

Attachments

Attachment A- Cultural Resources Project Screening Form

Attachment B- Natural Resources Technical Memorandum

Attachment C- Bridge Replacement Scoping Risk Assessment Form

Attachment D- Floodplain Checklist

Attachment E- Public Involvement

Attachment A- Cultural Resources Project Screening Form



Cultural Resources Project Screening Form

File Number: PIN: Route: County:

Project Name:

Type 1: Resurfacing, installation of fencing, signs, pavement markings, traffic signals, passenger shelters, railroad warning devices, installation of rumble strips, and landscaping

Project Type

Type 2: Bridge replacements on alignment, construction of bicycle/pedestrian facilities, and intersection improvements

Type 3: Projects that do not fall into Type 1 and Type 2 categories (e.g. road widening)

Comments

This project replaces the bridge carrying S-130 (Rudolph Sikes Road) over Clay Creek. The bridge will be replaced on alignment and it is anticipated that minor amounts of new right-of-way (ROW) will be required. The archaeological project area is 75 feet from the road centerline (150 feet total) and extends 1,500 feet from either side of the bridge. The architectural survey examined all above-ground resources with sightlines to the bridge. New South Associates conducted background research and a cultural resources field survey in May 2023 and created a short form report detailing the project. The survey consisted of a pedestrian reconnaissance of the entire archaeological APE augmented by the excavation of shovel test pits (STPs). A total of 64 STP locations were investigated. Twenty STPs were not excavated due to slope, standing water, or the presence of buildings. The remaining 44 STPs were negative for cultural material. Three above ground resources were recorded. SHPO Site No. 0719 is a circa 1930 residence. SHPO Site No. 0720 is a circa 1900 residence with a circa 1950 outbuildings (SHPO Site No. 0720.01). All were assessed as not eligible for the National Register of Historic Places (NRHP). The current bridge to be replaced (Asset ID 03620) is a five-span, concrete slab bridge constructed in 1961. Although it is over 50 years of age, it was not formally recorded and evaluated for inclusion on the NRHP because it qualifies for streamlined review under the Federal Highway Administration's Post-1945 Bridges Program Comment. No other above ground resources are located within the APE. No historic properties will be affected by this project. No additional cultural resources investigations are recommended.

Effect Determination:

*SHPO consultation is required for all Type 3 projects and any project with a No Adverse or Adverse Effect Determination.

This screening form was developed to satisfy documentation requirements for Type I and Type II projects under a Programmatic Agreement between the Federal Highway Administration, the South Carolina State Historic Preservation Office, the US Army Corps of Engineers, and the South Carolina Department of Transportation. For Type I and Type II projects that have no effect on historic properties, the completion of this screening form with supporting documentation (e.g. ArchSite Map) provides evidence of FHWA and SCDOT's compliance with Section 106 of the National Historic Preservation Act.

Prepared by:

Review Date:

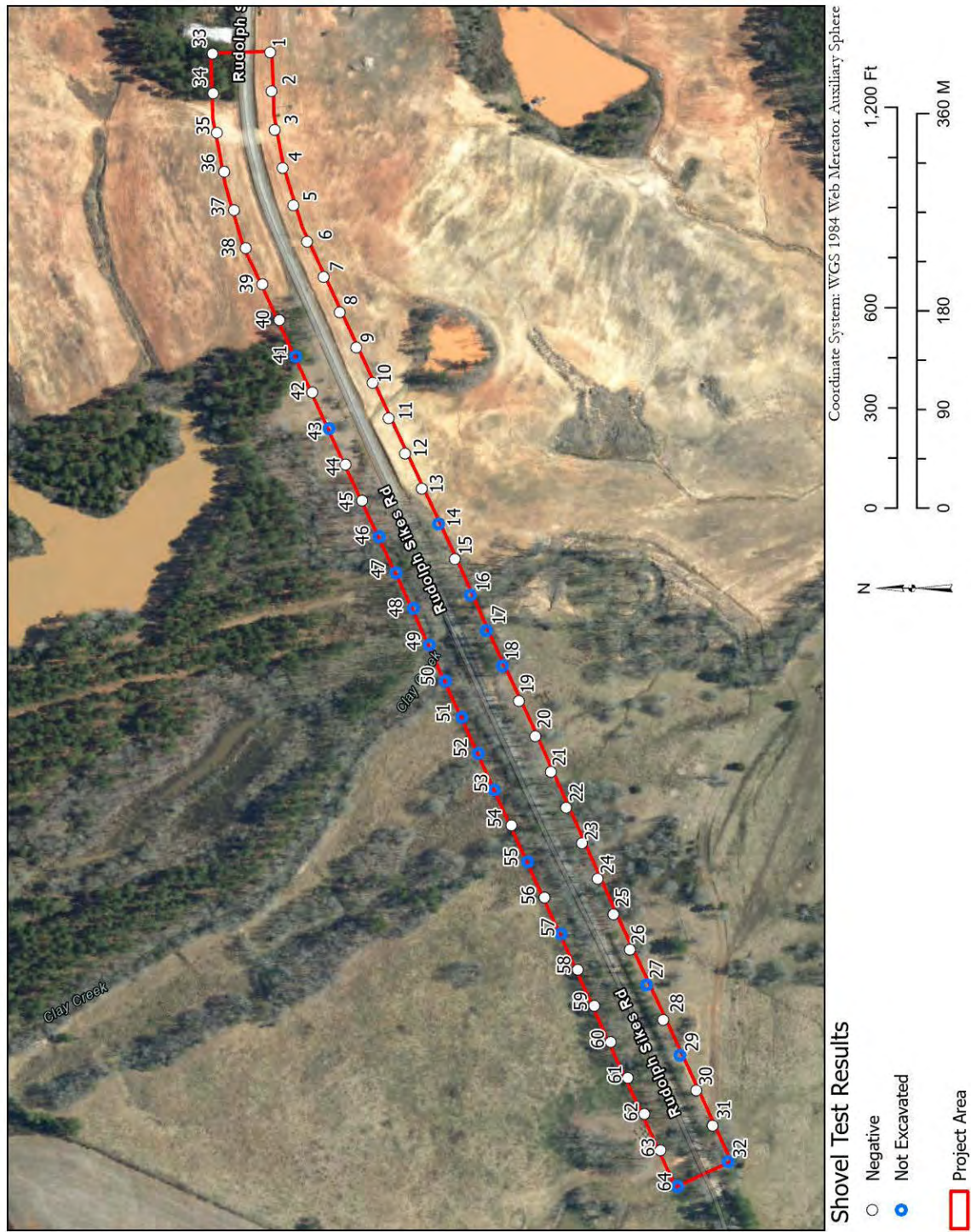


Figure 5.
Shovel Test Map

Figure 9.
Newly Recorded Cultural Resources within the Project Area Viewshed



Basemap: ESRI Resource Data

**CULTURAL RESOURCE FIELD REPORT
SCDOT ENVIRONMENTAL SECTION**



TITLE: Phase I Cultural Resource Survey of Proposed Improvements to the S-130 Bridge over Clay Creek

DATE OF RESEARCH: 5/11/23

ARCHAEOLOGIST: Kelly Higgins, MA, RPA

ARCHITECTURAL HISTORIAN: Sean Stucker, MHP, and Katie Dykens Quinn, MSHP

COUNTY: Chesterfield

PROJECT: Closed and Load Restricted Bridge Replacements- Package 20

F. A. No.:

File No.

PIN: P041956

DESCRIPTION:

The South Carolina Department of Transportation (SCDOT) proposes to replace various closed or load-restricted bridges including the S-130 (Rudolph Sikes Road) over Clay Creek in Chesterfield County, South Carolina. The project area is defined as that area within 75 feet of either side of the proposed roadway centerline and extending 1,500 feet from the bridge. The archaeological survey covered the entire project area, while the architectural survey examined all above-ground resources with sightlines to the bridge. This cultural resource survey was performed under contract with HNTB.

LOCATION:

The project is located approximately 7.5 miles east/northeast of the town of Pageland in northern Chesterfield County, South Carolina (Figure 1).

USGS QUADRANGLE: Hornsboro, SC

DATE: 1971 **SCALE:** 1:24000

UTM: NAD83

ZONE: 17N

EASTING: 567868

NORTHING: 3850534

ENVIRONMENTAL SETTING:

Chesterfield County is located within the Piedmont and Coastal Plain physiographic regions. However, the project area is located within the Piedmont, which is characterized by gently rolling hills formed from extensive weathering of ancient mountain ranges. Elevations within the project area range from 310 feet above mean sea level (amsl) in the vicinity of Clay Creek west to the project terminus to 390 feet amsl in the eastern portion of the project area. The surrounding environment is rural, with pasture and agricultural fields lining the project area.

NEAREST RIVER/STREAM AND DISTANCE:

Clay Creek bisects the project area, and cow ponds are present adjacent to the central portion of the tract. Clay Creek is a tributary of Thompson Creek with the confluence approximately 0.25-mile south of the project area. Thompson Creek is a tributary of the Great Pee Dee River, joining the river approximately 25 miles southeast of the project area in the vicinity of Cheraw, South Carolina.

SOIL TYPE:

Soils in the project area consist of silty clay loams and clay loams ranging from somewhat poorly drained to well drained. Parent soils include loamy alluvium and clayey residuum weathered from slate. The Natural Resource Conservation Service (NRCS) maps three soil types in the project area. The somewhat poorly drained **Chewacla clay loam** comprises 40 percent (4.2 acres) of the project area, containing 0–2 percent slopes and is frequently flooded.

Two classes of the **Georgeville silty clay loam** comprise almost 60 percent (6.2 acres) of the project area. Slopes range from 2–6 percent and from 6–10 percent; both types contain well drained and eroded soils.

REFERENCE FOR SOILS INFORMATION:

USDA-NCRS Soil Survey Division, Custom Soil Resource Report (websoilsurvey.sc.egov.usda.gov)

GROUND SURFACE VISIBILITY: 0% ☐ 1-25% ☐ 26-50% ☒ 51-75% ☐ 76-100% ☐

CURRENT VEGETATION:

In the southwestern portions of the tract, the vegetation consists of pasture with stands of hardwood trees lining Rudolph Sikes Road. Exposed bedrock is also present in this area. Standing water and wetland grasses are present in the vicinity of Clay Creek. To the northeast of the creek, agriculture fields planted in corn are present. Resource 0719, an early twentieth-century house, is located within the project area. Its yard is landscaped with manicured grass (Figures 2–4).

INVESTIGATION:

BACKGROUND RESEARCH

New South Associates, Inc. (NSA) conducted background research prior to fieldwork using the ArchSite GIS database maintained by the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH). A review of ArchSite did not identify any previously recorded cultural resources or surveys within the 0.5-mile search radius.

SURVEY RESULTS

The cultural resources survey did not identify any new or previously recorded archaeological sites or isolated finds within the project area. The architectural survey recorded two resources and one sub-resource. These surveys are described in detail below.

ARCHAEOLOGY

The Phase I Archaeological Survey was performed on May 11, 2023. Kelly Higgins, MA, RPA, served as Field Director and was assisted in the field by Archaeological Technicians John Tomko and Derrick Westfall. The archaeological investigation included a pedestrian walkover of the entire project area and the excavation of 30-centimeter shovel tests at 30-meter (100 foot) intervals within the project area. Shovel tests were placed along a single transect parallel to either side of Rudolph Sikes Road. Soil profiles were recorded for all excavated shovel tests, and location data was recorded for all investigated shovel tests using handheld GPS instruments.

Sixty-four shovel test locations were investigated across the project area, of which 44 were negative for cultural material. The remaining 20 shovel tests were not excavated due to slopes greater than 15 degrees, standing water, and a building (Figure 5). One soil profile was noted across the project area, consisting of approximately 15 centimeters of yellowish brown (10YR 5/6) silty loam Ap horizon overlying a strong brown (7.5YR 5/8) silty clay subsoil (Figure 6). Hydric and disturbed soils were noted in the vicinity of Clay Creek consisting of mottled gray (10YR 6/1), strong brown (7.5YR 5/8), and yellow (10YR 7/8) silty clay (Figure 7). No new or previously recorded archaeological sites were identified in the project area.

ARCHITECTURAL SURVEY

The architectural survey was conducted on May 24, 2023, by Architectural Historian Sean Stucker, MHP. Two individual resources and one sub-resource were recorded. Each resource was documented with South Carolina State Survey forms and photography and assessed for NRHP eligibility in accordance with the *South Carolina State Historic Preservation Office (SHPO) Survey Manual: South Carolina Statewide Survey of Historic Places*. The bridge itself, constructed in 1961, was not evaluated per the FHWA's Post-1945 Bridges Program Comment (U.S. Department of

Transportation, Federal Highway Administration 2012). This bridge (ID 03620) is of a common type, with flat concrete stringers and both I-beam and wood piers with concrete caps and footings (Figure 8). Newly identified resources are shown in Figure 9 and discussed in detail below.

Table 2. Newly Recorded Architectural Resources

Site No.	Address	Style/Type	Build Date	NRHP Recommendation
0719	House 436 Rudolph Sikes Road	Front-Gabled House	Circa 1930	Not Eligible
0720	House 202 Rudolph Sikes Road	Hipped Roof with Lower Cross Gables Victorian House	Circa 1900	Not Eligible
0720.01	Outbuilding 202 Rudolph Sikes Road	No Style/Type Outbuilding	Circa 1950	Not Eligible

RESOURCE 0719 – 436 Rudolph Sikes Road

Facing south from its site directly to the east of Clay Creek on Rudolph Sikes Road, Resource 0719 is a plain front-gabled house. It is visible on the earliest aerial photograph that could be located, dating to 1956, but is not visible on a 1914 Chesterfield County soil survey map (Figure 10) (United States Department of Agriculture 1914; United States Geological Survey 1956). The building has mostly replacement materials but is consistent with a 1900 to 1940 construction date based on the type and has been given a circa 1930 construction date. The house is one story tall with a rectangular historic core and a modern V-crimp metal front-gabled roof (Figure 11). The concrete block building is clad in smooth stucco and the windows throughout are modern one-over-one metal sashes. The front elevation is symmetrical and is dominated by a large front-gabled porch that has been finished as a room. The central modern wood panel door is flanked by paired windows to either side. The house has a continuous concrete block foundation.

Resource 0719 is located on Rudolph Sikes Road, a rural one-lane street. The surrounding development is predominately farmland, and the house is sited on a 20-acre parcel flanked by much larger agricultural tracts on all three sides. Resource 0719 is a front-gabled house. It is not a distinctive or noteworthy example of this house type, which is common in South Carolina and has been modified, including with replacement fenestration and a replacement roof. It was not found to embody the distinctive characteristics of a style, period, or method of construction, and does not possess significance for its engineering or materials. It is not known to be associated with events or persons significant in the past. Therefore, the resource is recommended as not individually eligible for the NRHP under Criteria A, B, or C.

RESOURCES 0720 and 0720.01 – 202 Rudolph Sikes Road

Facing south from its site roughly 0.2 miles west of Hough Street on Rudolph Sikes Road, Resource 0720 is a hipped roof with lower cross gables Victorian house that has lost much of its original ornamentation. It is visible in the earliest aerial photograph that could be located, dating to 1956 and appears to be visible on a 1914 Chesterfield County soil survey map (see Figure 10). The building is consistent with an 1880 to 1910 construction date based on type and is likely a later example given its rural context (McAlester 2013:263). The house is one story tall with a square historic core, synthetic siding, and composition shingle roofing material (Figure 12). The roof is almost pyramidal with two front gables on the front elevation and an additional gable on each side elevation. A hipped roof porch shelters the full front façade and wraps partially around both sides of the house. The battered wood porch supports have brick bases. The front elevation is symmetrical and the front door and surround appear to be original, with simple leaded glass on the half-light wood panel door and sidelights. The central front door is flanked by modern one-over-one metal frame windows with louvered wood shutters. A large rear front-gabled kitchen addition was made to the house circa 1940 and is accessed via a side door on the west elevation. A second addition has been made on the east side near the front of the house, where a portion of the original porch has been filled in. The house has a brick pier with brick infill foundation. Resource 0720.01 is a circa 1950 outbuilding that is located roughly 100 feet south of Resource 0720 (Figure 13). It is a small front-gabled building with a corrugated metal roof and synthetic siding. It is visible on the 1956 aerial photograph but appears to be more modern than the house. Several additional agricultural outbuildings are

visible on historic and modern aerial photographs, but the only remaining outbuildings are Resource 0720.01 and a modern shed.

