

### **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-296 (Old Creek Road) over Blackwell Branch. 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 62 STP locations were investigated. Eighteen STPs were not excavated due to slope, standing water, or the presence of buildings. The remaining 44 STPs were negative for cultural material. The current bridge to be replaced (Asset ID 04976) is a four-span, concrete slab bridge constructed in 1967. 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:

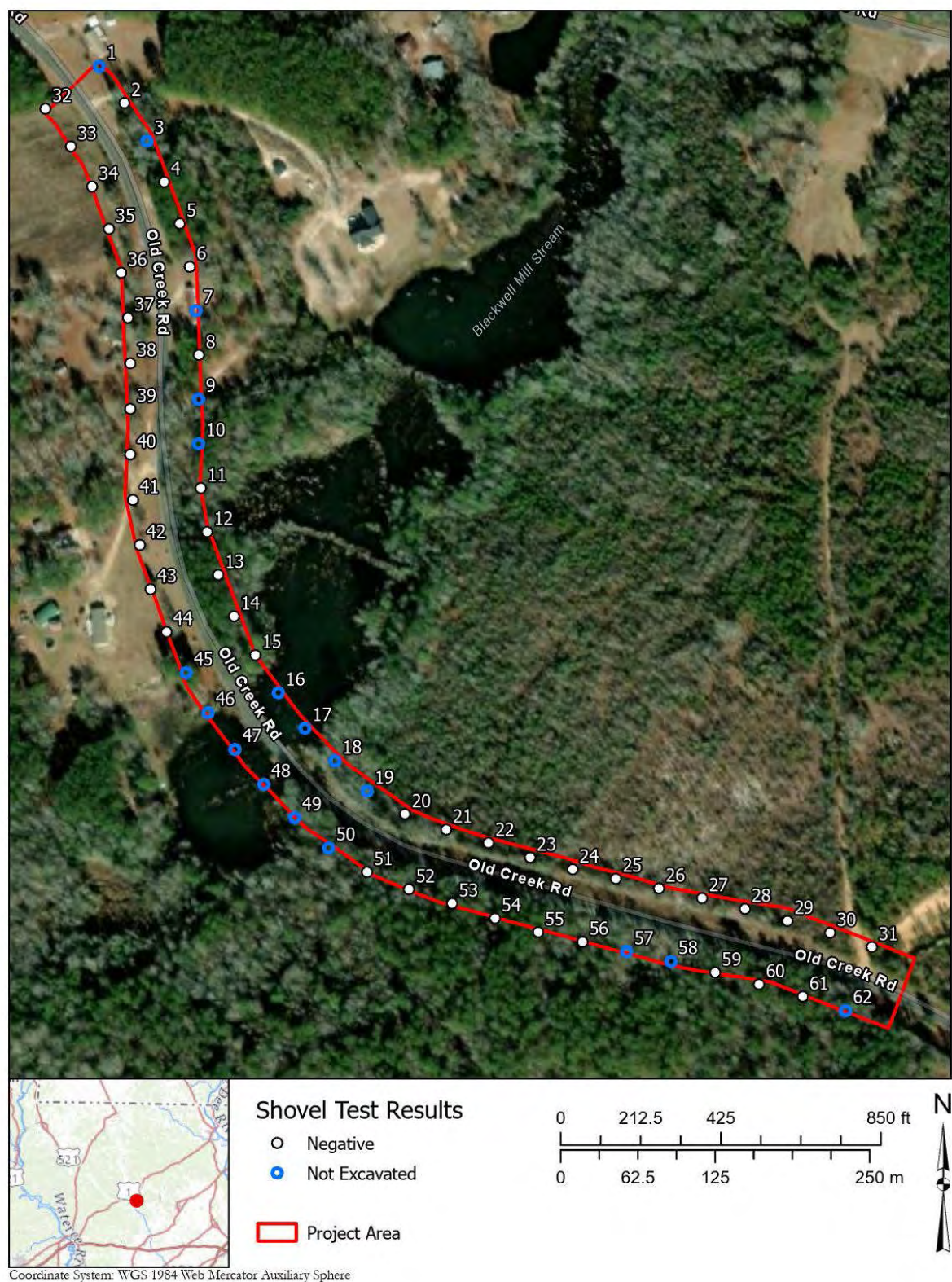
\*SHPO consultation is required for all Type 3 projects and any project with a No Adverse or Adverse Effect Determination.

