



U.S. Department
of Transportation
**Federal Highway
Administration**

South Carolina

April 22, 2014

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Columbia, South Carolina 29201
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803-253-3989

In Reply Refer To:
HDA-SC

Mr. Randy Williamson
Environmental Engineer
South Carolina Department of Transportation
955 Park Street, P.O. Box 191
Columbia, SC 29202

Dear Mr. Williamson:

Your office recently submitted a Categorical Exclusion (CE) for the Proposed Replacement of the Interstate 85 (I-85) Bridge over the Norfolk Southern Railroad in Cherokee County, South Carolina (Federal Project Number BR88076). The FHWA has determined that the project will not have significant impacts and that there will be no effect on threatened or endangered species nor impacts to historic resources. Enclosed is the approved CE for the project.

Please ensure that the project commitments made during the NEPA process are included in the project construction proposal and ultimately carried out. Please address any questions you may have concerning this project to Mr. J. Shane Belcher at 803-253-3187 or jeffrey.belcher@dot.gov.

Sincerely,

(for) Robert L. Lee
Division Administrator

Enclosure

cc: Mr. David Kelly, SCDOT NEPA Project Manager-RPG4
File 11.039034.11
Reading



Project No. BR88(076)
Pin No. 39094_BR11
State File No. 11.039034.11

CATEGORICAL EXCLUSION
Type C

County: Cherokee
Date: April 4, 2014

To: Federal Highway Administration

From: SCDOT, David P. Kelly, NEPA Coordinator/Architectural Historian

Description: Proposed Bridge Replacements on I-85 over the Norfolk Southern Railroad in Cherokee County.

Project Description: The South Carolina Department of Transportation (SCDOT) proposes to replace the dual bridges (northbound and southbound) located on Interstate 85 (I-85) over the Norfolk Southern (NS) Railroad tracks in Cherokee County, South Carolina (see **Figure 1** for Project Location). The proposed project would include replacement of both bridges with one modern structure, located slightly north of the existing centerline alignment. Roadway approaches would transition onto the existing alignment approximately 2,000 feet, in either direction, from the proposed bridge ends. The total project length is approximately 4,350 feet in length. It is anticipated that the project will be designed and constructed as part of a pending SCDOT Design-Build contract.

Each bridge currently accommodates two lanes of one-way traffic and the roadway is classified as Rural Principal Arterial Interstate. The existing bridges are each approximately 37.5 feet in width and 255 feet in length, consisting of three 57-foot spans and two approach spans of cast-in-place concrete on steel girders, supported on timber pile bents. The existing bridges provide approximately 24 feet, 8 inches of vertical clearance over the NS railroad tracks.

The replacement bridge would be designed to accommodate the planned widening of I-85 and potential widening of the NS railroad in the future. The new bridge would measure approximately 320 feet in length and 108 feet in width, and would accommodate six 12-foot lanes, three in each direction, with a minimum of 12-foot shoulders (**Figure 2a** and **Figure 2b**). Following construction, four travel lanes will be provided, two in each direction, to remain consistent with the existing roadway configuration. Two additional lanes, one in each direction, would be open to traffic in association with the future widening of the I-85 roadway. The new bridge structure would satisfy the NS requirement of 23 feet of vertical clearance above the existing railroad tracks. Furthermore, the minimum horizontal clearance would be expanded to approximately 150 feet to allow for future railroad widening.

Minor amounts of new right-of-way, totaling approximately 1.50 acres would be necessary to accommodate the slightly new alignment; however, no displacements would result from the project (**Figure 3**). Staged construction would be utilized to maintain traffic during construction; therefore, an off-site detour would not be necessary.