Resources 0720 and 0720.01 are located on Rudolph Sikes Road, a rural one-lane street. The surrounding development is predominately farmland. While the house itself is only sited on a 9.5-acre lot, the surrounding tracts total 136 acres. The house parcel is owned by Franklin and Alison Howey while the farmland is owned by the Howeys through Chesterfield Family Farms, LLC (Chesterfield County 2023). The properties were purchased between 2016 and 2018 and Howey is a large-scale farmer who owns multiple properties in the Charlotte area, suggesting that this is an investment property rather than a heritage farm (Sunbelt Ag Expo 2014). Resource 0720 is a hipped roof with lower cross gables Victorian house, a somewhat unusual type for rural Chesterfield County. However, it has been heavily modified, including with additions, replacement siding, a replacement roof, and replacement windows. It has lost any Victorian decorative detailing that it may once have had. The extant outbuilding is unremarkable architecturally. Neither the house nor outbuilding are recommended eligible for the NRHP under Criterion C, either individually or collectively. The property was also considered for the NRHP under Criterion A for its association with broad patterns of history, including the agricultural development of Chesterfield County. The property does not retain any outbuildings that are directly related to agriculture and the extant resources do not convey this significance. The resources are adjacent to and associated with an active agricultural property, but this is operated as part of a larger-scale, modern enterprise that is based in Charlotte. Neither resource is recommended eligible under Criterion A, either individually or collectively. They are not known to be associated person significant in the past. Therefore, the resources is recommended as not eligible for the NRHP under Criterion B.

REMARKS AND RECOMMENDATIONS:

This Phase I Cultural Resources Survey did not identify any new or previously recorded archaeological sites or isolated finds. Two new historic architectural resources and one sub-resource were recorded. None of the resources are recommended eligible for the NRHP. The proposed project, as currently defined, would have no effects to historic properties.

SIGNATURE:

A handwritten signature in black ink, appearing to read "Adam Pope". The signature is fluid and cursive, with the first name "Adam" and last name "Pope" clearly distinguishable.

DATE: May 30, 2023

BIBLIOGRAPHY:

Chesterfield County

2023 Chesterfield County GIS Mapping. *ThinkGIS*. <https://chesterfieldsc.wthgis.com/>.

McAlester, Virginia Savage

2013 *A Field Guide to American Houses*. Alfred A. Knopf, New York, New York.

Sunbelt Ago Expo

2014 Frank Howey Jr. Named 2014 North Carolina Farmer of the Year. *Sunbelt Ag Expo*. <https://sunbeltexpo.com/frank-howey-nc/>.

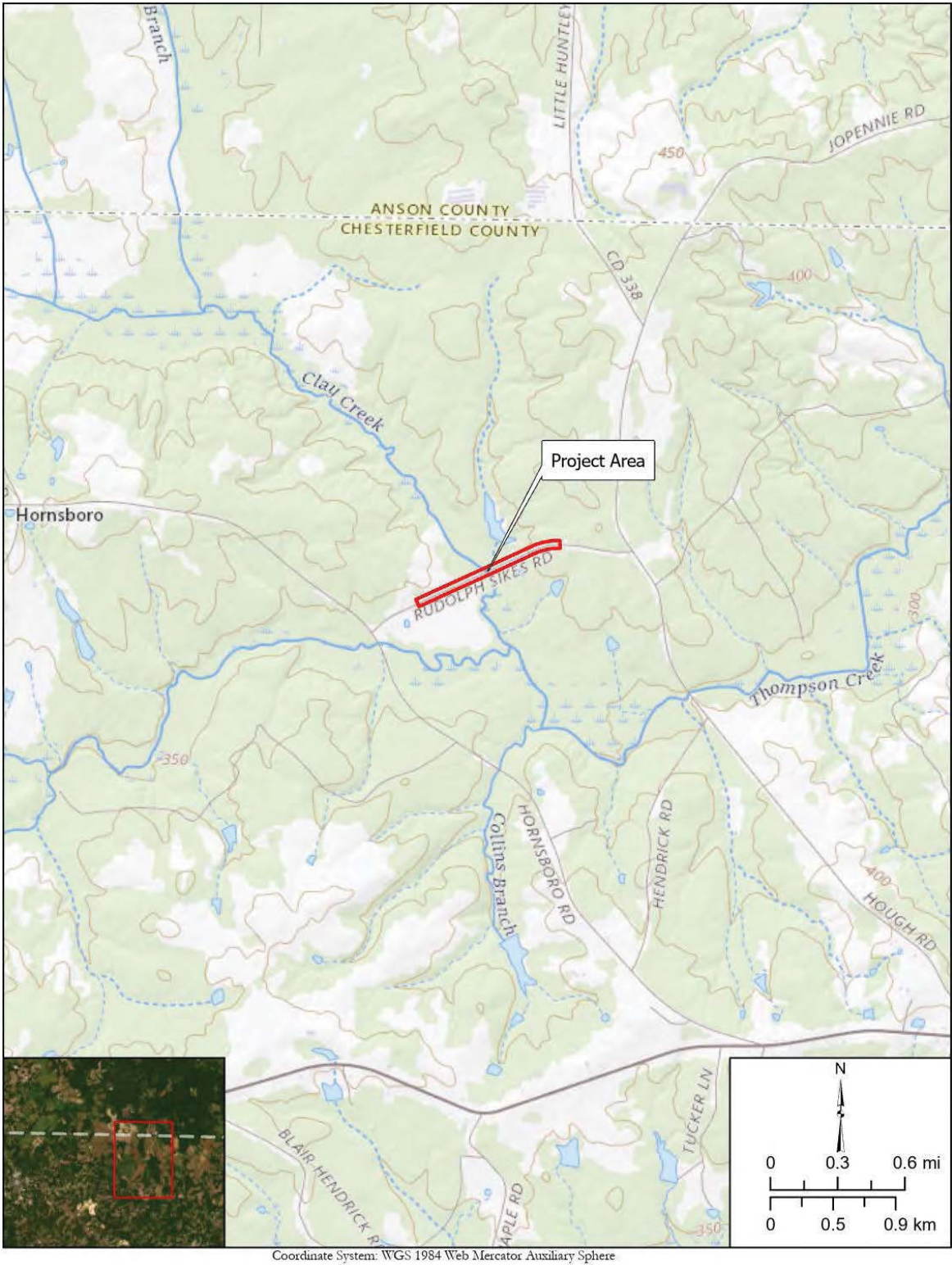
United States Department of Agriculture

1914 Chesterfield County, 1914. United States Department of Agriculture. USDA Historical Soil Survey Maps of South Carolina Digital Collection. University of South Carolina.

U.S. Department of Transportation, Federal Highway Administration

2012 Program Comment for Actions Affecting Post-1945 Concrete and Steel Bridges. Advisory Council on Historic Preservation, Washington, D.C.

Figure 1.
Project Location Map



Basemap: United States Geological Survey Topo

Figure 2.
Typical Conditions in the Southwest Portion of the Project Area, Facing Northeast

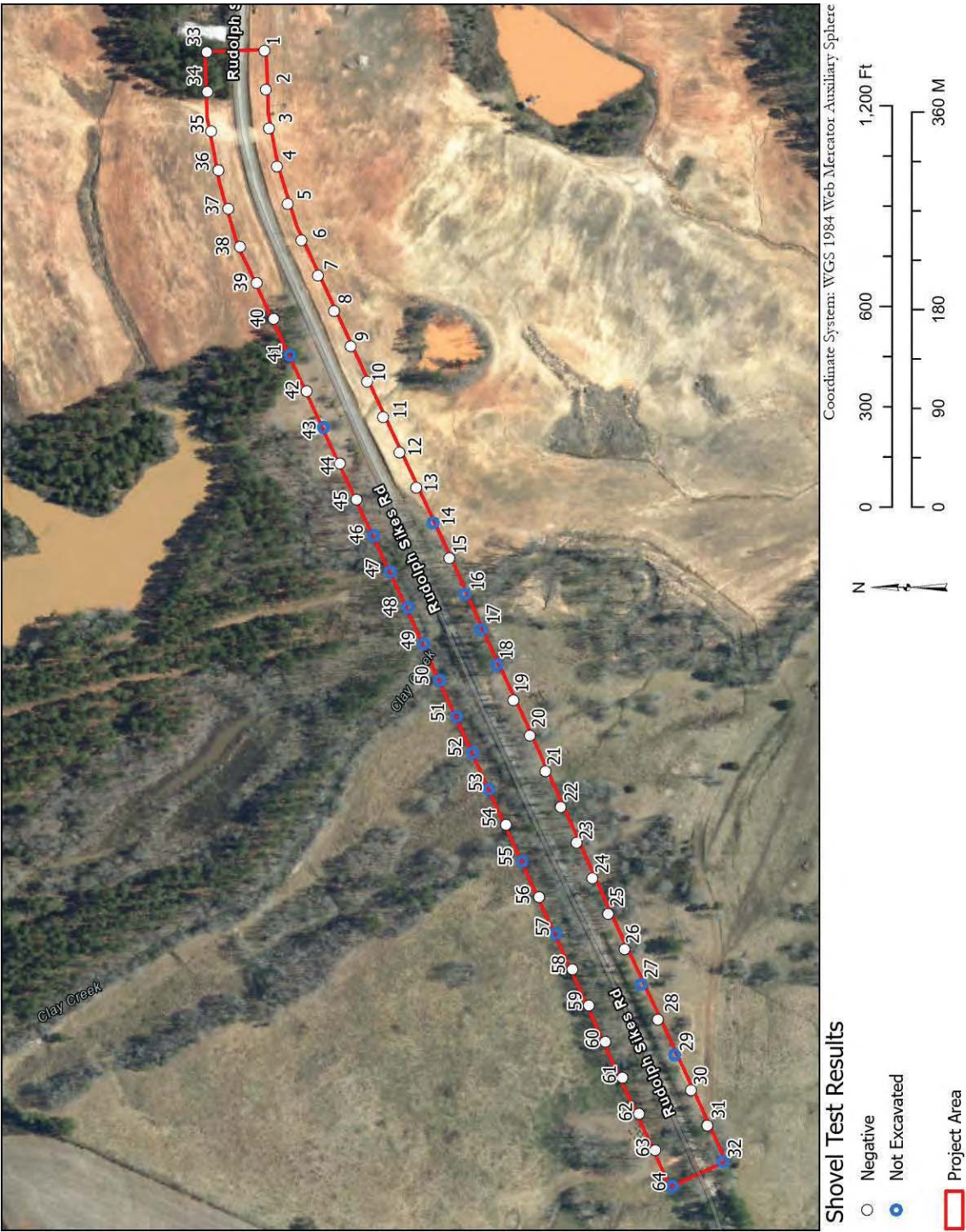


Figure 3.
Standing Water Near Clay Creek, Facing Northeast



Figure 4.
Agricultural Field Planted in Corn, Facing North





Basemap: ESRI Resource Data

Figure 5.
Shovel Test Map

Figure 6.
Typical Shovel Test Profile



Figure 7.
Hydric and Disturbed Shovel Test Profile



Figure 8.
Bridge Carrying S-130 over Clay Creek



A. Superstructure and Decking



B. Substructure

Figure 9.
Newly Recorded Cultural Resources within the Project Area Viewshed



Basemap: ESRI Resource Data

Figure 10.
Project Area on 1914 Chesterfield County Soil Survey Map

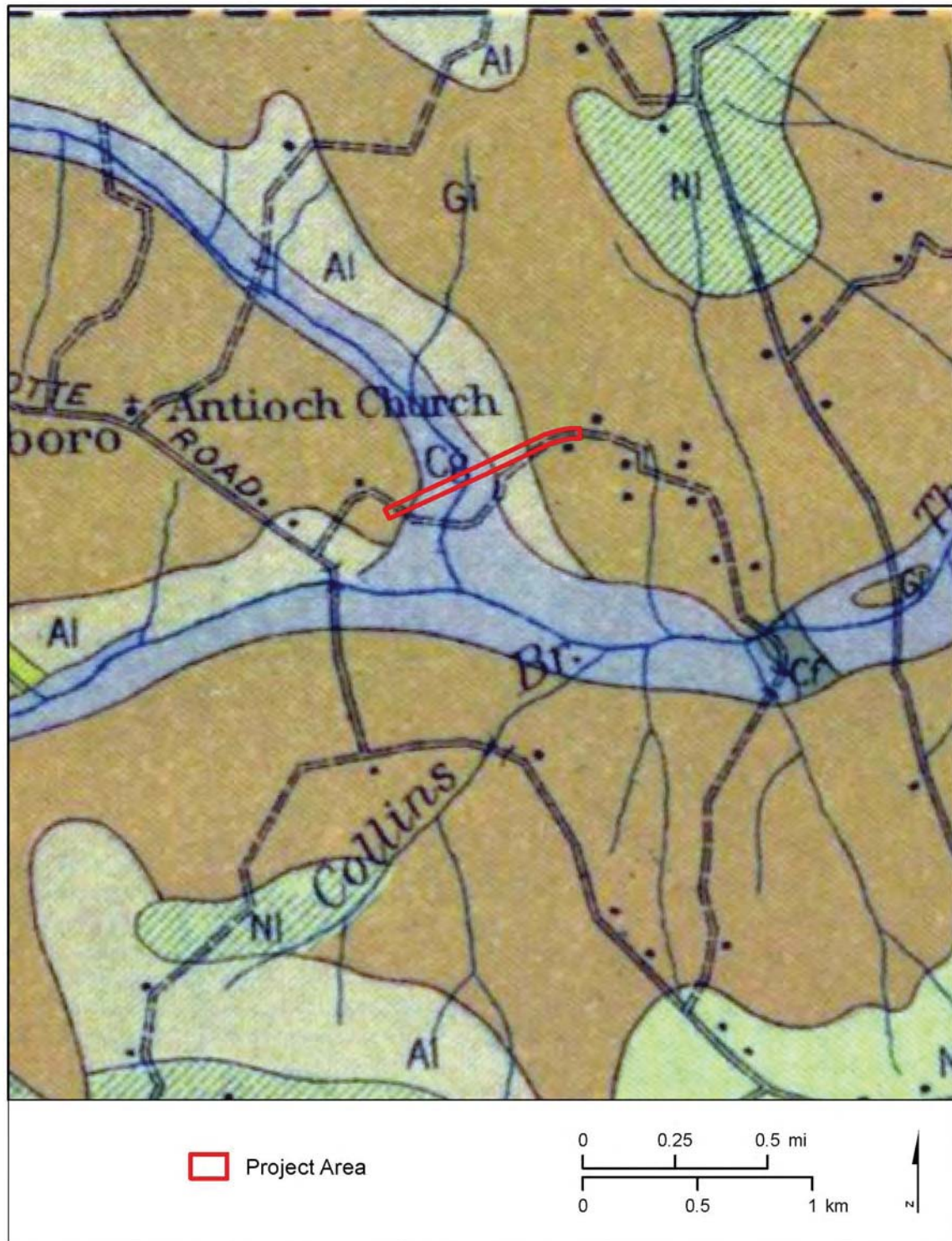


Figure 11.
Resource 0719 (436 Rudolph Sikes Road)

A. Facing Northwest



B. Facing North



C. Facing West



Figure 12.
Resource 0720 (202 Rudolph Sikes Road)

A. Facing North



B. Facing Northeast



C. Facing Northwest



Figure 18.
Resource 0720.01 (202 Rudolph Sikes Road - Outbuilding)



A. Facing North



B. Facing North

Attachment B- Natural Resources Technical Memorandum



Natural Resources Technical Memorandum

S-130 (Rudolph Sikes Road) Bridge Replacement
over Clay Creek

SCDOT Project ID: P041956

June 21, 2023



**ROBBINS
& DEWITT**

Introduction

The South Carolina Department of Transportation (SCDOT) proposes to replace the S-130 (Rudolph Sikes Road) bridge over Clay Creek in Chesterfield County, South Carolina. Specifically, the project is located approximately 2.5 miles northwest of the Town of Mt. Croghan. The project is also located in the Lower Pee Dee Watershed (03040201 8-digit Hydrologic Unit Code) and the Carolina Slate Belt (45c) Level IV Ecoregion. Please see Attachment A, Figure 1 for a Site Location Map.

A Project Study Area (PSA) has been established, based on preliminary design, to encompass all potential impacts of the project. The PSA encompasses an area approximately 10.33 acres in size and approximately 3,000 feet (0.57 mile) in total length, generally centered on Clay Creek in either direction. Furthermore, the PSA is 150 feet in total width, generally centered on the centerline of Rudolph Sikes Road.

Robbins & DeWitt conducted a desktop analysis, scientific literature review, and field surveys for natural resources associated with the proposed bridge replacement. This technical memorandum provides a summary of methods and findings related to natural resources and potential project related impacts. Attached to this memorandum are supporting figures, a SCDOT Permit Determination Form and South Carolina Department of Health and Environmental Control (SCDHEC) Watershed and Water Quality Information Report, and a Biological Evaluation for federally protected species.

