June of 2016 that Bridge No. 203 now sits within the Penderlea Homesteads Historic District (PD0318), a National Register-Listed district added in 2013 after the project had already been reviewed and received a determination of "No Survey Required." With this new information it was necessary to consult with the State Historic Preservation Office to determine whether there will be any effects to the historic district or any of its contributing resources. Bridge No. 203 itself was not surveyed as part of the National Register Nomination, and therefore it is not a contributing resource.

The latest design plans for the Bridge No. 203 replacement show a project footprint that extends approximately 300 feet in each direction from each end of the bridge. An additional 20 feet of right-of-way on each side will be acquired, expanding the existing from 60 feet to 80 feet. There are no contributing structures close to the bridge or within this APE and it appears that the clearing or cutting of vegetation will be minimal. Therefore, NCDOT makes a determination that the project will have "No Adverse Effect" upon the Penderlea Homesteads Historic District (PD0318).

	ASSESSM	ENT OF EF	FECTS
Property Name:	Penderlea Homesteads	Status:	National Register-Listed
	Historic District		
Survey Site No.:	PD0318	<b>PIN</b> :	
Effects	🛛 No Ad	verse Effect	Adverse Effect
The effect upon the minimal, as the brown of the brown of the brown of the sector of t	tidge is not a contributing to design plans for the Bridge ately 300 feet in each dire cures close to the bridge or on will be minimal.	resource with e No. 203 rep ection from within this A	area just around the bridge and will be hin the district nor is it eligible for the placement show a project footprint that each end of the bridge. There are no APE and it appears that the clearing or
Bridge ro 2 bar n	ul for new st netal rail (sta	ndard)	will either be a or an Oregon Rail.
	o use the State Historic Pr for the following properti		Office's concurrence as a basis for a "c t to Section 4(f):
	SUPPORT I	DOCUMEN	TATION
$\square$ Map(s)	Previous Survey Info.	Photos	Correspondence Design Plans

# FINDING BY NCDOT AND STATE HISTORIC PRESERVATION OFFICE

Historic Architecture and Landscapes – ASSESSMENT OF EFFECTS

NCDOT Architectural Historian

State Historic Preservation Office Representative

Historic Architecture and Landscapes EFFECTS ASSESSMENT form for Minor Transportation Projects as Qualified in the 2007 Programmatic Agreement.

6/21/2016 6/30/2016

Date

6.30.16

Date

Page 2 of 3