Purpose and Need: The purpose of the project is to replace the structurally deficient southbound bridge and accommodate future widening of I-85 by replacing the northbound bridge concurrently. Existing (2009) average daily traffic (ADT) on I-85 is approximately 20,900 vehicles per day (vpd). By 2029, the ADT on I-85 is expected to increase to 36,575 vpd. The existing bridges were built in 1958 (northbound) and 1954 (southbound) and have a sufficiency rating of 76.0 (northbound) and 48.6 (southbound), out of 100. This sufficiency rating classifies the southbound bridge as structurally deficient and makes it eligible for replacement through the Federal Highway Bridge Replacement and Rehabilitation Program. Though the northbound bridge is neither functionally obsolete nor structurally deficient, it would be replaced in conjunction with the southbound bridge to simplify construction, accommodate future widening of I-85, and minimize future disruption to highway traffic and freight rail traffic that would occur if the northbound bridge were replaced at a later date.

Project Funding: The funding for this project is referenced in the Statewide Transportation Improvement Program, or STIP, (Statewide), Revision 2 (Correction), 12/05/2013, page 24, Bridge Program—“Design Build Package E (Formerly Design Build Package B” line item. The total cost for “Design Build Package E” is listed as \$4,820,000.00¹.

Findings: The Department’s environmental assessment has determined the effects of this proposed project are as described in the “General Support for Categorical Exclusion Determination” dated April 22, 1985, and is in compliance with the required findings reflected below. The proposed project has been assessed for possible effects on the human and natural environment with a determination that no significant environmental impact will occur. The class of action and impact determination documented by this statement would qualify this project as a categorical exclusion under 23 CFR 771, Section 115(b).

The project does not include the addition of through traffic lanes, a significant change in vertical alignment or any other conditions that would qualify it as a Type I project and therefore the requirements for conducting noise studies under 23 CFR 772 do not apply. No waters within the project study area or any waters within the project watersheds are listed on the South Carolina Department of Health and Environmental Control (SCDHEC) 2010 303(d) list of impaired waters; however, TMDLs have been established for fecal coliform for both the Buffalo Creek and Kings Creek Watersheds. Impacts to jurisdictional waters of the U.S. are anticipated as a result of construction related activities necessary to complete the project. It is anticipated that minor impacts to three wetlands would occur, totaling less than 0.20 acre. Impacts to two streams is anticipated to total approximately 155 linear feet (lf). It is anticipated that the SCDOT General Permit (GP) would be applicable for this project. The project would not affect historic properties or archeological sites under 36 CFR 800. The proposed project would not impact publicly owned parks, recreational areas, or wildlife refuges. Therefore, a Section 4(f) evaluation/approval is not required for this project. The project is not expected to jeopardize the continued existence of any listed endangered or threatened species or destroy or adversely modify critical habitat. Therefore, no further investigation under Section 7 of the Endangered Species Act is necessary. The project will result in no relocations. A minor amount of new right-of-way, approximately 1.50 acres, will

¹ STIP (Statewide), Revision 2 (Correction), 12/05/2013, page 24, Bridge Program—“Design Build Package E (Formerly Design Build Package B” line item. Referenced on 03/03/2014 at the following web address:
http://www.dot.state.sc.us/inside/pdfs/STIP/stip_statewide.pdf

be required to accommodate the bridge replacements and associated roadway approaches. Based on the SCDOT Farmland Conversion Impact Rating (Form SCS-CPA-106), the point value calculated for the proposed project totals 140. As the total points calculated for the project are less than 160, neither alternative sites nor additional studies are required under the Farmland Protection Policy Act.

Additionally, the proposed project will have no effect on regulated floodplains, land use, hazardous materials, or air quality.

Environmental Commitments: The following will be included as part of the overall design-build contract to ensure compliance with environmental commitments.