Desktop Analysis Methods

A desktop analysis was completed as part of an initial evaluation of the PSA to identify key environmental resources to be considered for permitting and/or avoidance and minimization by the design team. The potential resources identified in the desktop evaluation were field verified by Robbins & DeWitt to ensure that critical regulatory items will not be adversely impacted by the Project. The following resources were consulted during the desktop analysis:

- Federal Emergency Management Agency (FEMA) Map Service Center (<https://msc.fema.gov/portal>)
- South Carolina Department of Health and Environmental Control (SCDHEC) Watershed Atlas (<https://gis.dhec.sc.gov/watersheds>)
- South Carolina Department of Natural Resources (SCDNR) and South Carolina Natural Heritage Program (SCNHP) (<https://schtportal.dnr.sc.gov/portal/apps/sites/#/natural-heritage-program>)
- SCDNR Digital Elevation Mapping (DEM) and Light Detection and Ranging (LiDAR) (<https://www.dnr.sc.gov/GIS/lidar.html>)
- SCDNR Open Source Geospatial Data (<https://data-scdnr.opendata.arcgis.com/>)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (<https://websoilsurvey.nrcs.usda.gov/app/>)
- U.S. Fish and Wildlife Services (USFWS) Environmental Conservation Online System (ECOS) (<https://ecos.fws.gov/ecp/>)
- USFWS Information for Planning and Consultation (IPaC) (<https://ecos.fws.gov/ipac/>)
- USFWS National Wetland Inventory (NWI) (<http://www.fws.gov/wetlands>)
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (<http://nhd.usgs.gov/>)
- USGS Topographic Quadrangle Maps (1:24,000-scale) – Hornsboro, SC Quadrangle

Jurisdictional Waters of the U.S.

After completing the desktop analysis, Robbins & DeWitt performed field reviews to determine the boundaries of jurisdictional waters of the U.S., including wetlands, in the PSA. Field reviews were conducted on May 11th, 2023. A summary of jurisdictional features identified in the PSA is provided in Tables 1 and 2.

Table 1 - Summary of Delineated Wetlands in the Project Study Area

Wetland	Latitude	Longitude	Area (acre)
Wetland A	34.794716	-80.257565	0.17
Wetland B	34.794149	-80.259851	0.58
Wetland C	34.794581	-80.257924	0.01
Total			0.76 acre

Table 2 - Summary of Delineated Streams and Non-Wetland Waters in the Project Study Area

Stream	Latitude	Longitude	Centerline Length (feet)	Area (acre)
Stream A	34.794554	-80.258490	180	0.11
Stream B	34.794786	-80.258303	243	0.03
Stream C	34.794548	-80.257898	89	0.01
Total			512 feet	0.15 acre

Permitting Considerations

Based on the conceptual bridge design, impacts to jurisdictional waters may occur during construction but are expected to remain below the SCDOT U.S. Army Corps of Engineers General Permit impact thresholds. A completed SCDOT Permit Determination Form and SCDHEC Watershed and Water Quality Information Report are provided in Attachment B.

Federally Protected Species

Environmental scientists performed literature and field reviews to determine the likelihood of protected species within the PSA and the potential for project-related impacts. Field reviews were conducted in May 2023. The SCDNR South Carolina Natural Heritage Species Viewer was also reviewed to determine the presence of known populations of protected species within the vicinity of the project. Based on the literature and field reviews, it is determined that the proposed project will have a biological conclusion of 'no effect' on red-cockaded woodpecker, Atlantic sturgeon, shortnose sturgeon, tri-colored bat, and

Schweinitz's sunflower. The proposed project will have a biological conclusion of 'may affect, not likely to adversely affect' the Carolina heelsplitter. A Biological Evaluation is provided in Attachment C.

Migratory Birds

Certain bird species are protected under the Migratory Bird Treaty Act of 1918. The USFWS IPaC online database was reviewed for information pertaining to migratory bird species. Migratory birds were not observed nesting on the existing bridge.

Vegetation

Land use surrounding the PSA includes agriculture, pastureland, and low-density residential housing. The only natural communities observed within the PSA include emergent freshwater wetlands and small stream forest. Refer to the Biotic Communities section in Attachment C for a detailed description of vegetation observed in the PSA.

Soils

According to the (USDA-NRCS) Soil Survey Geographic (SSURGO) data, three Soil Map Units (SMU) are mapped within the PSA. Each SMU is included in Table 3 below.

Table 3 - Soil Map Units (SMU) in the Project Study Area

SMU	SMU Name	Area (acres)	Percentage of PSA
Ch	Chewacla clay loam, 0 to 2 percent slopes, frequently flooded	4.2	40.6%
GgB2	Georgeville silty clay loam, 2 to 6 percent slopes, eroded	0.8	7.5%
GgC2	Georgeville silty clay loam, 6 to 10 percent slopes, eroded	5.4	51.9%

If you have any questions, or if Robbins & DeWitt can be of additional assistance, please feel free to contact Matt DeWitt at (864) 201-8446 or matt.dewitt@robbins-dewitt.com.

Respectfully Submitted



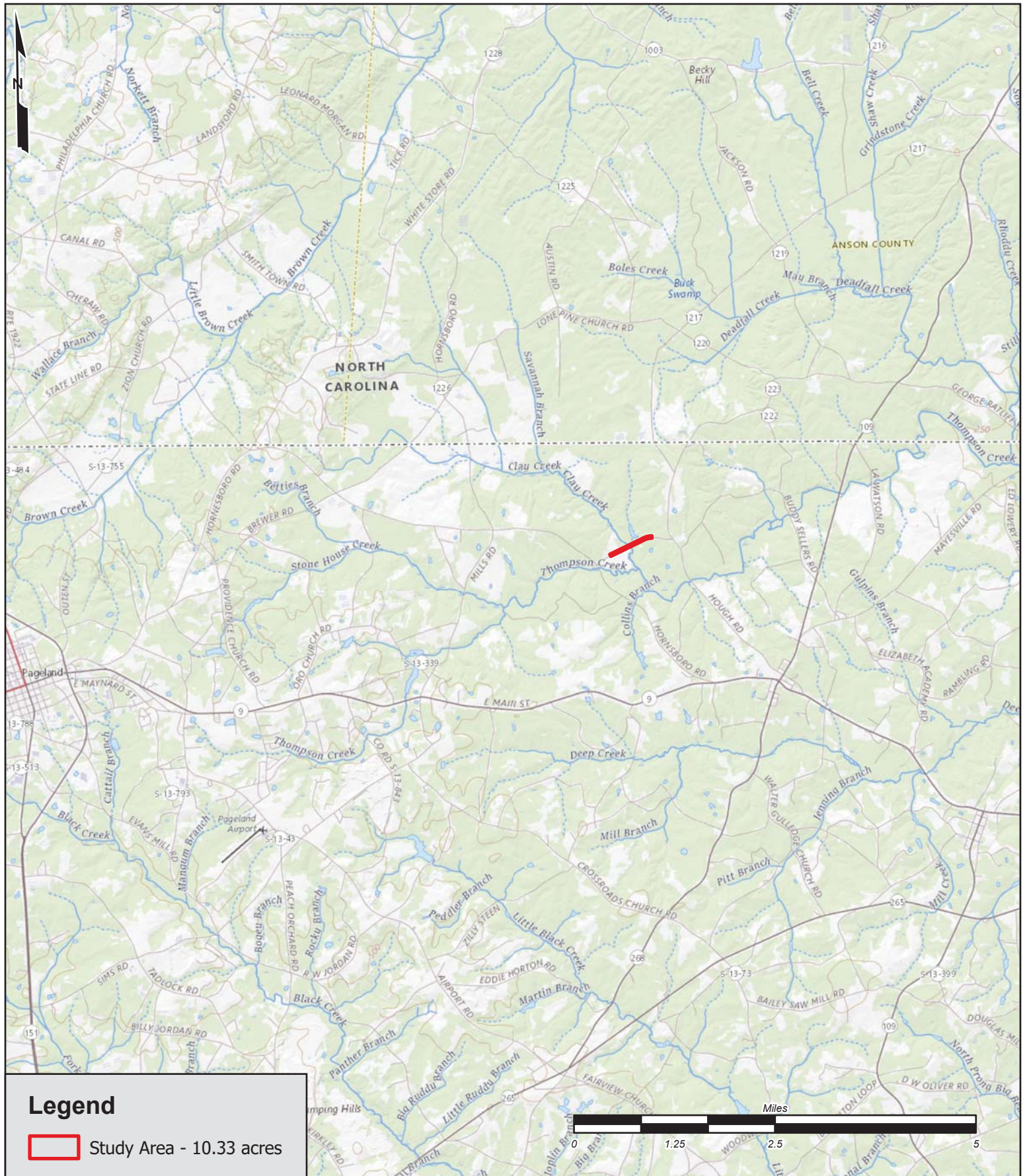
Matt DeWitt, AICP
Robbins & DeWitt, LLC


Attachment A

Figures



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www.Robbins-DeWitt.com

Project Study Area




Chesterfield County

**S-130 BRIDGE REPLACEMENT
OVER CLAY CREEK**

PROJECT ID: P041956

CHESTERFIELD COUNTY, SOUTH CAROLINA

Source: USGS National Map (2023); USGS Hornsboro, SC Quadrangle (2020)

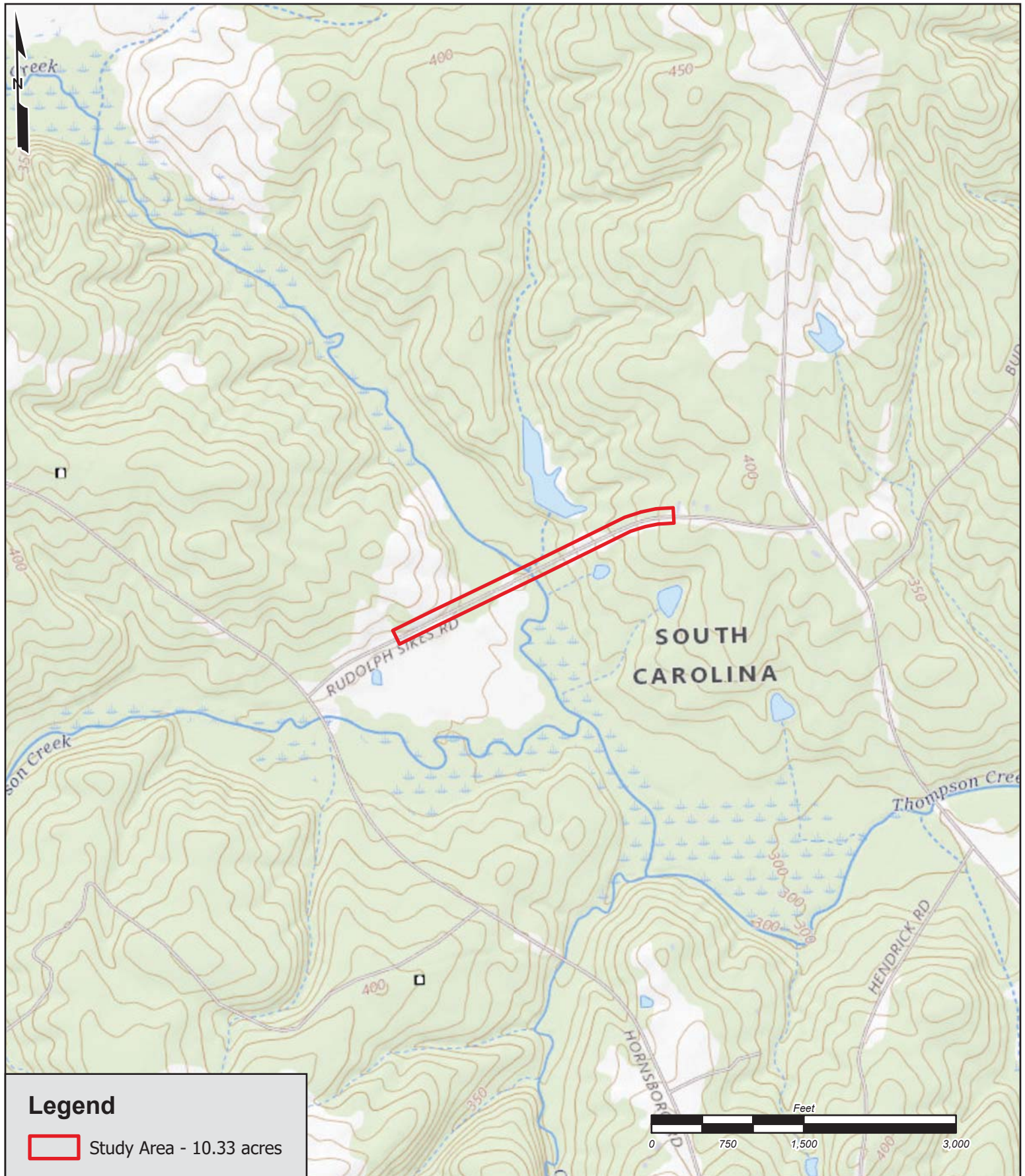


South Carolina Department of Transportation

DRAWN BY: TRC DATE: 05/26/2023

PROJECT VICINITY

FIGURE 1



Legend

 Study Area - 10.33 acres



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S-130 BRIDGE REPLACEMENT OVER CLAY CREEK PROJECT ID: P041956

CHESTERFIELD COUNTY, SOUTH CAROLINA

Source: USGS National Map (2023); USGS Hornsboro, SC Quadrangle (2020)



South Carolina Department of Transportation


DRAWN BY: TRC

DATE: 05/26/2023

USGS TOPOGRAPHIC MAPPING


FIGURE 2





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Project Study Area

Chesterfield County

**S-130 BRIDGE REPLACEMENT
OVER CLAY CREEK
PROJECT ID: P041956**

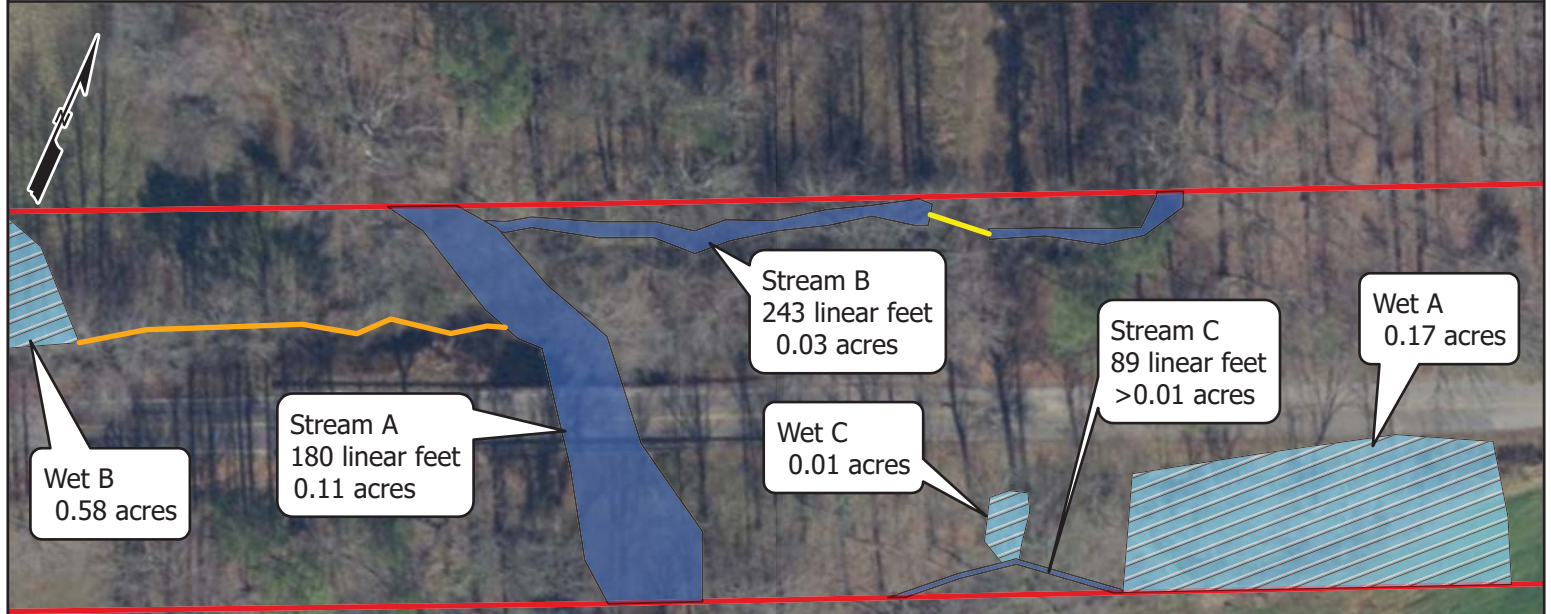
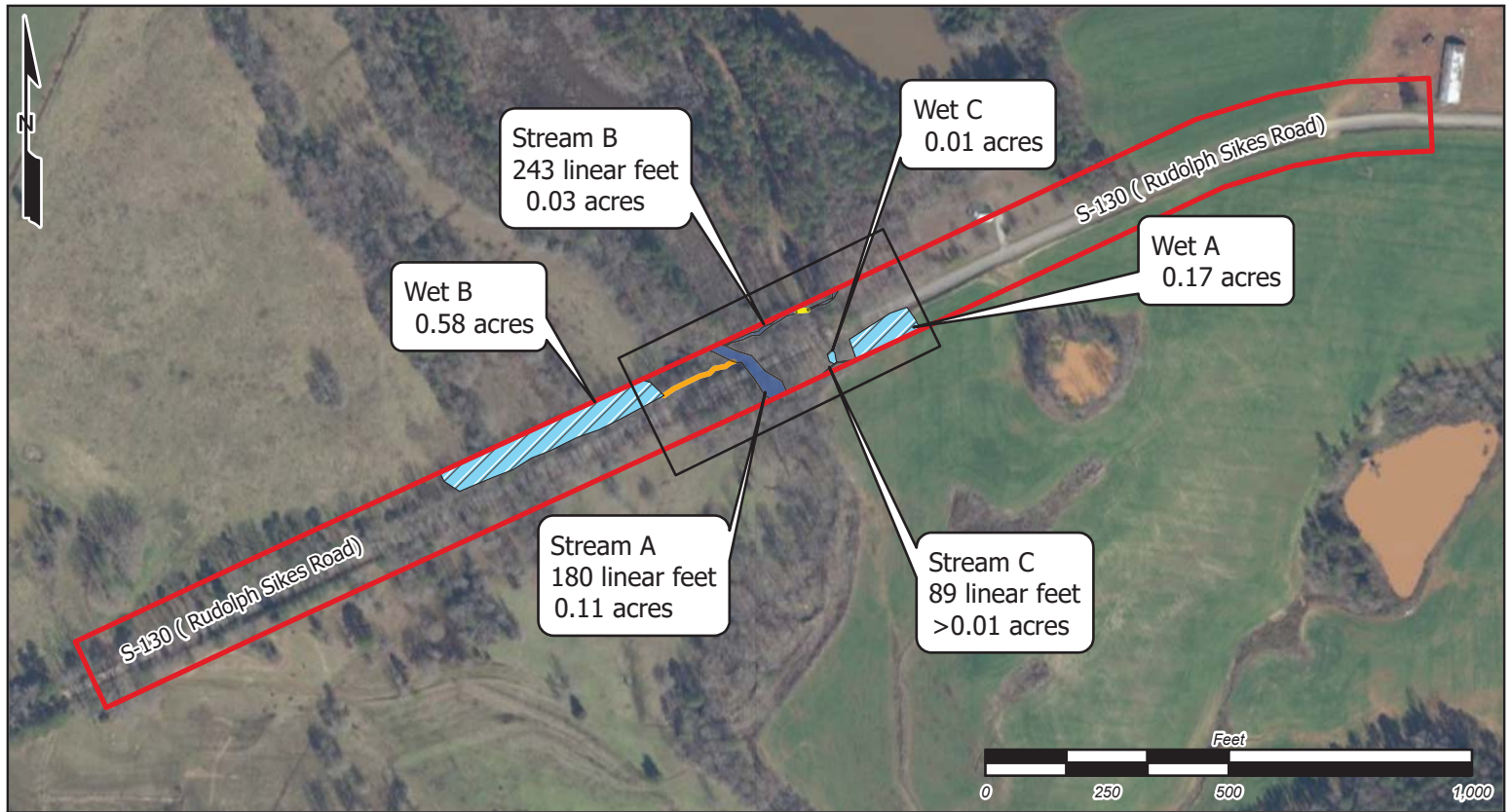
CHESTERFIELD COUNTY, SOUTH CAROLINA