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 Results





**CULTURAL RESOURCE FIELD REPORT  
SCDOT ENVIRONMENTAL SECTION**



**TITLE:** Phase I Cultural Resource Survey of Proposed Improvements to the S-296 Bridge over Blackwell Branch

**DATE OF RESEARCH:** 5/10/23

**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:** PO4157

**DESCRIPTION:**

The South Carolina Department of Transportation (SCDOT) proposes to replace various closed or load-restricted bridges including the S-296 (Old Creek Road) bridge over Blackwell Branch 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 area is located in southwestern Chesterfield County, approximately 3.5 miles east of the town of Bethune (Figure 1).

**USGS QUADRANGLE:** Bethune, SC

**DATE:** 1970

**SCALE:** 1:2400

**UTM:** NAD83

**ZONE:** 17N

**EASTING:** 565709

**NORTHING:** 3806560

**ENVIRONMENTAL SETTING:**

Chesterfield County lies in both the Piedmont and Coastal Plain physiographic provinces, with the project area located in the Sandhills region of the Coastal Plain. This region is the uppermost portion of the Coastal Plain and accounts for approximately 12 percent of the state. Topography is gently rolling and ranges from 210 feet above mean sea level (amsl) in the area along Blackwell Branch to 300 feet amsl at the southeastern terminus of the project area. The surrounding environment is rural, with less than 10 single family homes in the vicinity.

**NEAREST RIVER/STREAM AND DISTANCE:**

Blackwell Branch bisects the project area. This stream has been impounded approximately 600 meters northeast of the project area to form Blackwell Mill Pond before turning into an intermittent stream approximately three kilometers (two miles) northeast of the project area. Blackwell Branch is a tributary of the Lynches River, with its confluence approximately 470 meters south/southwest of the project area. Lynches River turns into Clark Creek before joining with the Great Pee Dee River approximately 105 kilometers (65 miles) southeast of the project area.

**SOIL TYPE:**

Soils in the project area consist of sand and loamy sand, ranging from poorly drained to excessively drained. Parent soils include loamy marine deposits and loamy alluvium. In total, the Natural Conservation Resource Service maps seven soil types in the project area (Table 1).

*Table 1. Soils within the Project Area*

Soil Symbol	Soil Name	Drainage Class	Notes	Acres in Project Area	Percentage in Project Area
AaB	Ailey sand	Well Drained	Moderately Wet, 2-6% slopes	2.1	18.1
ApD	Alpin sand	Excessively Drained	10-15% slopes	0.9	7.7
Bf	Bibb sandy loam	Poorly Drained	Frequently Flooded	2.0	17.3
CaB	Candor sand	Somewhat Excessively Drained	0-6% slopes	0.1	0.8
PIB	Pelion loamy sand	Moderately Well Drained	2-6% slopes	1.9	16.7
TeB	Tetotum sandy loam	Moderately Well Drained	2-6% slopes	2.7	23.3
VaC	Vaocluse loamy sand	Well Drained	6-10% slopes	1.8	16
Total				11.5	100

**REFERENCE FOR SOILS INFORMATION:**

USDA-NCRS Soil Survey Division, Custom Soil Resource Report ([websoilsurvey.sc.egov.usda.gov](http://websoilsurvey.sc.egov.usda.gov))

**GROUND SURFACE VISIBILITY:** 0% \_\_\_ 1-25% X 26-50% \_\_\_ 51-75% \_\_\_ 76-100% \_\_\_

**CURRENT VEGETATION:**

Vegetation within the project area consists primarily of mixed hardwoods with a light to moderately dense understory. Dense wetland vegetation is present along the banks of Blackwell Mill Stream, and small amounts of manicured lawn and a fallow agricultural field are present in the northern portion of the project area (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 and the South Carolina Department of Archives and History. There are no previously recorded cultural resources or surveys within the 0.5-mile search radius of the project area.

## **SURVEY RESULTS**

The cultural resources survey did not identify any new or previously recorded archaeological sites or isolated finds within the project area. Additionally, the historic architectural survey did not record any new resources. The results of these surveys are discussed in detail below.