- Impacts to jurisdictional waters will be permitted and appropriately mitigated, if required, under a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers. Based on preliminary engineering, it is anticipated that the proposed project will impact 155 linear feet or less of stream and less than 0.2 acre of wetlands; and therefore, the project will be permitted under SCDOT's General Permit (GP). Any required compensatory mitigation requirements for permanent project impacts will be attained through purchase of mitigation credits from an approved mitigation bank.
- The SCDOT will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking of individual migratory birds and the destruction of their active nests. Prior to construction/demolition of the bridges the district personnel/contractor will coordinate with SCDOT Environmental Services Office to determine if there are any active nests on the bridge. After this coordination, it will be determined whether construction/demolition can begin. After construction/demolition has begun, measures can be taken to prevent birds from nesting, such as netting, noise producers, and etc. If during construction or demolition a nest is observed on the bridge that was not discovered during the biological surveys, the contractor will cease work and immediately notify the SCDOT Environmental Services Office. SCDOT biologists will determine whether the nest is active and the species utilizing the nest. After this coordination, it will be determined whether construction/demolition can resume or whether a temporary moratorium will be put into effect.
- The acquisition and disturbance of hazardous waste will be avoided, if possible. If avoidance is not a viable alternative, hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency (USEPA) and the South Carolina Department of Health and Environmental Control (SCDHEC) requirements. If the creosote treated wood from the pilings, guard rail supports, or cross ties are disturbed or removed during construction, the wood and surrounding soils should be evaluated for proper disposal.
- All acquisition will be conducted in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and all relocation resources will be made available without discrimination.
- The proposed bridge replacement will be coordinated with Norfolk Southern (NS) Railroad services.

- Stormwater control measures, both during construction and post-construction, are required for SCDOT projects constructed in the vicinity of 303(d), TMDL, ORW, tidal, and other sensitive waters in accordance with the SCDOT's MS4 Permit.
- The contractor will be required to minimize possible water quality impacts through implementation of construction BMP, reflecting policies contained in 23 CFR 650B and the Department's Supplemental Specifications on Seeding and Erosion Control Measures (February 8, 2007). Other measures including seeding, silt fences and sediment basins, as appropriate will be implemented during construction to minimize impacts to Waters of the U.S.

4/21/2014
Date


Environmental Project Manager

4/22/2014
Date


Federal Highway Administration

SUPPORTING DOCUMENTATION

Proposed Action: The proposed project involves the replacement of the dual bridges (northbound and southbound) located on Interstate 85 (I-85) over the Norfolk Southern (NS) Railroad tracks in Cherokee County, South Carolina (see **Figure 1** for Project Location). The proposed project would include replacement of both bridges with one modern structure, located slightly north of the existing alignment. The new bridge would measure approximately 320 feet in length and 108 feet in width, and would accommodate six 12-foot lanes, three in each direction, with a minimum of 12-foot shoulders; please see **Figure 2a** and **Figure 2b** for preliminary plan view and typical section of the proposed bridge structure. Following construction, four travel lanes will be provided, two in each direction, to remain consistent with the existing roadway configuration. Two additional lanes, one in each direction, would be open to traffic in association with the future widening of the I-85 roadway. Roadway approaches would transition onto the existing alignment approximately 2,000 feet, in either direction, from the proposed bridge ends. The total project length is approximately 4,350 feet in length.

The alternatives considered for this project are the (1) “No-Build”, (2) rehabilitating existing southbound bridge, (3) replacing both bridges to the south of existing alignment, (4) replacing both bridges on existing alignment, and (5) replacing both bridges to the north of existing alignment.

- (1) **No build:** The “no-build” alternative would eventually lead to closure of the deficient southbound bridge and subsequent traffic flow problems. In addition, the “no-build” alternative would not accommodate the planned future widening of I-85, a primary purpose of the project. Due to the safety concerns, and its inability to meet the project’s intended Purpose and Need, the “no-build” alternative is not considered an acceptable alternative.
- (2) **Rehabilitating Existing Southbound Bridge:** The “rehabilitation” alternative would involve repairing the structurally deficient southbound bridge to achieve an acceptable sufficiency rating. While this alternative would address the structural deficiencies of the southbound bridge, it would not accommodate the planned future widening of I-85. Furthermore, this alternative would require ongoing inspections, maintenance, and repairs to allow the bridge to maintain structural sufficiency, and would result in future disruption to highway traffic and freight rail traffic during the future widening of I-85. In light of the Department’s goal to minimize future construction disruptions and project’s intended purpose to accommodate the planned future widening of I-85, the Rehabilitation alternative is not the most prudent and feasible alternative and would not meet the project’s intended Purpose and Need.