Source: USGS NHD Flowlines (2018); SC Geodetic High Resolution 6-inch, RGB Aerial Imagery [Statewide, South Carolina (2020)]



South Carolina Department of Transportation

DRAWN BY: TRC	DATE: 05/26/2023
AERIAL IMAGERY	
FIGURE 3	



Legend

- Study Area - 10.33 acres
- Wetlands - 0.76 acres
- Streams - 512 feet; 0.15 acres
- Culvert
- Conveyance



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S-130 BRIDGE REPLACEMENT OVER CLAY CREEK PROJECT ID: P041956

CHESTERFIELD COUNTY, SOUTH CAROLINA

Source: Approximate boundaries of WOTUS were delineated on May 11, 2023; SC Geodetic High Resolution 6-inch, RGB Aerial Imagery [Statewide, South Carolina (2020)]



DRAWN BY: TRC

DATE: 05/26/2023

APPROXIMATE BOUNDARY OF WOTUS

FIGURE 4

Attachment B

SCDOT Permit Determination Form & Water Quality Information Report



ROBBINS
& DEWITT

Date: 06/21/23

PERMIT DETERMINATION

FROM Russell Chandler COMPANY Robbins & DeWitt

CONTACT INFO (phone and/or email) 803-360-5197

SCDOT PROJECT ENGINEER Michael Pitts

TO Will McGoldrick - Design Build Coordinator

Project Description S-130 Bridge Replacement over Clay Creek

Route or Road No. S-130 County Chesterfield

CONST. PIN P041953 OTHER PINS or STRUCTURE # _____

RESPONSE:

☐ It has been determined that no permits are required because:

☒ The following permit(s) is/are necessary:
(Please check which type(s) of permit the project will need)

USACE Permit ☒ GP ☐ IP ☐ 401 ☐ JD

OCRM Permit ☐ CAP ☐ CZC

Navigable ☐ SCDHEC NAVGP — if checked a USCG and/or USACE navigable permit may also be required, but will be determined during the NEPA and Permitting stages.

Other _____

Water Classification: FW

Print and attach the SCDHEC water quality report

303(d) listed ☐ no ☒ yes, for * DO

TMDL developed ☐ no ☒ yes, for * Fecal

*List all that apply using the SCDHEC abbreviations

Comments: _____

The determination above was based on the most recently available information at the time. This is a preliminary determination and is subject to change if the design of the project is modified.

T Russell Chandler
Biologist, SCDOT/Consultant

06/21/2023
Date



Watershed and Water Quality Information

General Information

Applicant Name: SCDOT

Permit Type: MS4

Address: 436 RUDOLPH SIKES RD, MT
CROGHAN, SC, 29727

Latitude/Longitude: 34.794450 / -80.258528

MS4 Designation: Not in designated area

Monitoring Station: PD-673

Within Coastal Critical Area: No

Water Classification (Provisional): FW

Waterbody Name: CLAY CREEK

Entered Waterbody Name:

Parameter Description

NH3N	Ammonia	CD	Cadmium	CR	Chromium
CU	Copper	HG	Mercury	NI	Nickel
PB	Lead	ZN	Zinc	DO	Dissolved Oxygen
PH	pH	TURBIDITY	Turbidity	ECOLI	Escherichia coli (Freshwaters)
FC	Fecal Coliform (Shellfish)	BIO	Macroinvertebrates (Bio)	TP	(Lakes) Phosphorus
TN	(Lakes) Nitrogen	CHLA	(Lakes) Chlorophyll a	ENTERO	Enterococcus (Coastal Waters)
HGF	Mercury (Fish Tissue)	PCB	PCB (Fish)		

Impaired Status (downstream sites)

Station	NH3N	CD	CR	CU	HG	NI	PB	ZN	DO	PH	TURBIDITY	ECOLI	FC	BIO	TP	TN	CHLA	ENTERO	HGF	PCB
PD-673	X	X	X	X	X	X	X	X	X	N	X	X	X	X	X	X	X	X	X	X

F = Standards full supported
N = Standards not supported

A = Assessed at upstream station
X = Parameter not assessed at station

WnTN = Within TMDL, parameter not supported
InTN = In TMDL, parameter not supported

WnTF = Within TMDL, parameter full supported
InTF = In TMDL, parameter full supported

Parameters to be addressed (those not supporting standards)

PH - pH

Fish Consumption Advisory

Waters of Concern (WOC)

TMDL Information - TMDL Parameters to be addressed

In TMDL Watershed: Yes

TMDL Site: PD-246

TMDL Report No: 02-04

TMDL Parameter: Fecal

TMDL Document Link: https://www.scdhec.gov/sites/default/files/docs/HomeAndEnvironment/Docs/tmdl_thompson.pdf

Report Date: May 26, 2023

Attachment C

Biological Evaluation - Section 7 of the Endangered Species Act



ROBBINS
& DEWITT

Introduction

The proposed project consists of replacing the S-130 (Rudolph Sikes Road) bridge over Clay Creek, and associated road work, in Chesterfield County, South Carolina.

Pursuant to Section 7 of the Endangered Species Act (ESA), a field survey was conducted within the Project Study Area (PSA) for the project. A review of the USFWS South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species, dated March 29, 2022, identifies five (5) federally protected species known to occur or to have formerly occurred in Chesterfield County. A Resource List was also requested from the USFWS Information for Planning and Consultation (IPaC) in May 2023, to detail protected species under USFWS jurisdiction that are known or expected to be on or near the project area. Table 1 below includes the species that appear on at least one of these resources.

Federally Protected Species

Species with the federal classification of Endangered (E) or Threatened (T) or Threatened due to Similarity of Appearance (T [S/A]) are protected under the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). Although Section 7 of the ESA does not provide protections for Candidate species, they are listed in Table 1 in the event of a status changes prior to completion of the project. Additionally, species that are proposed for listing are not subject to Section 7 compliance until the time they are formally listed. The bald eagle is protected by the Bald and Golden Eagle Protection Act (BGEPA) and is included in this evaluation.

Table 1: Threatened and Endangered Species

Category	Common Name	Scientific Name	Protection Status
Bird	Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA
Bird	Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered
Fish	Atlantic sturgeon*	<i>Acipenser oxyrinchus</i>	Endangered
Fish	Shortnose sturgeon*	<i>Acipenser brevirostrum</i>	Endangered
Insect	Monarch butterfly	<i>Danaus plexippus</i>	Candidate
Mammal	Tri-colored bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Mollusk	Carolina heelsplitter	<i>Lasmigona decorata</i>	Endangered, Critical Habitat
Plant	Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Endangered

* Species is under the jurisdiction of NOAA Fisheries.

Methodology

Environmental scientists performed literature and field reviews to determine the likelihood of protected species within the PSA and the potential for project-related impacts. Field reviews were conducted on May 8th and 11th, 2023. The SCDNR South Carolina Natural Heritage Species Viewer was also reviewed to determine the presence of known populations of protected species within the vicinity of the project.

Biotic Communities

Land use surrounding the PSA includes agriculture, pastureland, and low-density residential housing. The only natural communities observed within the PSA include emergent freshwater wetlands and small stream forest.

The emergent freshwater wetland is adjacent to a hillslope seepage and the small stream forest. The wetland was dominated by river cane (*Arundinaria gigantea*), cattail (*Typha latifolia*), and soft rush (*Juncus effesus*).

The small stream forest consists of an open to dense understory or shrub layer and a sparse to dense herb layer. The canopy has a mixture of bottomland and mesophytic trees including river birch (*Betula nigra*), sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua*), tulip poplar (*Liriodendron tulipifera*), American elm (*Ulmus americana*), hackberry (*Celtis laevigata*), green ash (*Fraxinus pennsylvanica*), and red maple (*Acer rubrum*). Vine species are typically common and can include poison ivy (*Toxicodendron radicans*), summer grape (*Vitis aestivalis*), and crossvine (*Bignonia capreolata*). The subcanopy consists of young canopy species and many tall shrubs including pawpaw (*Asimina triloba*) and blackhaw (*V. prunifolium*). The herb layer contains cardinal flower (*Lobelia cardinalis*), longleaf lobelia (*L. elongata*), Nepalese browntop (*Microstegium vimineum*), netted chainfern (*Woodwardia areolata*), royal fern (*Osmunda regalis*), and eastern marsh fern (*Thelypteris palustris*).

Results

The SCDNR South Carolina Natural Heritage Species Viewer does not identify any protected species within the PSA or within a one-mile radius of the PSA.

No suitable habitat for bald eagle or red-cockaded woodpecker are present in the PSA. Additionally, Clay Creek is too shallow to support Atlantic or shortnose sturgeon.

Suitable habitat for tri-colored bat exists in the PSA. Roosting habitat exists under the existing Clay Creek bridge and in cavities and crevices of trees within the PSA. A structure survey of the existing Clay Creek bridge found no evidence of bat roosting. Additionally, a visual inspection and borescope review of cavities and crevices in trees within the PSA did not indicate the presence of any bat species. A Structures Survey Data Sheet and Habitat Assessment Data Sheet are included in Appendix B.

Clay Creek is considered suitable habitat for the Carolina heelsplitter. Edwards-Pittman performed freshwater mollusk surveys in May 2023. According to that report, the survey identified two species of freshwater mollusks; however, no Carolina heelsplitter were identified. Mostly, low quality habitat was present throughout the survey area with areas of marginal habitat. The large amount of silt, likely caused by the surrounding pastures, was the primary limiting factor for habitat suitability in addition to eroding stream banks. Additionally, the proposed project proposes to span the entire channel of Clay Creek. Please see the Protected Aquatic Species Survey Report in Appendix C.

Limited suitable habitat for Schweinitz's sunflower exists in the PSA. The existing right-of-way of Rudolph Sikes Road, near the western limits of the PSA, contains the most suitable habitat for the species. The natural community near Clay Creek consists of small stream forest with damp soils and a dense overstory. The land uses outside the existing right-of-way include active agricultural, grazing, and residential landscaping and are not conducive to support the species. There are no maintained utility corridors in the PSA. Based on the conceptual design for the project, the bridge would be replaced on its existing alignment,

and roadway approach work would be contained within 500 feet of the existing bridge, where no suitable habitat for the species is present.

Conclusions

Based on the literature and field reviews, it is determined that the proposed project will have a biological conclusion of 'no effect' on red-cockaded woodpecker, Atlantic sturgeon, shortnose sturgeon, tri-colored bat, and Schweinitz's sunflower. Based on the marginal habitat and presence of freshwater mussels, and avoidance of direct impacts to Clay Creek, the proposed project will have a biological conclusion of 'may affect, not likely to adversely affect' the Carolina heelsplitter.

The project team will re-evaluate the project's effect on tri-colored bats at the time the species is formally listed under the ESA, and, if necessary, initiate consultation at that time.

If you have any questions, or if Robbins & DeWitt can be of additional assistance, please feel free to contact Russell Chandler at (803) 360-5197 or russell.chandler@robbins-dewitt.com.

Respectfully Submitted

A handwritten signature in blue ink that reads "T. Russell Chandler" followed by a small circular mark.

T. Russell Chandler, II
Robbins & DeWitt, LLC

Attachment D

Biological Evaluation Attachments



ROBBINS
& DEWITT

CHESTERFIELD COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
Amphibian	Gopher frog (ARS)	<i>Lithobates capito</i>	Breeding: October-March	Call survey: February-April
Bird	Bald eagle (BGEPA)	<i>Haliaeetus leucocephalus</i>	October 1-May 15	Nesting season
Bird	Red-cockaded woodpecker (E)	<i>Picoides borealis</i>	March 1-July 31	Nesting season
Fish	Atlantic sturgeon* (E)	<i>Acipenser oxyrinchus*</i>	February 1-April 30	Spawning migration
Fish	Robust redhorse (ARS)	<i>Moxostoma robustum</i>	Late April-early May	Temperature dependent: 16-24°C
Fish	Shorthead sturgeon* (E)	<i>Acipenser brevirostrum*</i>	February 1-April 30	Spawning migration
Insect	Frosted elfin (ARS)	<i>Callophrys irus</i>	March - June	
Insect	Monarch butterfly (C)	<i>Danaus plexippus</i>	August-December	Overwinter population departs; March-April
Insect	Septima's clubtail (ARS)	<i>Gomphus septima</i>	Year round	Active: May-August
Mammal	Tri-colored bat (ARS)	<i>Perimyotis subflavus</i>	Year round	Found in mines and caves in the winter
Mollusk	Carolina heelsplitter (E, CH)	<i>Lasmigona decorata</i>	March 1-September 30	Optimal survey window
Plant	Boykin's lobelia (ARS)	<i>Lobelia boykinii</i>	May-August	
Plant	Carolina-birds-in-a-nest (ARS)	<i>Macbridea caroliniana</i>	July-November	
Plant	Georgia aster (ARS*)	<i>Symphyotrichum georgianum</i>	Early October-mid November	
Plant	Wire-leaved dropseed (ARS)	<i>Sporobolus teretifolius</i>	August-September	Following fire
Reptile	Spotted turtle (ARS)	<i>Clemmys guttata</i>	February-mid April	

Note: There are no federally protected species found in this county in the crustacean family category.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

South Carolina Ecological Services Field Office
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407



June 29, 2023

Will McGoldrick
Program Manager
Environmental Services Office
SCDOT
955 Park St., Room 506
Columbia, SC 29202-0191

Re: S-130 (Rudolph Sikes Road) Bridge Replacement over Clay Creek
Chesterfield County, SC
SCDOT Project ID: P041170
Project Code: 2023-0093542

The U.S. Fish and Wildlife Service (Service) has reviewed the above reference project pursuant to the section 7(a)(2) of the Endangered Species Act of 1973, as amended 87 Stat. 884, as amended, 16 U.S.C. 1531 *et. seq.* (ESA). The following comments do not address all Service concerns for fish and wildlife resources and do not preclude separate reviews and comments by the Service as afforded by other applicable environmental legislation.

Your agency has made a determination of *may affect, but is not likely to adversely affect* for the species listed below:

Carolina heelsplitter (*Lasmigona decorata*)

The Service concurs with this determination and satisfies all requirements under section 7 of the ESA. Consultation is not necessary for *no effect* determinations. Please note that obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

The Service recommends that you contact the South Carolina Department of Natural Resources regarding potential impacts to State protected species. If you need further assistance, please contact: Morgan Wolf via email: morgan_wolf@fws.gov.