### **ARCHAEOLOGY**

The Phase I Archaeological Survey was performed on May 10, 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 Old Creek 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-two shovel test locations were investigated across the project area, of which 44 were negative for cultural material. The remaining 18 shovel tests were not excavated due to surface water or waterlogged soils, slopes greater than 15 degrees, and buildings (Figure 5). One general soil profile was noted, consisting of approximately 20 centimeters of grayish brown (10YR 5/2) sandy loam Ap horizon overlying a yellowish brown (10YR 5/8) sand E horizon. Some shovel tests exhibited a third stratum, at approximately 40 centimeters below the surface and consisting of a strong brown (7.5YR 5/8) sandy clay subsoil (Figure 6). No new or previously recorded archaeological sites were identified in the project area. Disturbed soils were noted in the front lawn of a single-family residence north of Blackwell Mill Stream, consisting of approximately 10 centimeters of grayish brown (10YR 5/2) sandy loam A horizon overlying mottled yellow (10YR 7/8) and pale brown (10YR 6/3) sand (Figure 7).

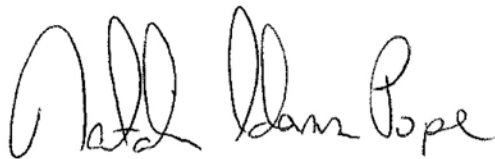
### **ARCHITECTURAL SURVEY**

The architectural survey was conducted on May 24, 2023, by Architectural Historian Sean Stucker, MHP. No newly identified or previously surveyed architectural historic resources were located within the project area or its viewshed. The bridge carrying S-296 over Blackwell Branch, constructed in 1967, was not evaluated per the FHWA's Post-1945 Bridges Program Comment (U.S. Department of Transportation, Federal Highway Administration 2012). This bridge (ID 04976) is of a common type, with prestressed concrete panel stringers and wood piers with concrete caps and footings (Figure 8).

### **REMARKS AND RECOMMENDATIONS:**

The cultural resources survey did not identify any new or previously recorded archaeological sites or isolated finds. Additionally, the historic architectural survey did not record any new historic resources. The proposed project will have no effects to historic properties.

**SIGNATURE:**

A handwritten signature in black ink, appearing to read "Nate Lane Pope". The signature is fluid and cursive, with the first name "Nate" being more prominent.

**DATE:** May 30, 2023

**BIBLIOGRAPHY:**

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 Vegetation in Project Area, Facing North