Build Alternatives: Three “build” alternatives (Alternatives 3, 4, and 5 below) have been considered during the planning stages of the project. Each alternative would consist of replacing both northbound and southbound bridges with one modern structure that would accommodate the planned future widening of I-85 and satisfy the intended purpose and need of the project. Each “build” alternative would satisfy the NS requirement of 23 feet of vertical clearance above the existing railroad tracks. Furthermore, the minimum horizontal clearance would be expanded to approximately 150 feet to allow for future railroad widening. Each alternative would also utilize staged construction to allow the use of the existing bridges during construction, therefore eliminating the need for an off-site detour.

- (3) **Replacing Both Bridges to the South of Existing Alignment:** The first of the build alternatives consists of replacing both bridges with one modern structure approximately 50 feet south of the existing alignment. Roadway approaches would be realigned to tie in to the new bridge structure.

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This alternative would result in less-than-desirable roadway geometry and sight distance, due to the “reverse curves” in the existing alignment approaching the NS Railroad. Therefore, the Replacing Both Bridges to the South of Existing Alignment alternative is not consider the most prudent and feasible alternative, and was not considered for additional analysis.

- (4) **Replacing Both Bridges on Existing Alignment:** This alternative would include replacement of both bridges in the same location with one modern structure while maintaining the existing roadway alignment and approaches. The new bridge would be approximately 255 feet in length and 106 feet in width to accommodate three, 12-foot lanes in each direction with 12-foot shoulders. It is anticipated that additional right-of-way (R/W) would not be necessary and displacements would not result. Multiple overhead utility lines exist within the project limits. It is anticipated that multiple minor distribution utility poles would require relocation as a result of this alternative. Minor impacts to jurisdictional waters of the U.S. would be anticipated as result of this alternative, including two wetlands and one stream, or relatively permanent water (RPW). Specifically, stream impacts would total 100 feet, or less, and wetland impacts would total less than 0.2 acre.

The Replacing Both Bridges on Existing Alignment alternative would satisfy the intended purpose and need of the project; however, it is anticipated that this alternative would require four major stages of construction. Each major stage of construction necessary to complete the project would extend the duration of the overall construction schedule; thereby, resulting in increased safety concerns to motorist and workers, and increased project cost. Furthermore, this alternative would not provide adequate shoulders to maintain separation of motorist and workers during each major stage of construction. Temporary barrier walls would be required to separate motorist and workers, further increasing safety concerns.

- (5) **Replacing Both Bridges to the North of Existing Alignment:** The final “build” alternative consists of replacing both bridges with one modern structure approximately 50 feet north of the existing alignment. Roadway approaches would be realigned to tie in to the new bridge structure. The new bridge would be slightly larger, when compared to Alternative 4, and would total approximately 320 feet in length and 108 feet in width. The new bridge structure would also accommodate three, 12-foot lanes in each direction with 12-foot shoulders. This alternative would require approximately 1.50 acres of new right-of-way; however, no displacements would result. In addition to utility impacts included in Alternative 4, one additional transmission line crossing would require relocation as a result of this alternative. Minor impacts to jurisdictional waters of the U.S. would also be anticipated, including three wetlands and two streams, or RPWs. Specifically, stream impacts would total approximately 155 feet, or less, and wetland impacts would total less than 0.2 acre.

The Replacing Both Bridges to the North of Existing Alignment alternative would satisfy the intended purpose and need of the project, and could be constructed in two major and one minor stage, resulting in safer, faster, and easier construction of the project. Construction of this alternative could be reduced by four to six months, when compared to Alternative 4; therefore, enhancing motorist and worker safety due to the reduced night time work under traffic and lane closures. Alternative 5 would also allow for eight feet outside shoulders during the two major

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stages of construction, further increase motorist safety. This alternative is anticipated to result in an overall net savings of approximately \$400,000 due to the efficiencies gained due to the reduced construction staging.