Sincerely,

William J. Pearson
Acting Field Supervisor
South Carolina Ecological Services Field Office



United States Department of the Interior

FISH AND WILDLIFE SERVICE

South Carolina Ecological Services
176 Croghan Spur Road, Suite 200
Charleston, SC 29407-7558
Phone: (843) 727-4707 Fax: (843) 727-4218



In Reply Refer To:

June 14, 2023

Project Code: 2023-0093542

Project Name: S-130 (Rudolph Sikes Road) Bridge Replacement over Clay Creek

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

South Carolina Ecological Services

176 Croghan Spur Road, Suite 200

Charleston, SC 29407-7558

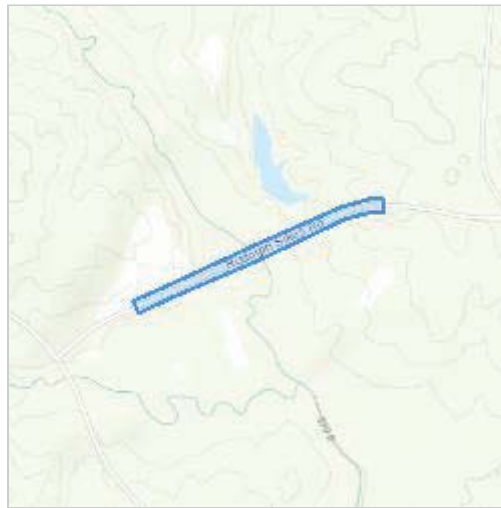
(843) 727-4707

PROJECT SUMMARY

Project Code: 2023-0093542
Project Name: S-130 (Rudolph Sikes Road) Bridge Replacement over Clay Creek
Project Type: Bridge - Replacement
Project Description: SCDOT proposes to replace the S-130 bridge over Clay Creek. The purpose of the project is to correct the load restriction placed on the bridge and restore all components to good condition.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.794381,-80.25884260198667,14z>



Counties: Chesterfield County, South Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Schweinitz's Sunflower <i>Helianthus schweinitzii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3849	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

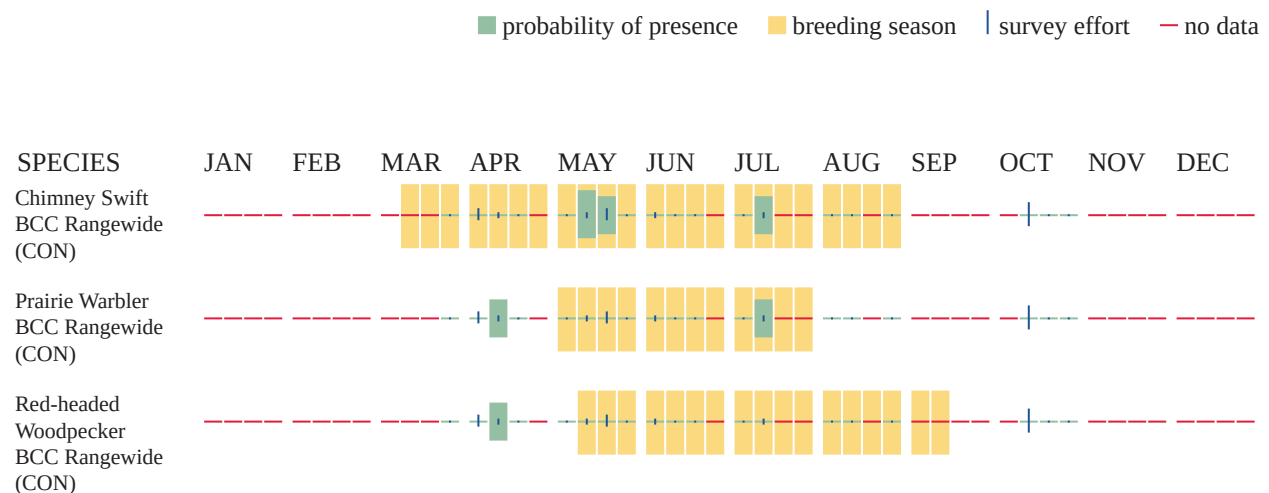
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
 2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
 3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).
-

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- [R2UBH](#)
 - [R4SBC](#)
-

IPAC USER CONTACT INFORMATION

Agency: South Carolina Department of Transportation
Name: Russell Chandler
Address: 321 HOWELL RD
City: Blythewood
State: SC
Zip: 29016
Email: russell.chandler@robbins-dewitt.com
Phone: 8033605197

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration
Name: Will McGoldrick
Email: McGoldriWR@scdot.org
Phone: 8037371326

STRUCTURES SURVEY DATA SHEET

Investigator Names(s): A. Chandler

Date: 5/11/2023




County: CHESTERFIELD

Lat Long/w3w: 34.79451, -80.25847

Project Name: S-130 (RUDOLPH SIKES ROAD) OVER CLAY CREEK

SCDOT Structure ID: 03620

SCDOT Project No.: P041956

Structure Type:			Underdeck Material:
<input type="checkbox"/> Parallel Box Beam		<input type="checkbox"/> Steel I-Beam	<input checked="" type="checkbox"/> Concrete
<input type="checkbox"/> Pre-Stressed Girder		<input checked="" type="checkbox"/> Flat Slab / Box	<input type="checkbox"/> Corrugated Steel
<input type="checkbox"/> Cast in Place		<input type="checkbox"/> Trapezoidal Box	<input type="checkbox"/> Other:
Note:			
<input type="checkbox"/> Culvert - Box			
<input checked="" type="checkbox"/> Culvert - Pipe/Round			

Road Type:			
<input type="checkbox"/> Interstate	<input type="checkbox"/> US Highway	<input checked="" type="checkbox"/> State Road	<input type="checkbox"/> County Road
		S-130	

Surrounding Habitat (check all that apply):				
<input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> Agricultural	<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Pine Forest	<input type="checkbox"/> Grassland
<input checked="" type="checkbox"/> Riparian	<input checked="" type="checkbox"/> Wetland	<input checked="" type="checkbox"/> Mixed Forest	<input checked="" type="checkbox"/> Bottomland Hardwood	
<input type="checkbox"/> Other:				

Conditions Under Bridge (check all that apply):			
<input checked="" type="checkbox"/> Bare Ground/Sediment	<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Rip Rap	<input checked="" type="checkbox"/> Flowing Water
<input type="checkbox"/> Standing Water	<input checked="" type="checkbox"/> Open Vegetation (not obstructing flight path)	<input type="checkbox"/> Closed Vegetation (may obstruct flight path)	<input type="checkbox"/> Two Lanes
<input type="checkbox"/> Four (+) Lanes	<input type="checkbox"/> Unpaved Road	<input type="checkbox"/> Railroad	<input type="checkbox"/> Other:

Bats Present:	
<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

Bat Indicators (check all that apply):				
<input type="checkbox"/> Visual	<input type="checkbox"/> Smell	<input type="checkbox"/> Sound	<input type="checkbox"/> Staining	<input type="checkbox"/> Guano

Species Present:	
<input type="checkbox"/> Big brown (<i>Eptesicus fuscus</i>)	<input type="checkbox"/> Northern long-eared (<i>Myotis septentrionalis</i>)
<input type="checkbox"/> Brazilian free-tailed (<i>Tadarida brasiliensis</i>)	<input type="checkbox"/> Northern yellow (<i>Lasiurus intermedius</i>)
<input type="checkbox"/> Eastern red (<i>Lasiurus borealis</i>)	<input type="checkbox"/> Rafinesque's big-eared (<i>Corynorhinus rafinesquii</i>)
<input type="checkbox"/> Eastern small-footed (<i>Myotis leibii</i>)	<input type="checkbox"/> Silver-haired (<i>Lasionycteris noctivagans</i>)
<input type="checkbox"/> Evening (<i>Nycticeius humeralis</i>)	<input type="checkbox"/> Southeastern (<i>Myotis austroriparius</i>)
<input type="checkbox"/> Hoary (<i>Lasiurus cinereus</i>)	<input type="checkbox"/> Seminole (<i>Lasiurus seminolus</i>)
<input type="checkbox"/> Little brown (<i>Myotis lucifugus</i>)	<input type="checkbox"/> Tri-colored (<i>Perimyotis subflavus</i>)
	<input type="checkbox"/> UNKNOWN

Roost Description (if known, check all that apply):			
<input type="checkbox"/> Day Roost	<input type="checkbox"/> Nursery Roost	<input type="checkbox"/> Night Roost	<input type="checkbox"/> UNKNOWN
Number of Roosts:			

Roost Design (check all that apply):			
<input type="checkbox"/> Crack/Crevice/Expansion Joint: Under Bridge		<input type="checkbox"/> Crack/Crevice/Expansion Joint: Top of Bridge	
<input type="checkbox"/> Plugged Drain	<input type="checkbox"/> Under/Along Main Bridge Structure	<input type="checkbox"/> Rail	<input type="checkbox"/> Other:

Human Disturbance or Traffic Under Bridge or at Structure?		
<input type="checkbox"/> High	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> None

Areas Inspected (check all that apply):			
<input type="checkbox"/> Vertical Surfaces on I-Beams	<input checked="" type="checkbox"/> Vertical Surfaces between Concrete End Walls and Bridge Deck		
<input checked="" type="checkbox"/> Expansion Joints	<input checked="" type="checkbox"/> Rough Surfaces	<input checked="" type="checkbox"/> Guardrails	<input checked="" type="checkbox"/> Services
<input checked="" type="checkbox"/> Other: Vertical surfaces on concrete girders			
Areas NOT Inspected because of Safety or Inaccessibility:			

Evidence of Migratory Birds Using the Structure?	
<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

Additional Information:

BAT HABITAT ASSESSMENT DATA SHEET

Project Name: S-130 (RUDOLPH SIKES RD) OVER CLAY CREEK

Date: 5/11/2023

County: CHESTERFIELD

Lat Long: 34.79451, -80.25847

Surveyor: A. CHANDLER

Brief Project Description

Replacing the S-130 (Rudolph Sikes Rd) bridge over Clay Creek and associated roadway approach work.

Project Area

Project	Total Acres	Forest Acres	Open Acres
	10.33 acres	1.40 acres	8.93 acres
Proposed Tree Removal	Completely Cleared	Partially Cleared (Will Leave Trees)	Preserve Acres – No Clearing
	< 0.2 acre (anticipated)	None	> 1.2 acres (anticipated)

Vegetation Cover Types

Pre-Project	Post-Project
Small Stream Forest, Agricultural, Maintained right-of-way	Small Stream Forest, Agricultural, Maintained right-of-way

Landscape within 5-mile Radius

Flight corridors to other forested areas?

S-130 Roadway, Clay Creek, Driveway N of S-130, Open fields from forested area N of S-130 to forested area 0.25 miles south

Describe Adjacent Properties (e.g., forested, grassland, commercial or residential development, water sources)

Forested, Agricultural, Clay Creek, Ponds (outside PSA)

Proximity to Public Land

What is the distance from the project area to forested public lands (e.g., national or state forests, national or state parks, conservation areas, wildlife management areas)?

Sample Site Description

Sample Site No. (s):	Project Study Area (10.33 acres)
----------------------	----------------------------------

Water Resources at Sample Site			
Stream Type (# and length)	Ephemeral	Intermittent	Perennial
		Stream C – 89 lf	Stream A – 180 lf Stream B – 243 lf

Pools/Ponds (# and size)	Pond A – 6 ac (outside PSA, N of S-130) Pond B – 0.25 ac (outside PSA, S of S-130)	Open and accessible to bats?
		Yes

Wetland (approx. acres)	Permanent	Seasonal
	Wet A – 0.17 ac Wet B – 0.58 ac Wet C – 0.01 ac	

Describe existing condition of water sources: Clay Creek and nearby agriculture ponds

Forest Resources at Sample Site			
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (< 20')
	5 (61-80%)	4 (41-60%)	4 (41-60%)

Dominant Species of Mature Trees	Pine, sweetgum, red maple, poplar, elm
-------------------------------------	--

Exfoliating Bark (%)	
----------------------	--

Size of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (> 15 in)
	2 (11-20%)	2 (11-20%)	2 (11-20%)

No. of Suitable Snags	5% – borescope used, no evidence of bat use
Standing dead trees with exfoliating bark, cracks, crevices, or hollows. Snags without these characteristics are not considered suitable.	

1 = 1-10%, 2 = 11-20%, 3 = 21-40%, 4 = 41-60%, 5 = 61-80%, 6 = 81-100%

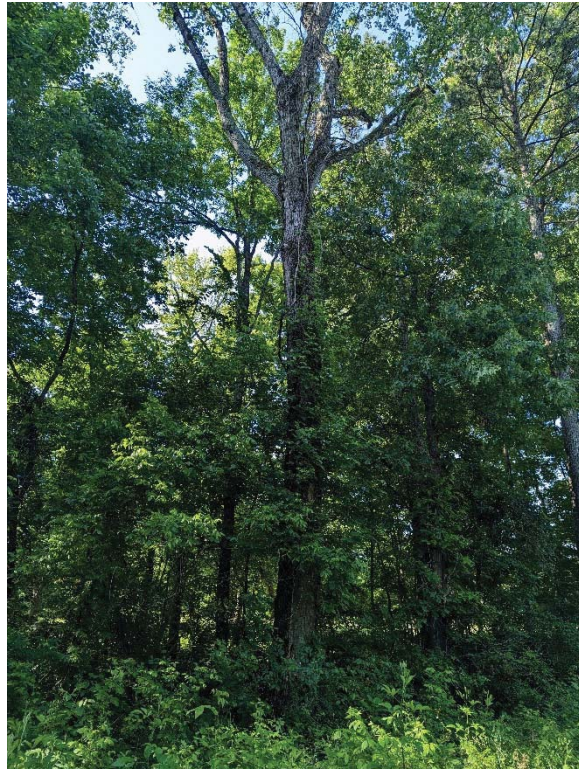
IS THE HABITAT SUITABLE FOR NORTHERN LONG-EARED BATS?
IS THE HABITAT SUITABLE FOR TRI-COLORED BATS?

PSA is outside known range of NLEB
Yes

Additional Comments:
See Attachment A, Figure 3 for an Aerial Photography Map, and Attachment C for description of forested habitat.

Attach aerial photo of project site with all forested areas labeled and a general description of the habitat.

Photographic Documentation: habitat shots at edge and interior from multiple locations; understory/midstory/canopy; examples of potential suitable snags and live trees; water sources



Photograph 1

Date: 5/11/2023

Taken by: A. Chandler

Tree with several hollows along S-130 – no evidence of bats



Photograph 2

Date: 5/11/2023

Taken by: A. Chandler

Snag – borescope used, no evidence of bats

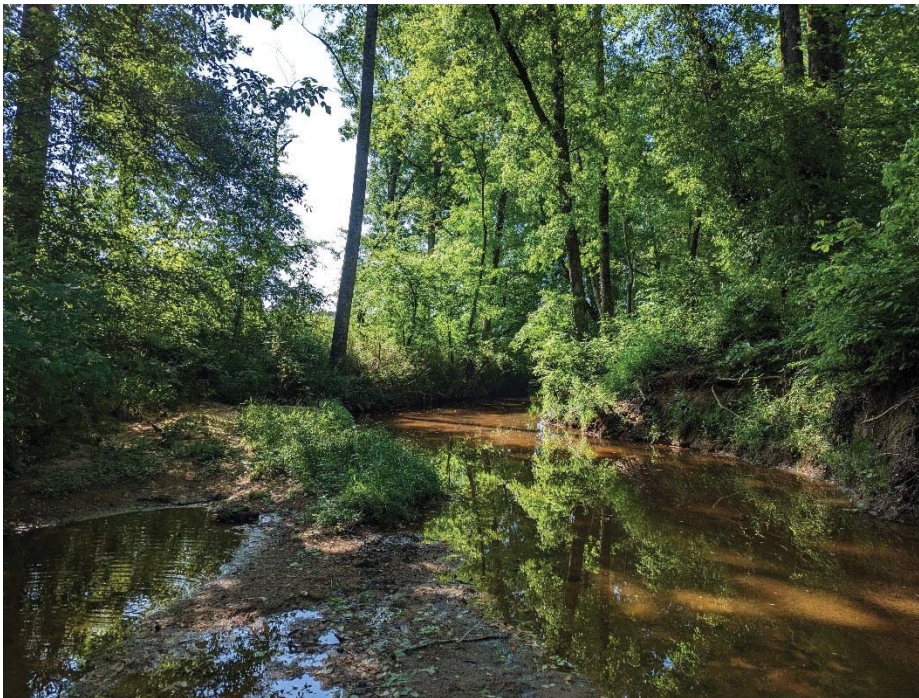


Photograph 3

Date: 5/11/2023

Taken by: A.Chandler

South of S-130, facing north



Photograph 4

Date: 5/11/2023

Taken by: A. Chandler

South of bridge along Clay Creek, facing south



Photograph 5

Date: 5/11/2023

Taken by: A. Chandler

On S-130, facing NE



Photograph 6

Date: 5/11/2023

Taken by: A. Chandler

Driveway north of S-130



Photograph 7

Date: 5/11/2023

Taken by: A. Chandler

Field N of S-130, Clay
Creek is to the E



Photograph 8

Date: 5/11/2023

Taken by: R. Chandler

Field S of S-130, Clay
Creek is to the W

Protected Aquatic Species Survey Report

Chesterfield County

S-130 over Clay Creek

Under Contract With:

HNTB Corporation
343 E. Six Forks Road
Raleigh, NC 27609

Prepared By:

Edwards-Pitman Environmental, Inc.
2700 Cumberland Parkway
Suite 300
Atlanta, Georgia 30339

June 2023

Report Author: Kevin Thomas
Senior Aquatic Ecologist

Co-Author: Nicole Riddle
Ecologist/ Project Manager

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Appendix B Protected Species Information
Appendix C USFWS Site Condition Data Forms
Appendix D USGS Stream Gage Information
Appendix E Mollusk Photographs
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1.0 INTRODUCTION

1.1 Study Location and Purpose

The South Carolina Department of Transportation (SCDOT) proposes to replace the existing bridge on S-130 over Clay Creek in Chesterfield County, South Carolina. The proposed plans are to span the entire creek with a 90-foot single span bridge using 33-inch-deep box beams. The existing piles within the stream channel will be cut off and removed at the mudline. No rip-rap is expected to be placed in the existing stream channel and any rip-rap placed at the approaches will be keyed into natural ground at the toe of the slopes.