Figure 3.  
Manicured Lawn and Fallow Agricultural Field, Facing Southeast



Figure 4.  
Bridge and Blackwell Branch, Facing Northwest





Figure 5.  
Shovel Test Results

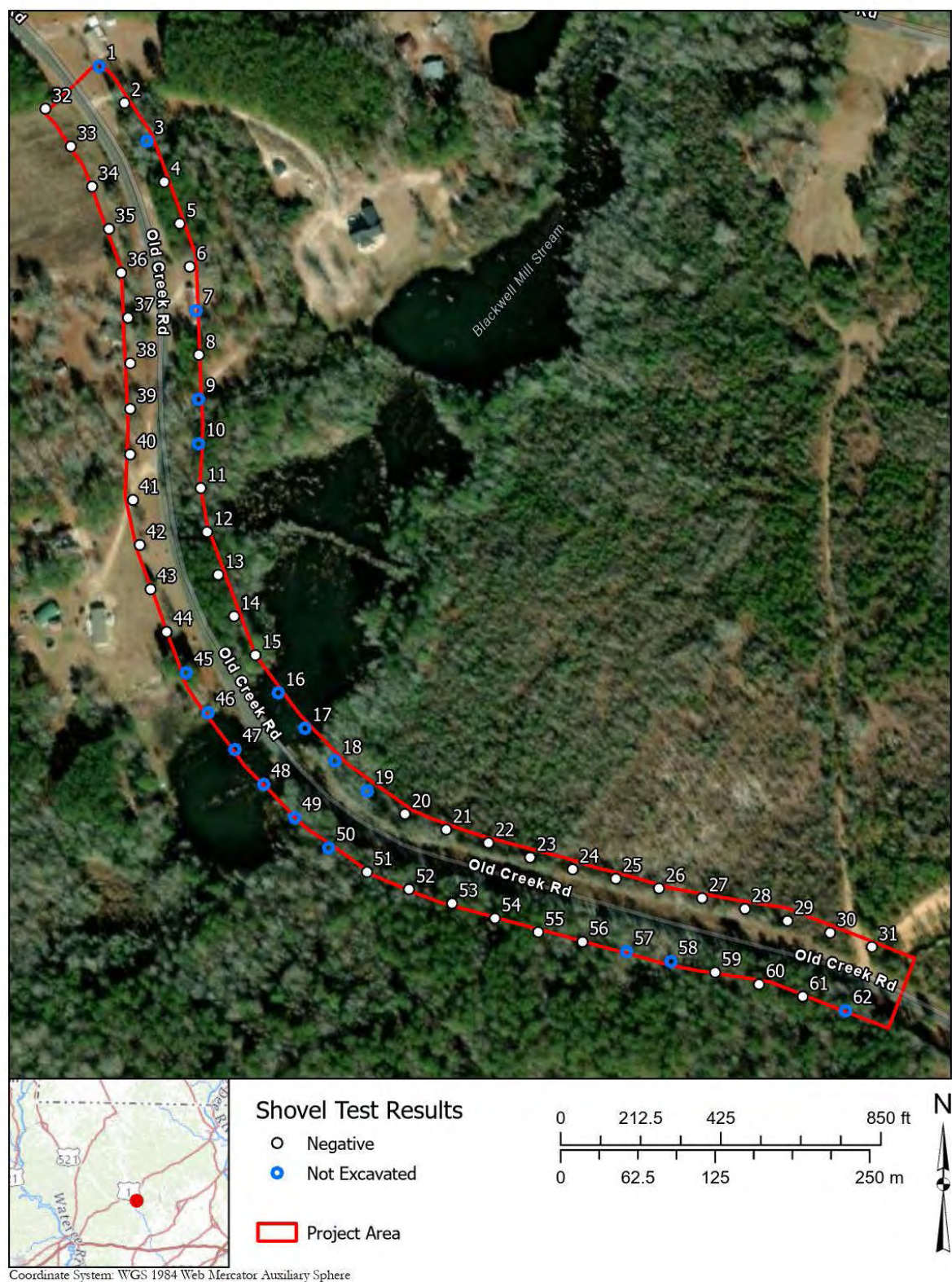






Figure 6.  
Typical Shovel Test Profile



Figure 7.  
Disturbed Shovel Test Profile





Figure 8.  
Bridge Carrying S-296 over Blackwell Branch



A. Superstructure and Decking



B. Contextual

## **Attachment B- Natural Resources Technical Memorandum**





# Natural Resources Technical Memorandum

S-296 (Old Creek Road) Bridge Replacement over Blackwell Mill Stream

SCDOT Project ID: P041957

June 22, 2023



**ROBBINS  
& DEWITT**

## Introduction

The South Carolina Department of Transportation (SCDOT) proposes to replace the S-296 (Old Creek Road) bridge over Blackwell Mill Stream in Chesterfield County, South Carolina. Specifically, the project is approximately 5.12 miles southwest of the Town of McBee. The project is located in the Lynches River Watershed (03040202 8-digit Hydrologic Unit Code) and the Sand Hills (65c) 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 11.47 acres in size and approximately 3,000 feet (0.57 mile) in total length, generally centered on Blackwell Mill Stream in either direction. Furthermore, the PSA is 160 feet in total width, generally centered on the centerline of Old Creek 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, 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 would 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>)
- 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) – Bethune, 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 10<sup>th</sup>, 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	34.398839	-80.285456	0.04
Wetland B	34.398314	-80.284953	0.26
Wetland C	34.398122	-80.285078	0.23
Total			0.53 acres

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

Open Water	Latitude	Longitude	Area (acre)
Open Water A	34.398486	-80.285308	0.67
Total			0.67 acres

## 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 on May 10<sup>th</sup> and 25<sup>th</sup>, 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 federally protected species. 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 observed nesting on the existing bridge.

## Vegetation

Land use in the PSA includes low density residential housing, man-made ponds, and silviculture. No natural communities were observed within the PSA. 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, seven 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
AaB	Ailey sand, moderately wet, 2 to 6 percent slopes	2.1	18.1%
ApD	Alpin sand, 10 to 15 percent slopes	0.9	7.7%
Bf	Bibb sandy loam, frequently flooded	2.0	17.4%
CaB	Candor sand, 0 to 6 percent slopes	0.1	0.8%
PIB	Pelion loamy sand, 2 to 6 percent slopes	1.9	16.7%
TeB	Tetotum sandy loam, 2 to 6 percent slopes	2.7	23.3%
VaC	Vaucluse loamy sand, 6 to 10 percent slopes	1.8	16.0%

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](mailto:matt.dewitt@robbins-dewitt.com).