Alternatives 1 and 2 do not meet the purpose and need of the project, either failing to address safety or accommodation of the planned future widening of I-85 (or both). Alternative 3 was not considered for additional analysis, due to less-than-desirable roadway geometry and sight distance. Of the two “build” alternatives considered, the (5) Replacing Bridge to the North of Existing Alignment “build” alternative would result in slightly greater impacts to jurisdictional waters of the U.S., a minor amount of additional R/W, and one additional utility relocation; however, this alternative represents the safest, fastest, and lowest cost alternative. Due to the safety enhancements, reduced construction time, and cost savings, the (5) Replacing Both Bridges to the North of Existing Alignment “build” alternative is the preferred alternative.

The funding for this project is referenced in the Statewide Transportation Improvement Program, or STIP, (Statewide), Revision 2 (Correction), 12/05/2013, page 24, Bridge Program—“Design Build Package E (Formerly Design Build Package B” line item. The total “Design Build Package E” cost is listed as \$4,820,000.00.

Noise Analysis: This project does not include the addition of through traffic lanes*, a significant change in vertical alignment or any other conditions that would qualify it as a Type I project. Therefore, the requirements for conducting noise studies under 23 CFR 772 do not apply. Furthermore, the proposed improvements do not represent a Substantial Horizontal Alteration. 23 CFR 772 states, “A substantial horizontal alteration would occur on a project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition.” The maximum horizontal alteration is approximately 50 feet from existing centerline to new centerline. The closest receptor is located approximately 400 feet from the existing roadway; therefore, the project would not halve the distance as defined above.

(*Note: The bridge would be wide enough to accommodate a future planned widening of I-85.)

Air Quality / Mobile Source Air Toxics (MSATs): Cherokee County is an attainment area for National Ambient Air Quality Standards (NAAQS). As a result, Cherokee County meets or exceeds the standards established by the Environmental Protection Agency (EPA) for criteria pollutants and air quality.

This project has been determined to generate minimal air quality impacts for Clean Air Act Amendments (CAAA) criteria pollutants and has not been linked with any special Mobile Source Air Toxic (MSAT) concerns. As such, this project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to

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increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Floodplains: According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 45021C0100D, the proposed project is not located in the vicinity of any 100-year floodplains. As a result, the proposed project would not result in impacts to regulated floodplains.

Water Quality: The project study area (PSA) is located within the Broad River Basin (USGS Hydrologic Unit Code [HUC] 03050105), which consists of 17 watersheds and approximately 2,450 square miles of South Carolina. Specifically, the PSA lies within two watersheds, including Buffalo Creek Watershed (HUC 03050105-08) and Kings Creek Watershed (HUC 03050105-09). The western portion of the PSA, including the I-85 Bridges over the NS Railroad, is located within Buffalo Creek Watershed and drains to water quality monitoring station B-119. The eastern portion of the PSA is located in Kings Creek Watershed and drains to water quality monitoring station B-333. No waters within the PSA, nor any waters located within watershed 03050105-08 or 03050105-09, are listed on the SC Department of Environmental Control (SCDHEC) 2012 list of impaired waters, or 303(d) list.

Total Maximum Daily Load (TMDL) is the amount of a single pollutant (e.g., bacteria, nutrients, metals) that can enter a waterbody on a daily basis and still meet water quality standards set forth by the State. TMDLs have been established for fecal coliform within Buffalo Creek and Kings Creek Watersheds. Possible sources of fecal coliform bacteria in these watersheds include out-of-state sources, leaking sewers, failing onsite wastewater disposal systems, urban residential runoff, pets and wildlife. The TMDL specifies reductions in the loads of fecal coliform bacteria into Buffalo Creek and Kings Creek of 74% and 76%, respectively, in order to meet recreation use standards. Watershed and Water Quality Information, provided by the SCDHEC Water Quality Tool are included in the NRTM Addendum, dated March 2014, located in **Appendix B**.

The proposed project is not expected to result in long term impacts to water quality within the PSA or to the Buffalo Creek and King Creek Watersheds.