The proposed project is located within a rural area of Chesterfield County, South Carolina, within the Carolina Slate Belt (45c) Level 4 Ecoregion of South Carolina. The proposed project is located in the Lower Pee Dee River (03040201) United States Geological Survey (USGS) Hydrologic Unit Code (HUC) 8 watershed. The primary land use in the watershed was agriculture. The elevation at the project site was 312 feet above mean sea level (msl).

As part of the federal permitting process that requires an evaluation of potential project related impacts, a mussel survey was requested. Edwards-Pitman Environmental Inc. (EPEI) was contracted through HNTB Corporation to conduct a presence/ absence freshwater mussel survey, targeting the Carolina heelsplitter (*Lasmigona decorata*), within the project area.

1.2 Background Information

The United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System website (IPaC) (USFWS 2023) and South Carolina Department of Natural Resources (SCDNR) SC Rare, Threatened and Endangered Species Inventory (SCDNR 2023) list the federally protected Carolina heelsplitter as potentially occurring in Chesterfield County (Appendix B – Protected Species Information). The Carolina heelsplitter is endemic to the slate belt geologic province in North and South Carolina. (USFWS 2023) The project is located within the Carolina Slate Belt (45c) Level 4 Ecoregion of South Carolina; therefore, a mussel survey was conducted within the proposed project corridor for the Carolina heelsplitter. Species' name, legal status (federal), habitat requirements, species range (historical and present), and element occurrence data for the target species are presented below.

Carolina Heelsplitter (*Lasmigona decorata*) – Federally Endangered and State Endangered

The Carolina heelsplitter is a medium-sized mussel with a maximum length of 11.8 centimeters (4.7 inches). The shell is an ovate trapezoid, and the periostracum can vary from yellowish, greenish, or brownish

coloration and may have black to green rays. The nacre can also vary from an iridescent white to a pale orange. The Carolina heelsplitter is found in large rivers and streams, but is restricted to cool, clean, shallow, heavily shaded streams with moderate gradient. The Carolina heelsplitter requires stable stream banks and channels, with clean well oxygenated water and little or no fine sediment (LeGrand et. al. 2010).

The Carolina heelsplitter's historic range included several locations within the Catawba and Pee Dee River systems in North Carolina and the Catawba, Pee Dee, Saluda, and Savanna River systems in South Carolina. Currently the Carolina heelsplitter is known from six populations in South Carolina and two in North Carolina (SCDNR 2023). The entire historic range is not known, but evidence indicates that this species was once more widely distributed (USFWS 1996).

Additional resources were used for background information on the distribution, ecology, and identification of freshwater mollusks. These resources included the Workbook and Key to the Freshwater Bivalves of South Carolina (Bogan et al. 2004); Freshwater Unionacean Clams (Mollusca: Pelecypoda) of North America (Burch 1975); Draft Carolina Heelsplitter Recovery Plan (USFWS 1996); Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Carolina Heelsplitter (USFWS 2002); and NatureServe (2023).

2.0 SURVEY PROTOCOLS/METHODOLOGY

The aquatic survey for presence/absence of the Carolina heelsplitter was conducted on May 8, 2023, by EPEI aquatic ecologists Kevin Thomas, Austin Haney, and Nicole Riddle. The proposed project is located within a rural area of Chesterfield County, South Carolina, within the Carolina Slate Belt (45c) Level 4 Ecoregion of South Carolina. The proposed project is located in the Lower Pee Dee River (03040201) United States Geological Survey (USGS) Hydrologic Unit Code (HUC) 8 watershed. The primary land use in the watershed was agriculture. The elevation at the project site was 312 feet above mean sea level. As part of the state and federal permit conditions both USFWS and SCDNR were notified of the field work.

Survey Area

This survey was conducted using the 2008 final aquatic survey protocol (USFWS 2008) for streams and rivers with water depths that are conducive to wading using tactile and visual search with view buckets. The recommended distance for such streams is 300 Meters (M) downstream and 100 M upstream of the road crossings for wadeable streams.

Site Conditions and Water Quality

Habitat characteristics (i.e., sediment, riparian condition, and water condition, etc.) were assessed through visual inspection and recorded on USFWS Site Conditions Field Data Forms (Appendix C). A sketch was made of the surveyed stream to illustrate important stream characteristics, the locations of protected species, and other pertinent information. Photographs of Clay Creek are in Appendix F – Site Photographs.

Water quality was assessed using the Thermo Scientific Eutech Elite PCTS to test pH, water temperature, and specific conductivity, and the Amtast dissolved oxygen (DO) meter and a LaMotte 2020 turbidity meter to measure DO and turbidity respectively. Water quality data were collected in-stream and used to assess potential impacts to habitat quality and determine if the water was within the state water quality standards.

Mollusk Survey

The survey was conducted in accordance with the Freshwater Mussel Survey Protocol for the Southeastern Atlantic Slope and Northeastern Gulf drainages in Florida and Georgia (USFWS 2008). The area was surveyed from downstream to upstream in a zigzag pattern in 3 person rows. The visibility within the stream allowed for both visual and tactile techniques to be employed. The shoreline, exposed sand bars, and dry portions of the stream were visually searched for relic shells deposited by high flows or animals.

3.0 RESULTS/DISCUSSION

3.1 Site Conditions and Water Quality

The water quality data recorded during the survey of Clay Creek are as follows:

Water Temperature	Dissolved Oxygen	Conductivity	pH	Turbidity
19.7°C	5.53 mg/L	173.4 µS	7.2 standard units	37 NTU

Table 1: Water Quality

The stream had heavily eroded banks with variable marginal habitat. There was a mix of rocky and sandy substrate with several riffles and pools.

The most pertinent gaging station for the project is the US Geological Survey (USGS) gaging station on Thompson Creek (02130470) above Cheraw, South Carolina. This gaging station indicated that the water level was typical for the site on the date of the survey (Appendix D – USGS Stream Gage Information) (USGS 2023).

3.2 Biological Survey

Mollusk Survey

Carolina slabshell (*Elliptio congarea*) and Eastern elliptio (*Elliptio complanata*) were the only mussels collected during the S-130 over Clay Creek Survey. Two live Carolina slabshells and four Eastern elliptios were collected in Clay Creek. A summary of the mollusks collected is presented in Table 1 – Mollusk Summary and Appendix E – Mollusk Photographs.

3.3 Summary

The federally protected Carolina heelsplitter was the target species for the proposed project. Generally, this species inhabits cool, clean waterways with silt free bottoms and stable stream banks. The Carolina heelsplitter was not observed within Clay Creek. Mostly, Low quality habitat was present throughout the survey area with areas of marginal habitat. The large amount of silt, likely caused by the surrounding cow pastures, was the primary limiting factor for habitat suitability in addition to eroding stream banks. Additionally, the proposed project proposes to span the entire channel, therefore, the proposed project would have a recommended biological determination of “may affect, not likely to adversely affect” the Carolina heelsplitter.

4.0 QUALIFICATIONS STATEMENT

4.1 Qualifications

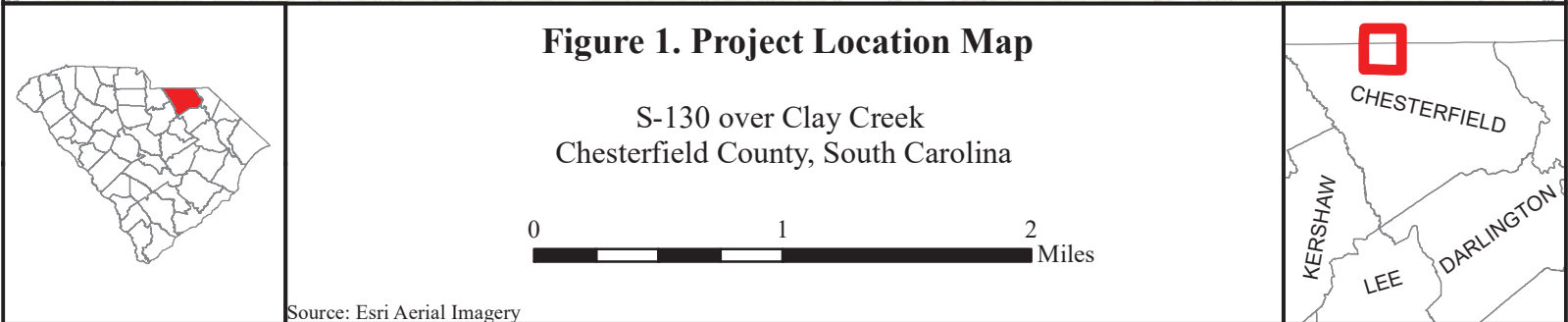
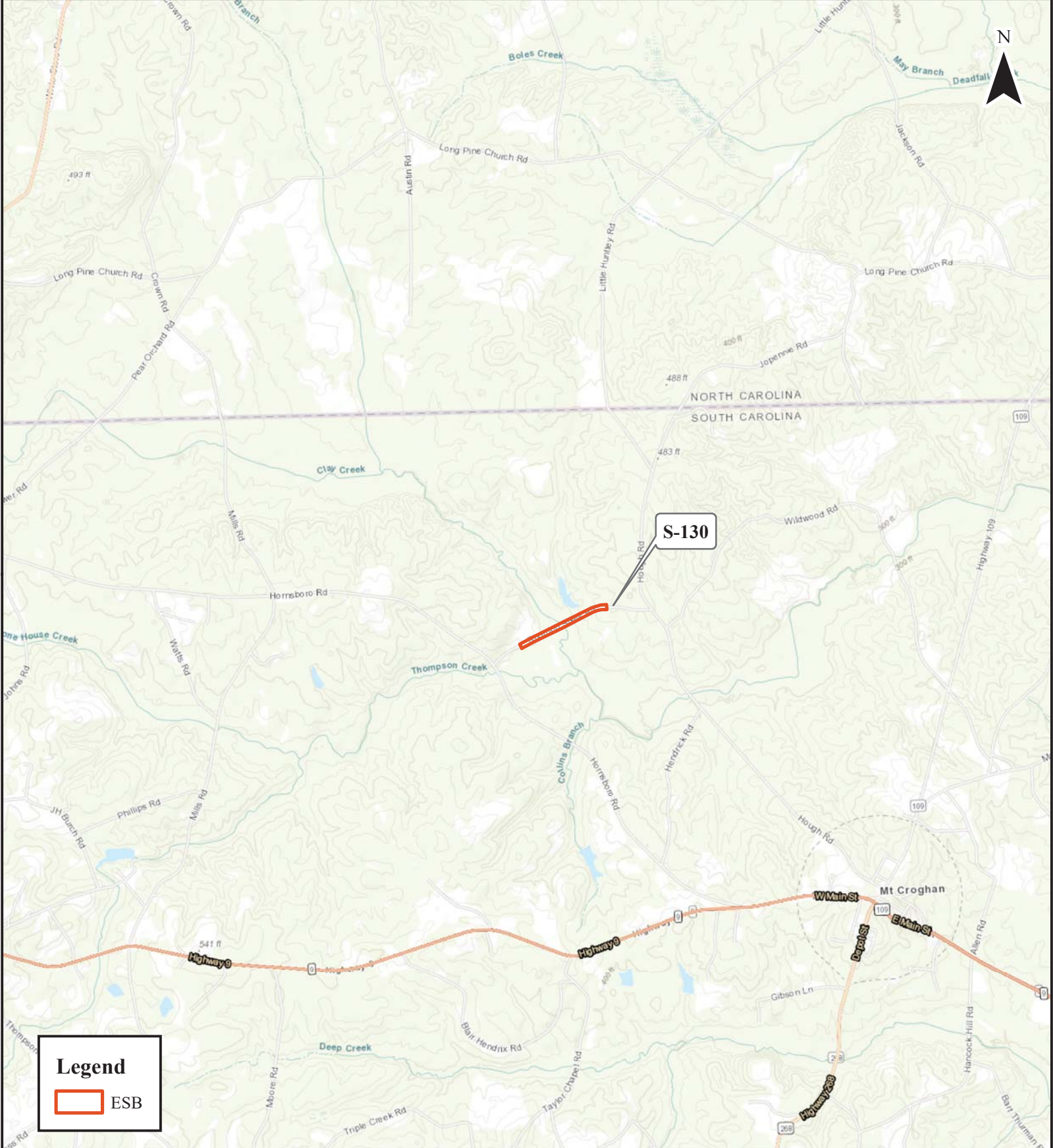
Nicole Riddle, Kevin Thomas, and Austin Haney conducted the field surveys. Mrs. Riddle was the lead ecologist on this survey. She holds the appropriate state (F-23-038) and federal (ES43264B-1) permits for sampling in South Carolina.

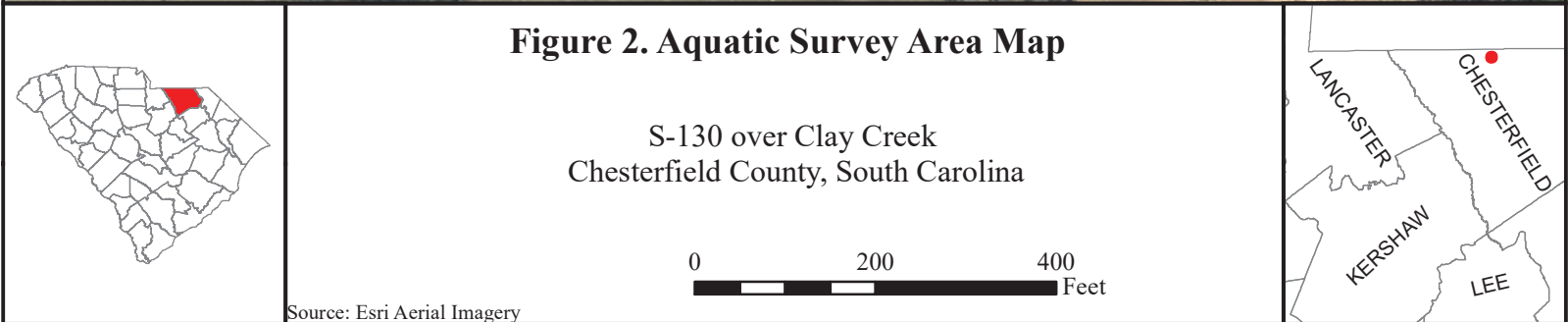
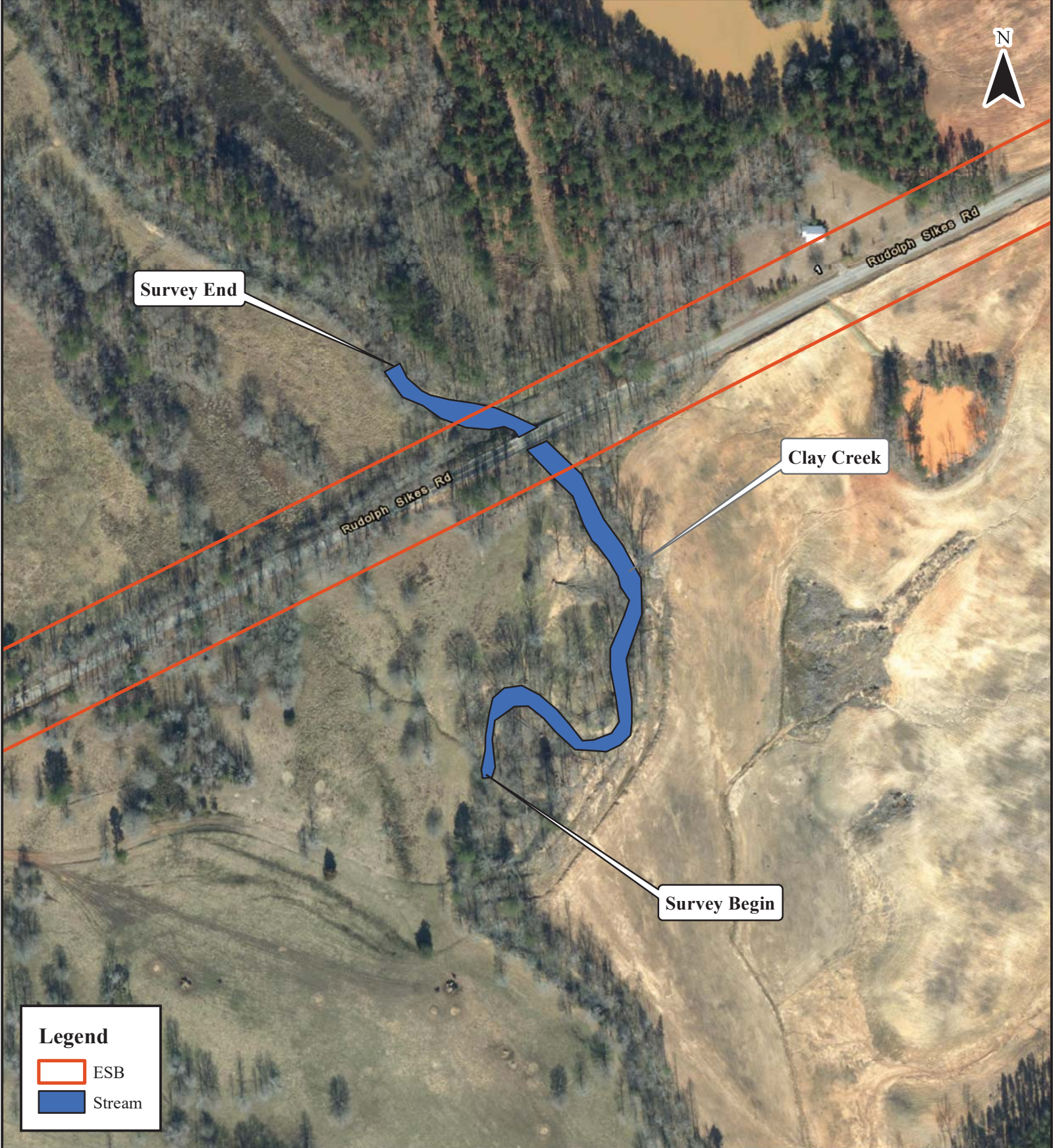
Nicole Riddle was responsible for the field species identifications. Mrs. Riddle has approximately 10 years of experience as a field biologist with over 5 years of freshwater mussel experience plus 3 years of training for identification and surveys for freshwater mussels. Mrs. Riddle has a Bachelor of Science in Marine Science from Coastal Carolina University.