Respectfully Submitted



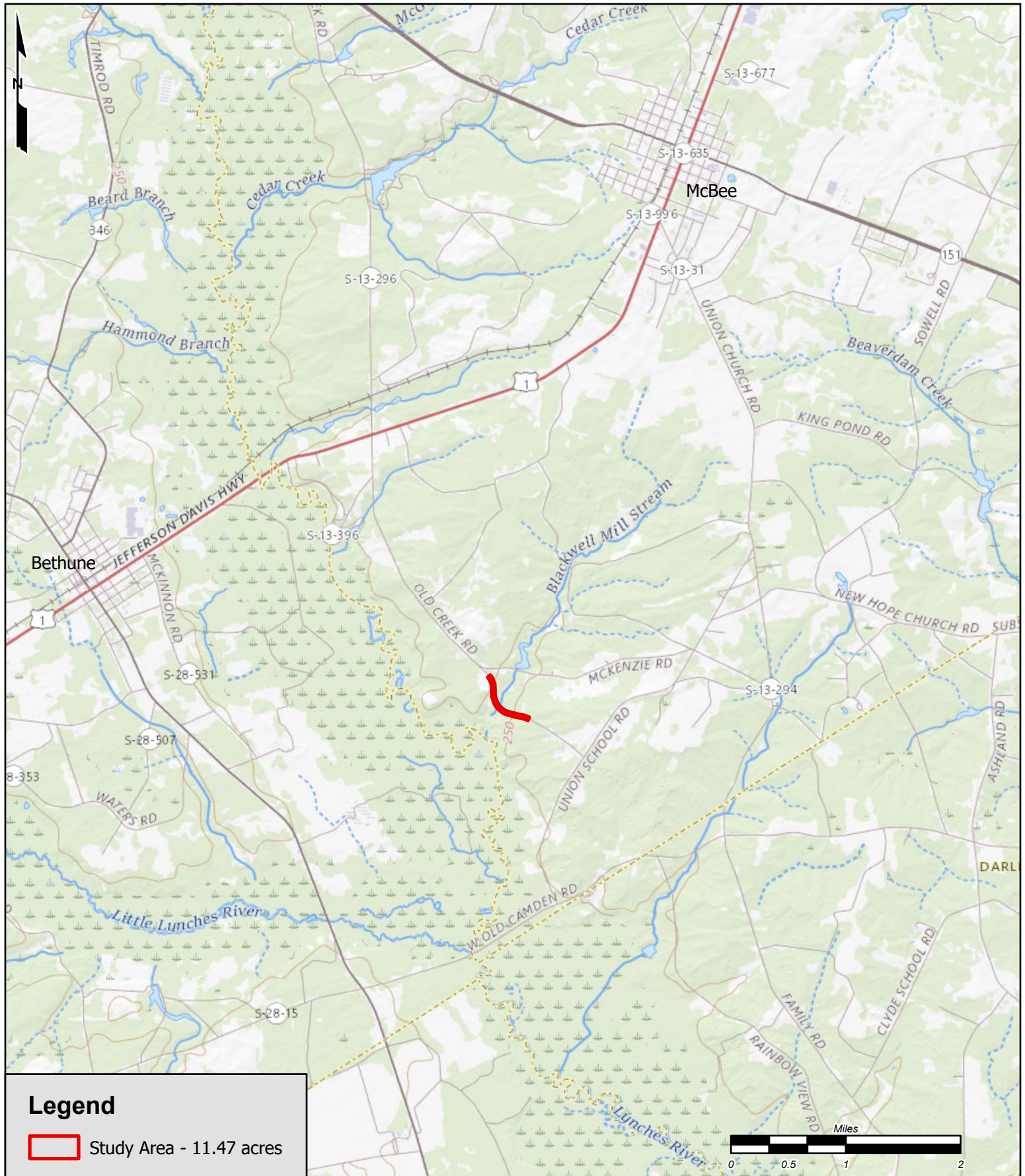
Matt DeWitt, AICP  
Robbins & DeWitt, LLC