Wetlands and Streams: Field reviews of the PSA were conducted to identify the presence of jurisdictional waters of the U.S., including wetlands. Jurisdictional waters of the U.S. identified within the PSA include five streams, or relatively permanent waters (RPW Streams A through E), and three freshwater wetlands (Wetlands A, B, and C). Jurisdictional determination and verification of the delineated boundaries by the U.S. Army Corps of Engineers (USACE) is pending; please see **Appendix C** for a complete copy of the Jurisdictional Determination Request Package. A summary of the jurisdictional waters of the U.S. identified in the PSA is included in Natural Resources Technical Memorandum (NRTM), dated April 2012, and NRTM Addendum, dated March 2014, located in **Appendix B**.

Adverse impacts to jurisdictional waters of the U.S. would be minimized to the most practical extent possible and cut/fill would be limited to the minimum necessary for the project. However, impacts to jurisdictional waters of the U.S. are anticipated as a result of construction related activities necessary to complete the project. It is anticipated that minor impacts to three wetlands would occur, totaling less than 0.20 acre. Impacts to two streams (RPW Streams B and C) is anticipated to total approximately 155 linear feet (lf).

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Permitting: A Section 404 permit, pursuant to the Clean Water Act (CWA) permit is required for project-related impacts to jurisdictional waters of the U.S. In South Carolina, Section 404 of the CWA is administered by the USACE, Charleston District. For SCDOT project, the USACE General Permit (GP) 2010-01346, effective August 1, 2011, would be applicable if permanent and/or temporary impacts do not exceed 3.0 acres of freshwater wetlands and/or 300 linear feet of RPWs. Specific permitting requirements and strategies for the project will be determined once impacts to jurisdictional waters are quantified following establishment of the proposed construction limits; however, it is anticipated that the SCDOT GP would be applicable for this project.

In addition to the Section 404 permit, the SCDHEC must grant, deny, or waive a Water Quality Certification (WQC), in accordance with Section 401 of the CWA. Waters considered to be sensitive may also require additional consideration during the 401 WQC process. These include, but are not limited to, Outstanding Resource Waters (ORW), Shellfish Harvesting Waters (SFH), trout waters, areas draining to waters included on the 303(d) list of impaired waters, and areas draining to waters with an approved TMDL. The USACE Section 404 SCDOT GP has been approved by SCDHEC, therefore separate approval for a Section 401 WQC is not required.

Due to the TMDL established for the Buffalo Creek and Kings Creek Watersheds, best management practices (BMPs) for stormwater treatment should be considered prior to discharging stormwater directly into jurisdictional waters of the U.S. These measures include grass swales, ditches, and detention basins, as well as various types of manufactured stormwater treatment devices.

Compensatory Mitigation: Compensatory mitigation may be required to offset unavoidable losses of jurisdictional waters of the U.S. The Council on Environmental Quality (CEQ) has defined mitigation in 40 CFR Part 1508.20 to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. Three general types of mitigation include avoidance, minimization and compensatory mitigation. Compensatory mitigation usually consists of the restoration of existing degraded wetlands or waters, or the creation of wetlands/waters of equal or greater value than those to be impacted. This type of mitigation is only undertaken after avoidance and minimization actions are exhausted and should be undertaken, when practicable, in areas near the impact site.

It is anticipated that compensatory mitigation for permanent project impacts will be attained through the purchase of mitigation credits from a USACE approved mitigation bank. Specific mitigation requirements will be established during the Section 404 permitting process.

Section 106 - Cultural Resources: In accordance with 36 CFR 800.4, an archaeological review and background research was conducted for the proposed project. The bridges are identified in the SC Historic Bridge Survey (Lichtenstein Consulting Engineers, 2005), and determined to be not eligible for the National Register of Historic Places (NRHP), as described below.

- **I-85 NB over NS RR**
Date of construction—1958
Not Eligible for the Nation Register

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The steel stringer bridge built in 1958 by the state highway department has no innovative or distinctive details. It is a later example of the over 300 extant steel stringer bridges in the state built from the 1910s to 1960. Steel stringer bridges were favored for their economies of initial cost, construction and maintenance. This example is typical of the hundreds of nearly identical bridges built by the department as part of the improvement of the state highway systems. It is not historically or technologically significant.