Kevin Thomas is a Senior Aquatic Ecologist with Edwards-Pitman Environmental, Inc. Mr. Thomas has approximately 23 years of experience working in the ecological and environmental sciences. He has approximately 22 years environmental consulting experience. He has conducted surveys for state and federal waters, state and federal protected plants and animals within Georgia for approximately 18 years. Mr. Thomas has a Bachelor of Science in Biology from Kennesaw State University.

Austin Haney is an Aquatic Ecologist with Edwards-Pitman Environmental, Inc. Mr. Haney has over 2 years of experience conducting aquatic species surveys, including crayfish, fish, and mussels, as well as experience preparing and writing ecological reports. Mr. Haney has a Bachelor of Science in Forest Resources from the University of Georgia and a Master of Science in Fisheries and Allied Aquacultures from Auburn University.

FIGURES





TABLE

Table 2. Mollusk Summary

STREAM	COMMON NAME	SCIENTIFIC NAME	LIVE	CONSERVATION STATUS
Clay Creek	Eastern elliptio	<i>Elliptio complanata</i>	4	None
	Carolina Slabshell	<i>Elliptio congarea</i>	2	None

APPENDICES

Appendix A

References

REFERENCES

- Bogan, A.E., and J.M. Alderman. 2004. Workbook and Key to the Freshwater Bivalves of South Carolina. Revised Second Edition.
- Burch, J.B. 1975. Freshwater Unionacean Clams (Mollusca: Pelycypoda) of North America. Malacological Publications, Hamburg, Michigan.
- LeGrand, Jr., H.E., J.T. Finnegan, S.E. McRae, S.P. Hall. 2010. Natural Heritage Program List of the Rare Animal Species of North Carolina. N.C. Natural Heritage Program, Raleigh, North Carolina.
- South Carolina Department of Natural Resources. 2023. SC Rare, Threatened & Endangered Species Inventory: County. Wildlife Resources Division, Columbia South Carolina; Available at <http://www.dnr.sc.gov/species/index.html>
- NatureServe. 2023. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.0. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>.
- Parmalee, P.W., and A.E. Bogan. 1998. The Freshwater Mussels of Tennessee. The University of Tennessee Press, Knoxville, Tennessee.
- United States Fish and Wildlife Service. 1996. Revised Technical/Agency Draft Carolina Heelsplitter Recovery Plan. Atlanta, Georgia.
- United States Fish and Wildlife Service. 2002. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Carolina Heelsplitter; Final Rule. 50 CFR 17, Federal Register (July 2, 2002), Vol. 67, No. 127, Pages 44502-44522.
- United States Fish and Wildlife Service. 2008. Freshwater Mussel Protocol for the Southeastern Atlantic Slope and Northeastern Gulf Drainages in Florida and Georgia.
- United States Fish and Wildlife Service. 2023. Information, Planning and Conservation (IPaC) website; <http://ecos.fws.gov/ipac/>
- United States Geologic Survey. 2023. USGS Current Water Data for Georgia. <http://water.usgs.gov/realtime.html>.

Appendix B

Protected Species Information

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Chesterfield County, South Carolina



Local office

South Carolina Ecological Services

☎ (843) 727-4707

📠 (843) 727-4218

176 Croghan Spur Road Suite 200

1730 E. Highway 101, Suite 200
Charleston, SC 29407-7558

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7614	Endangered

Clams

NAME	STATUS
Carolina Heelsplitter <i>Lasmigona decorata</i> Wherever found There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/3534	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
------	--------

Rough-leaved Loosestrife *Lysimachia asperulaefolia* **Endangered**
 Wherever found
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/2747>

Schweinitz's Sunflower *Helianthus schweinitzii* **Endangered**
 Wherever found
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/3849>

Smooth Coneflower *Echinacea laevigata* **Threatened**
 Wherever found
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/3473>

Ferns and Allies

NAME

STATUS

Black Spored Quillwort *Isoetes melanospora* **Endangered**
 Wherever found
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/6315>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME

TYPE

Carolina Heelsplitter *Lasmigona decorata* **Final**
<https://ecos.fws.gov/ecp/species/3534#crithab>

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Appendix C

USFWS Site Condition Data Forms

* - <http://streamstats.usgs.gov/ss>

Other notable aquatic species observed, including invasive species, and their relative abundance:

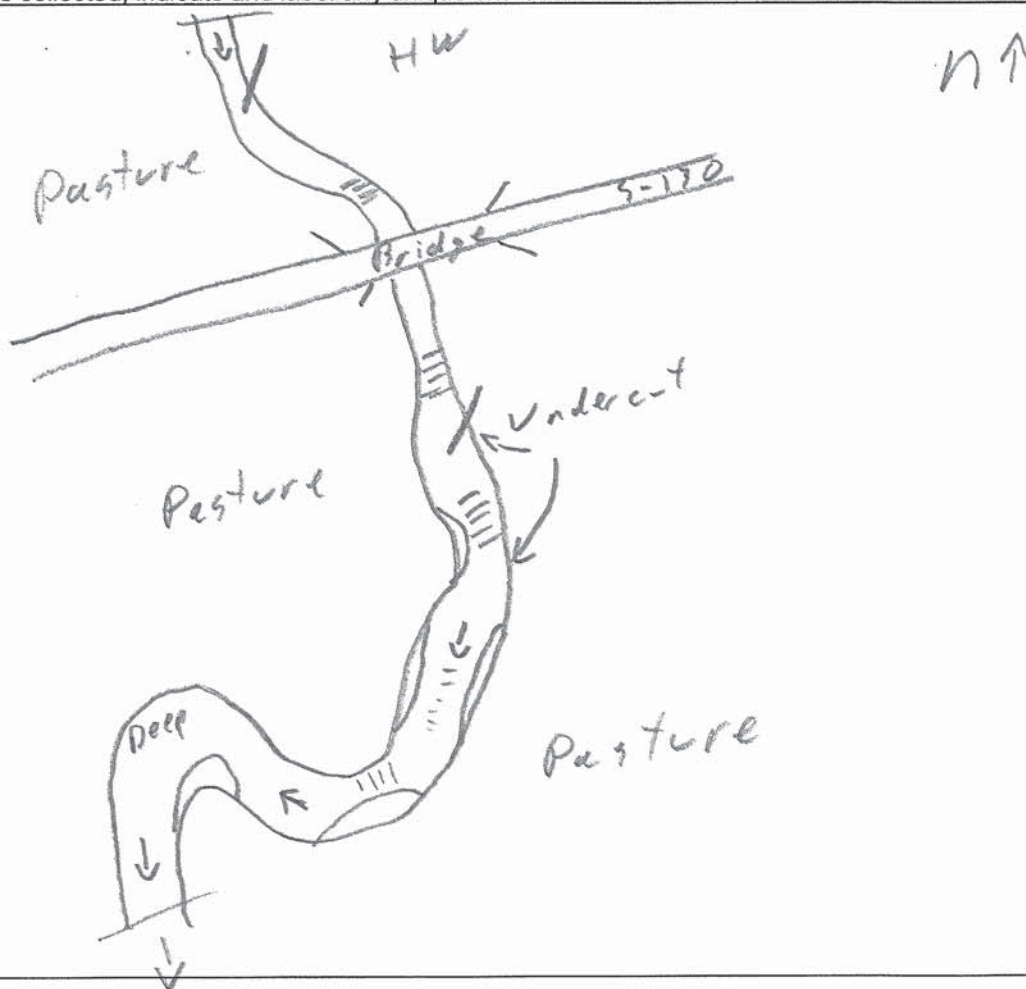
Water Snakes

Frogs

Explain/describe any deviations from protocol:

none

Include sketch map, using back of page if necessary. Include north arrow, flow directions, label any locations where listed species were collected, indicate and label any unique characteristics or instream structures.



page 1 of 1

County: Chesterfield

Date: 7/23

PSA Segment Number:

Surveyor (Record mussels collected per surveyor below if multiple surveyors listed per sheet):

*= Optional

**= Male, female, undetermined

Appendix D

USGS Stream Gage Information



IMPORTANT

[Legacy real-time page](#) ⓘ

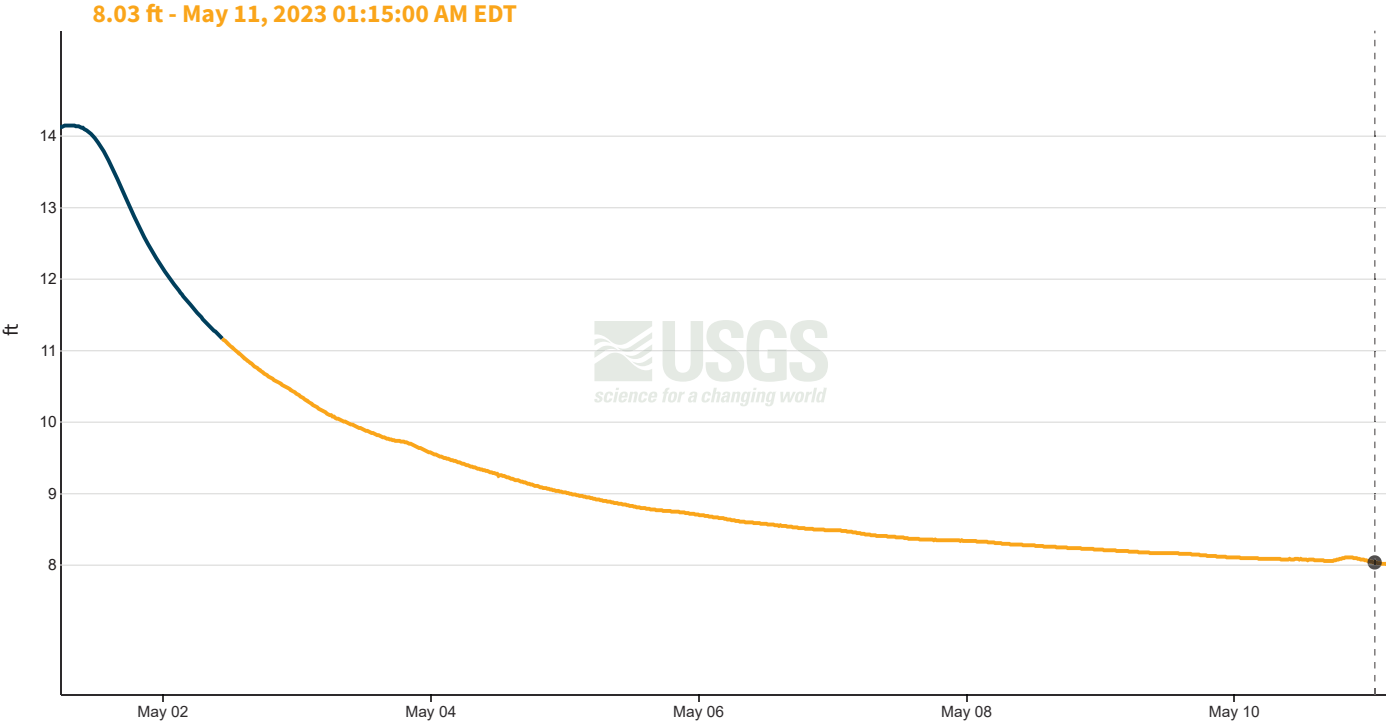
☐ 7 days ☒ 30 days ☐ 1 year

- using graph zoom -

Thompson Creek Above Cheraw, SC - 02130470

May 1, 2023 - May 11, 2023

Gage height, ft ⓘ



Show legend ▾

	Value	Status
<div><div></div> Latest</div> <div>May 25, 2023 12:30:00 PM EDT</div>	7.61	Provisional
<div><div></div> Selected</div> <div>May 11, 2023 01:15:00 AM EDT</div>	8.03	Provisional
<div><div></div> Compare</div>		
<div>Add last year's data to graph</div>		
<div><div></div> Median</div>		
No median data for this data type		

[Hide data details view](#) ^

Statistics are not available at this monitoring location for the data type: Gage height, ft

[Hide statistics](#) ^

IMPORTANT Data may be [provisional](#)

[Change time span](#)[Subscribe to WaterAlert](#)[View related graphs](#)[Download data](#)[View data records](#)

Questions or Comments

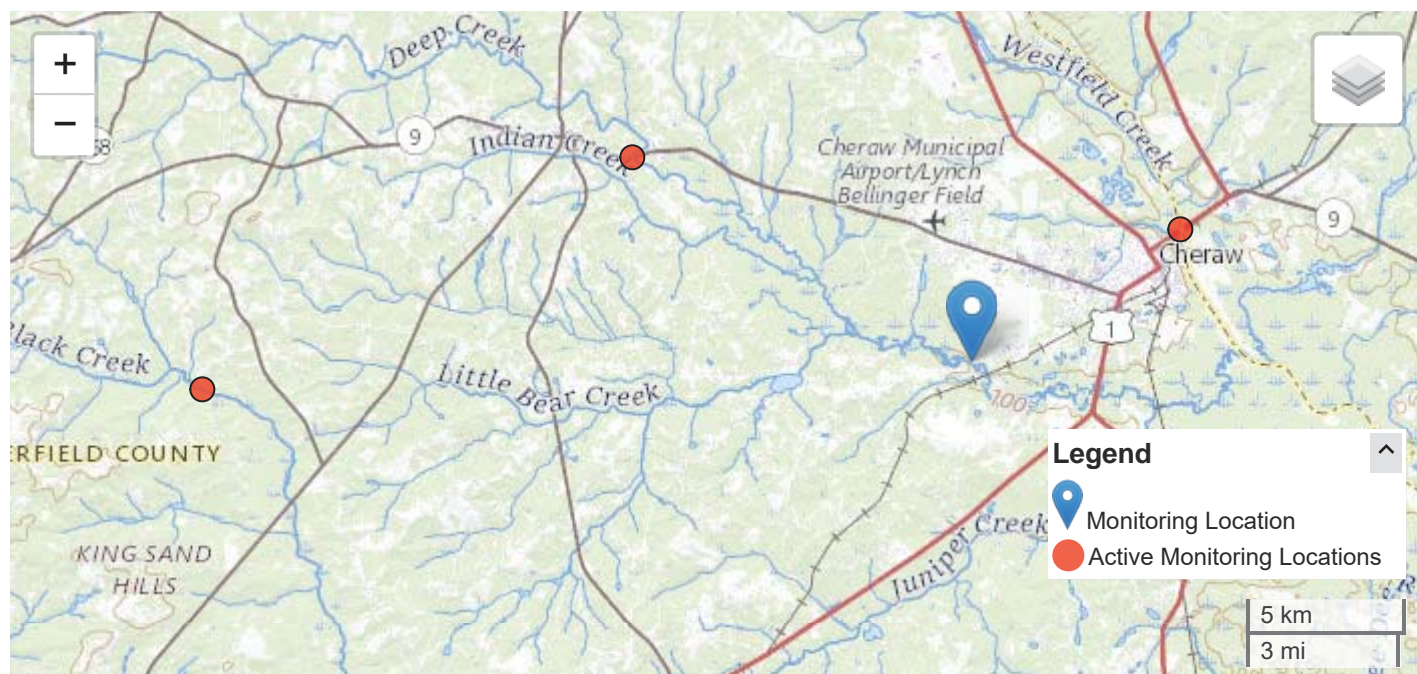
2023-01-30 to 2023-05-25

☒ **Gage height, feet**

[Subscribe to alerts](#)

Monitoring camera

There are no cameras currently available at this monitoring location.



ie National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydro...

Interested in understanding how to access the upstream/downstream data? [Learn about the Network-Linked Data Index \(NLDI\)](#).

Summary of available field and laboratory sample data

+

Summary of all available data**Location metadata**

[DOI Privacy Policy](#) | [Legal](#) | [Accessibility](#) | [Site Map](#) | [Contact USGS](#)

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[No Fear Act](#) | [FOIA](#)

Appendix D

Mollusk Photographs



Photograph 1. Carolina slabshell (*Elliptio congarea*) collected in Clay Creek (5/8/2023).



Photograph 2. Eastern elliptio (*Elliptio complanata*) collected in Clay Creek (5/8/2023).

Appendix E

Site Photographs



Photograph 1. 20 meters downstream of existing bridge facing upstream.



Photograph 2. 300 meters downstream of existing bridge facing downstream.



Photograph 3. 150 meters downstream of existing bridge facing upstream.



Photograph 4. 100 meters upstream of existing bridge facing upstream.

Attachment C- Bridge Replacement Scoping Risk Assessment Form

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

COUNTY: Chesterfield

DATE: 06/01/2023

ROAD #: S-130

STREAM CROSSING: Clay Creek

Purpose & Need for the Project:

The purpose of the project is to correct the load restriction placed on the bridge and restore all components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition.

I. FEMA Acknowledgement

Is this project located in a regulated FEMA Floodway? ☐ Yes ☒ No

Panel Number: 45025C0075C Effective Date: 09/16/2011 (See Attached)

II. FEMA Floodmap Investigation

FEMA Flood Profile Sheet Number N/A illustrates the existing 100 year flood:

- ☐ Passes under the existing low chord elevation.
- ☐ Is in contact with the existing low chord elevation.
- ☒ Overtops the existing bridge finished grade elevation.

III. No Rise/CLOMR Preliminary Determination

- ☒ Preliminary assessment indicates this project may be constructed to meet the "No-Rise" requirements. A detailed hydraulic analysis will be performed to verify this assessment.

Justification: Bridge is located in FEMA Zone A without a floodway established. Preliminary analysis indicates the proposed bridge will satisfy all SCDOT criteria for determine a finding of "No Impact".

- ☐ Preliminary assessmnet indicates this project may require a CLOMR/LOMR. Impacts will be determined by a detailed hydraulic analysis.

Justification:

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

IV. Preliminary Bridge Assessment

A. Locate Existing Plans

a. Bridge Plans ☒ Yes File No. 13.371.4 Sheet No. 16 (See Attached)
☐ No

b. Road Plans ☒ Yes File No. 13.371 Sheet No. 16 (See Attached)
☐ No

B. Historical Highwater Data

a. USGS Gage ☐ Yes Gage No. _____ Results: _____
☒ No

b. SCDOT/USGS Documented Highwater Elevations
☐ Yes Results: _____
☒ No

c. Existing Plans ☒ Yes See Above
☐ No

V. Field Review

A. Existing Bridge

Length: 75 ft. Width: 27.5 ft. Max. span Length: 15 ft.

Alignment: ☒ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☒ No Angle: _____

End Abutment Type: Spill Through

Riprap on End Fills: ☒ Yes ☐ No Condition: _____

Superstructure Type: Concrete Deck

Substructure Type: RC Caps with Timber Piles & Steel H Piles

Utilities Present: ☐ Yes ☒ No

Describe:

Debris Accumulation on Bridge: Percent Blocked Horizontally: 10 %
Percent Blocked Vertically: 70 %

Hydraulic Problems: ☐ Yes ☒ No

Describe:

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

V. Field Review (cont.)

B. Hydraulic Features

a. Scour Present: ☒ Yes ☐ No Location: DS/US and Span 4

b. Distance from F.G. to Normal Water Elevation: 11.0 ft.

c. Distance from Low Steel to Normal Water Elev.: 8.5 ft.

d. Distance from F.G. to High Water Elevation: 4.5 ft.

e. Distance from Low Steel to High Water Elev.: 1.0 ft.

f. Channel Banks Stable: ☐ Yes ☒ No

Describe: Slumping along DS and US Banks with exposed root systems

g. Soil Type: Sand / Gravel

h. Exposed Rock: ☐ Yes ☒ No Location: _____

i. Give Description and Location of any structures or other property that could be damaged due to additional backwater.

Properties around the bridge are undeveloped or pasture

C. Existing Roadway Geometry

a. Can the existing roadway be closed for an On-Alignment Bridge Replacement

☒ Yes ☐ No

Describe:

Roadway is low volume

If "yes", does the existing vertical and horizontal curves meet the proposed design speed criteria?

Yes

If "No", will the proposed bridge be:

☐ Staged Constructed

☐ Replaced on New Alignment

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

VI. Field Review (cont.)

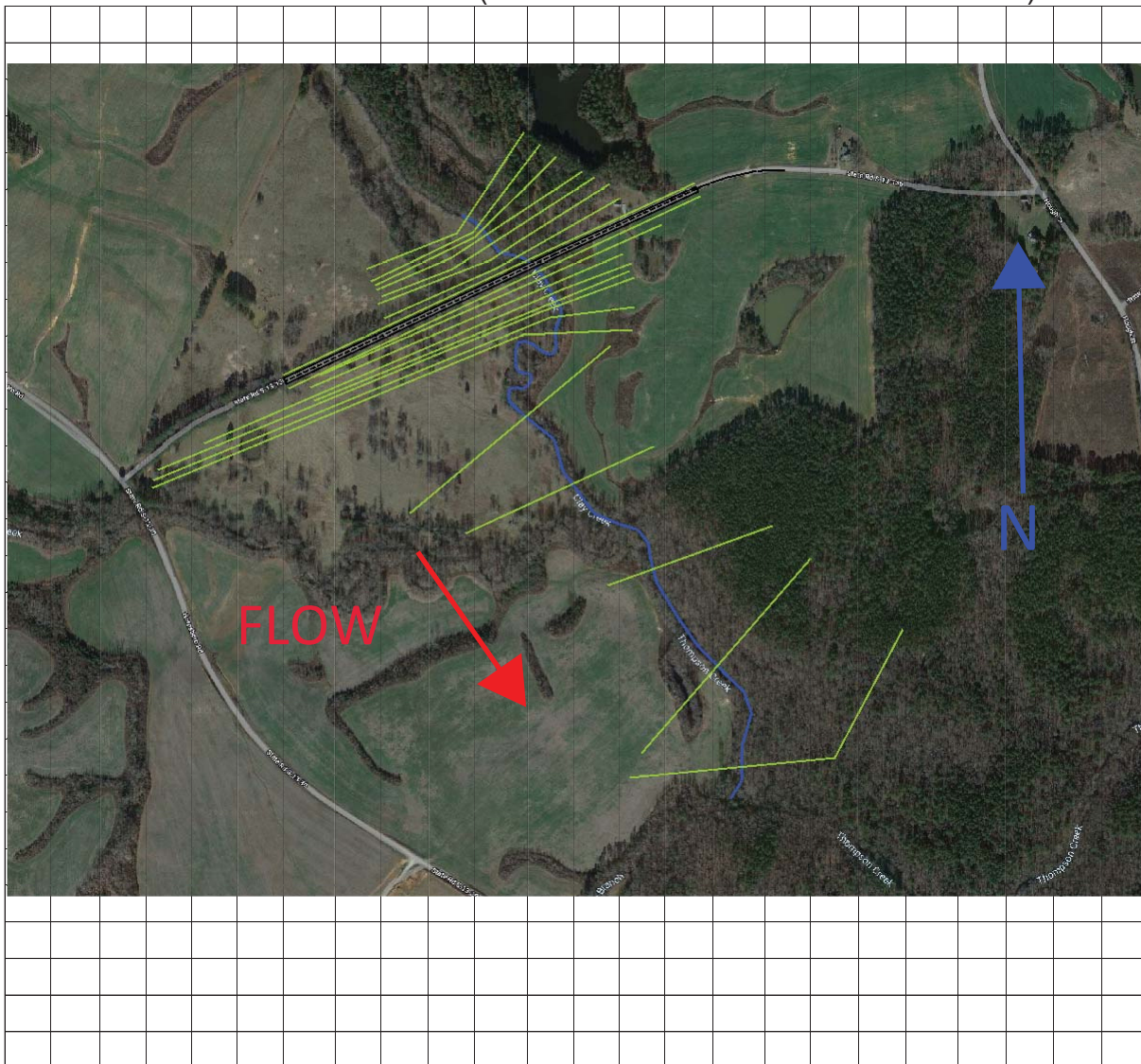
A. Proposed Bridge Recommendation:

Length: 90 ft. Width: 30 ft. Elevation: 313.30 ft.

Span Arrangement: Single span

Notes: Proposed minimum low chord elevation is 313.30'. Proposed minimum
profile/deck elevation is 316.40'. Proposed 33" deep box beam superstructure
with asphalt surface course.

BRIDGE SITE DIAGRAM: (Show North Arrow and Direction of Flow)



Performed By: Elson Jones
Title: Project Manager

Attachment D- Floodplain Checklist

**South Carolina Department of Transportation
Location and Hydraulic Design of Encroachments on Floodplains Checklist**

23 CFR 650, this regulation shall apply to all encroachments and to all actions which affect base floodplains, except for repairs made with emergency funds. Note: These studies shall be summarized in the environmental review documents prepared pursuant to 23 CFR 771.

I. PROJECT DESCRIPTION

The purpose of the project is to correct the load restriction placed on the bridge and restore all components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition.

A. Narrative Describing Purpose and Need for Project

- a. Relevant Project History:
- b. General Project Description and Nature of Work (attach Location and Project Map):
- c. Major Issues and Concerns:

The primary purpose of the project is to replace the existing bridge. Roadway improvements are limited to those associated with accommodating the new structure. The project crosses Clay Creek which is shown on the Flood Insurance Rate Map (FIRM) Panel 45025-0075C. Clay Creek is within a designated as a Special Flood Hazard Area Zone A in the vicinity of the Project. The project is not expected to be a significant or longitudinal encroachment as defined under 23 CFR 650A, nor is it expected to have an appreciable environmental impact on the base flood elevation. In addition, the project would be developed to comply with all appropriate floodplain regulations and guidelines.

B. Are there any floodplain(s) regulated by FEMA located in the project area?

Yes ☒

No ☐

C. Will the placing of fill occur within a 100-year floodplain?

Yes ☒

No ☐

D. Will the existing profile grade be raised within the floodplain?

The roadway grade will be raised to accommodate the larger bridge structure.

- E. If applicable, please discuss the practicability of alternatives to any longitudinal encroachments.

Minor longitudinal encroachments are expected based on the revised roadway profile. The bridge will be constructed on existing alignment to reduce longitudinal impacts.

- F. Please include a discussion of the following: commensurate with the significance of the risk or environmental impact for all alternatives containing encroachments and those actions which would support base floodplain development:

- a. What are the risks associated with implementation of the action?

Risks are minimal; the project will replace the existing bridge with larger bridge opening. The increased opening will have a minimal impact on the BFE's along the floodplain.

- b. What are the impacts on the natural and beneficial floodplain values?

The project is not expected to impact the floodplain values, as the hydraulics will be retained/improved.

- c. What measures were used to minimize floodplain impacts associated with the action?

A similar bridge size will be used and constructed on the existing alignment.

- d. Were any measures used to restore and preserve the natural and beneficial floodplain values impacted by the action?

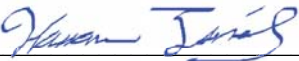
Not Applicable

- G. Please discuss the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.

The impacts are not considered significant encroachments and would not support incompatible floodplain development. The proposed project will have no significant impact to base flood elevations along the stream and will not impact the potential for development within the floodplain

- H. Were local, state, and federal water resources and floodplain management agencies consulted to determine if the proposed highway action is consistent with existing watershed and floodplain management programs and to obtain current information on development and proposed actions in the affected? Please include agency documentation.

All analysis for the project was performed in accordance with SCDOT, FEMA, and local regulations.
As the project progresses to final construction plans, the hydraulic modeling will be updated based on the final bridge layout



SCDOT Hydraulic Engineer

21 June 2023

Date

Attachment E- Public Involvement

Public Outreach Summary:

Project: SCDOT Closed and Load Restricted Bridge Projects-
Package 19

Subject: Public Information Outreach

Package 20 Overview:

The South Carolina Department of Transportation (SCDOT) proposes to replace seven bridges in Package 20. The projects include replacing the existing bridge structures and constructing the roadway to meet current design and safety standards. The proposed facilities are comprised of two and four lane roadways with 12-foot travel lanes and paved shoulders. The seven proposed bridges are shown below (bridges with in-person public meetings are bolded):

S-46-998 (Robertson Road)	WILDCAT CREEK
S-29-292 (Plantation Road)	BEAR CREEK
S-46-1086 (Dacusville Rd)	BEAVERDAM CREEK
S-130 (Rudolph Sikes Road)	BR THOMPSON CR
S-20 (Camp Welfare Road)	HOGFORK BR
S-296 (Old Creek Road)	BLACKWELL MILL STREAM
S-531 (Henry Funderburk Road)	IRIS HILLS CK

The purpose of these projects is to correct the load restriction placed on the bridges as well as restore all bridge components to good condition. The proposed work involves replacing the current bridges with a new bridges.

Public Information Outreach Overview:

Public outreach for the entire package consisted of creating a publicly accessible website, individually mailed postcards, installation of informational yard signs, public meeting notification road signs, and public information meetings.

For this project, postcards were mailed to local residents identified through the US Postal Service's Every Door Direct application. Postcards provided basic information about the specific bridge project and provided a website address for the individual to visit to find more information and provide comments if desired. No comments were provided for this site.

The comment period for the projects began July 5 and ended on August 11, 2023. Information about the projects, including meeting displays, was available on the website throughout the duration of the comment period. A comment form was also available. The project website can be accessed at: https://scdotgis.online/CLRB_2022_Package20.

Public Outreach:

Leading up to the comment periods for all 7 bridges, the project team executed several outreach strategies to maximize public participation. The outreach activities completed are listed in the table below.

Bridge Project	Outreach Type	Number of Recipients	Type of Recipients	Date Sent
All Package 20 Bridges	Postcard	581	General Public Mailed via Every Door Direct Mail Service Sent to all postal routes surrounding the project areas.	July 1, 2023

Bridge Replacement Package 20

Design-Build Projects

Counties: Chesterfield, Fairfield, Lancaster and York

Share Your Feedback

Project Description

SCDOT proposes to replace seven existing bridge structures and constructing the roadway to meet current design and safety standards in Chesterfield, Fairfield, Lancaster and York counties. This card is to let you know about the bridge replacement near your residence or business. Please provide comments by phone, email, or by visiting the website. You can scan the QR code below or enter the address found on the reverse side of this postcard to access the website.



Scan QR code to visit
project web page.

Estimated Project Schedule

- Construction start: Early 2024
- Construction duration: ~24 Months

Project Manager

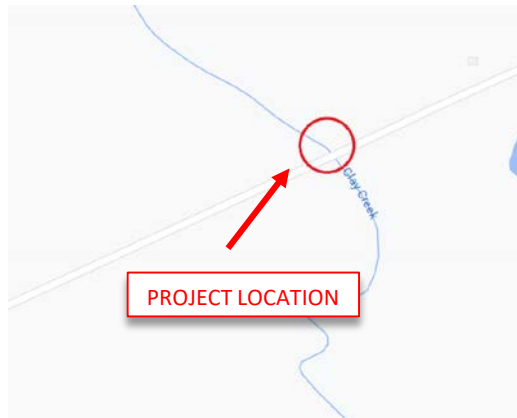
Michael Pitts, PE

Phone: 803-737-2566

Email: pittsME@scdot.org

Comments for S-130 proposed bridge replacement will be accepted until Aug. 11, 2023.

S-130 Clay Creek Project Area





South Carolina Department of Transportation



SCDOT is hosting a website with **online project information** for the Design-Build bridge replacement projects (Package 20).

Visit the Project Website to comment on S-130 over Clay Creek

Comment Period: 7/5/23 - 8/11/23

Contact Us!



803-737-2566



PittsME@scdot.org



www.scdotgis.online/CLRB_2022_Package20

PLACE
STAMP
HERE

SCDOT Environmental Services Offices

PO Box 191

Columbia, SC 29202