- **I-85 SB over NS RR**

Date of Construction—1954

Not Eligible for the National Register

The steel stringer bridge built in 1954 by the state highway department has no innovative or distinctive details. It is a later example of the over 300 extant steel stringer bridges in the state built from the 1910s to 1960. Steel stringer bridges were favored for their economies of initial cost, construction and maintenance. This example is typical of the hundreds of nearly identical bridges built by the department as part of the improvement of the state highway systems. It is not historically or technologically significant.

The project site was visited in September 2010, and it was determined that there are no eligible archaeological sites or historic architectural resources within the existing right-of-way (R/W) associated with the Area of Potential Effects (APE). Based on the project setting and the absence of any eligible or listed properties within the APE, an intensive cultural resources survey was deemed not necessary, and no further work is recommended [Brockington and Associates, Inc. (letter dated December 1, 2010)]. The State Historic Preservation Office (SHPO) concurred with these findings on February 23, 2011 (**Appendix A**).

The site was revisited in March 2012, and it was determined that there are no eligible archeological sites or historic architectural resources within the project survey universe; therefore, an intensive cultural resources survey was deemed not necessary, and no further work is recommended [Brockington and Associates, Inc. (letter dated April 6, 2012)]. SCDOT prepared a Cultural Resources Project Screening Form on April 18, 2012, indicating concurrence with the September 2010 and March 2012 findings (**Appendix A**).

Following design changes, and the potential need for additional R/W, the SCDOT conducted an additional review of the project area. Desktop review of the new project area revealed no previously recorded archaeological sites or architectural resources in or near the project area. A field survey was conducted on February 18, 2014 within the areas of potential new R/W, north of the I-85 bridges, and the eastern extents of the project area that may be impacted by drainage improvements. Survey of the area of potential new R/W consisted of the excavation of 16 shovel test pits and pedestrian examination of areas considered to be too steep or disturbed to merit subsurface testing. Reconnaissance of areas that may be affected by drainage improvements was also conducted. Shovel test pits were negative for the presence of cultural resources. Areas subjected to pedestrian or visual examination were determined to have negligible site potential due to previous disturbance or slope. No survey-eligible above ground resources were encountered during the field survey. No historic properties affected, and no additional

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investigations are recommended. The SCDOT prepared an additional Cultural Resources Project Screening Form on February 19, 2014 (**Appendix A**).

Section 4(f) Properties: The proposed project would not impact publicly owned parks, recreational areas, or wildlife refuges. Therefore, a Section 4(f) evaluation/approval is not required for this project.

Endangered Species: Pursuant to Section 7 of the Endangered Species Act, the list of protected species known to occur in Cherokee County was reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the project area. A search of the United States Fish and Wildlife Service (USFWS) database provided existing information concerning the potential occurrence of threatened or endangered species within Cherokee County. This database identifies one federally threatened species and one candidate species known to occur, or to have formerly occurred, in Cherokee County, as listed in **Table 1**.

Table 1
Cherokee County Endangered/Threatened and Candidate Species

Federally Protected Species		Protection Status	
Common Name	Scientific Name	Federal	State
Dwarf-flowered heartleaf	<i>Hexastylis naniflora</i>	T	-
Georgia aster	<i>Symphyotrichum georgianum</i>	C	-

Source: U.S. Fish & Wildlife Service; South Carolina Department of Natural Resources; March 2014
T = Threatened, C = Candidate

No individuals of the dwarf-flowered heartleaf were observed within the PSA during the field reviews conducted in August 2010, March 2012, and February 2014. Additionally, no potential habitat for dwarf-flowered heartleaf was identified within the PSA due to the lack of north-facing slopes and boggy areas adjacent to streams within deciduous forests. Therefore, it is determined that the project will have a biological conclusion of ‘no effect’ on this species.

Potential habitat for Georgia aster is present in the PSA adjacent to roads and along forested borders; however, no individuals were observed during the field surveys conducted in March 2014. The closest known occurrence of the species, in South Carolina, is located within Kings Mountain Nation Military Park, approximately 3.5 miles southeast of the PSA. Species listed as candidates for listing do not require Section 7 consultation with the USFWS; therefore, a biological conclusion for Georgia aster is not being provided (see the Biological Assessment, dated April 2012, and the Addendum to the Biological Assessment, dated March 2014, in **Appendix D**).

Displacements: There are no residential or business relocations anticipated in association with the preferred alternative.

The SCDOT would acquire new right-of-way for the proposed project from three parcels, totaling approximately 1.50 acres to accommodate the bridge replacements and associated roadway approaches (**Figure 3**). Right-of-way acquisition will not result in any displacements and will not render these properties uninhabitable or unusable.

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The SCDOT will acquire all new right-of-way in compliance with the Uniform Relocation Assistance and Real Property Acquisition policies Act of 1970, as amended (42 U.S. C. 4601 et seq.). The purpose of these regulations is to ensure that owners of real property to be acquired for Federal and federally-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owner, to minimize litigation and relieve congestion in the courts, and to promote public confidence in Federal and federally-assisted land acquisition programs.

Farmlands: This project is located in a rural environment, primarily surrounded by undeveloped and agricultural lands. According to the Natural Resources Conservation Service (NRCS) Soil Survey, the project corridor contains three soil map units that are listed as a Farmland of Statewide Importance. No Prime Farmland soils are located within the project.

The acquisition of minor amounts of new of right-of-way would be necessary to complete the project; including area consisting of farmland soils. Therefore, the project has been assessed under the provisions of the Farmland Protection Policy Act of 1981 (FPPA). Based on the Farmland Conversion Impact Rating Form SCS-CPA-106, the total point value calculated for the proposed project is 140. As the total points calculated for the project are less than the allowable total of 160, neither consideration of alternative sites nor additional studies are required under the FPPA. A copy of the Farmland Conversion Impact Rating Form is including in **Appendix E**.

Hazardous Waste/ Underground Storage Tanks: A Phase 1 Environmental Site Assessment (ESA) for the proposed project was completed in November 2010 and additional records review was completed in March 2012. In general accordance with ASTM E 1527-05, *Standard Practice for Environmental Site Assessments*, the purpose of the Phase 1 ESA is to identify recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs). The Phase 1 ESA included a search of standard environmental databases in and a site reconnaissance. The Phase 1 ESA revealed no evidence of RECs on the subject property or within the specified search radii.

One on-site finding of an environmental nature was identified during the Phase I ESA. Plans of the existing bridge shows “creo treated pilings” were placed under the end bent of the bridge. The guard rails along the road have wood posts that appear to be creosote treated. The rail line that crosses under the bridge has wooden cross ties that appear to be creosote treated. Considering that creosote seeping out of the pilings, guard rail supports and cross ties is relatively immobile, it is not expected that creosote would significantly impact the underlying soils. Thus, the Phase 1 concludes that the use of the creosote treated wood products is not considered a REC. However, if these items are to be disturbed or removed during construction, the wood and surrounding soils should be evaluated for proper disposal. In addition, one off-site finding of potential environmental concern was also identified. The *J Grady Randolph Inc.* site is approximately 1,000 feet south of the subject site and at a lower elevation. This facility appears on the RCRA-Nongen and the UST databases due to the presence of four abandoned petroleum tanks. Based on its distance from the subject site and its location at a lower elevation, *J. Grady Randolph* is not considered a REC.

It is SCDOT’s practice to avoid the acquisition of underground storage tanks (USTs) and other hazardous waste materials, if at all possible. If soils that appear to be contaminated with petroleum products were encountered during construction, the South Carolina Department of Health and Environmental Controls

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(DHEC) would be informed. If avoidance were not a viable alternative, tanks and other hazardous materials would be tested and removed and/or treated in accordance with the United States Environmental Protection Agency (EPA) and South Carolina DHEC requirements. Costs necessary for clean-up would be taken into consideration during the right-of-way appraisal and acquisition process.

References

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- S&ME, Inc. November 2010. *Phase 1 Environmental Site Assessment: I-85 Southbound Bridge Replacement Cherokee County, South Carolina*. Prepared for the South Carolina Department of Transportation.

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Prepared by: 