# Attachment A

## Figures



ROBBINS  
& DEWITT



## Legend

Study Area - 11.47 acres



**ROBBINS  
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www.Robbins-DeWitt.com

Project  
Study  
Area



**S-296 BRIDGE REPLACEMENT  
OVER BLACKWELL MILL STREAM  
PROJECT ID: P041957**

**CHESTERFIELD COUNTY, SOUTH CAROLINA**

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



South Carolina Department of Transportation

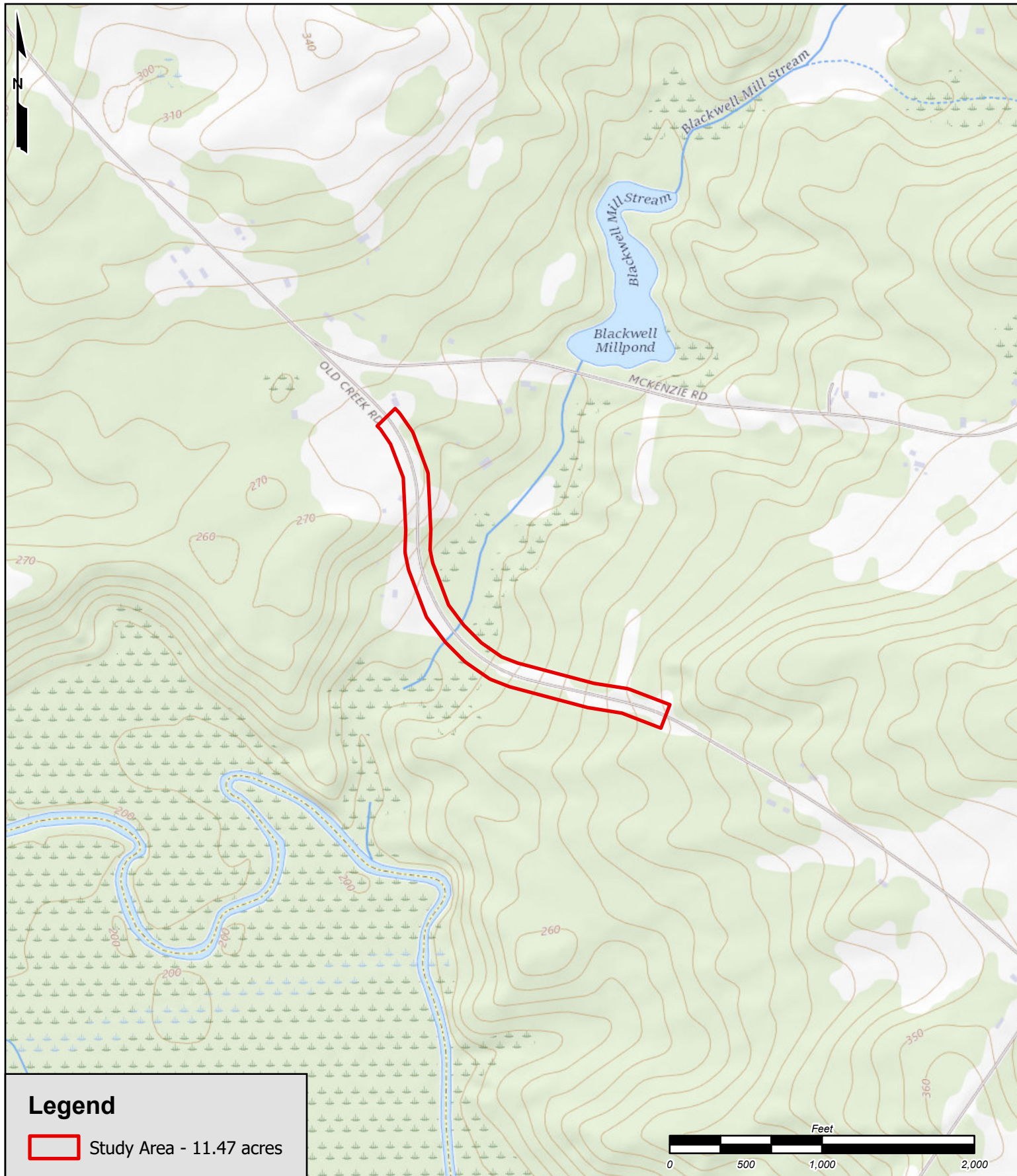
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DATE: 06/06/2023

**PROJECT VICINITY**

**FIGURE 1**





## Legend

Study Area - 11.47 acres



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**Project  
Study  
Area**



## S-296 BRIDGE REPLACEMENT OVER BLACKWELL MILL STREAM PROJECT ID: P041957

**CHESTERFIELD COUNTY, SOUTH CAROLINA**

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



South Carolina Department of Transportation

DRAWN BY: TRC

DATE: 06/06/2023

**USGS TOPOGRAPHIC MAPPING**

**FIGURE 2**





## Legend

- Study Area - 11.47 acres
- ⚙ Bridge
- NHD Flowline



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Project  
Study  
Area



## S-296 BRIDGE REPLACEMENT OVER BLACKWELL MILL STREAM PROJECT ID: P041957

**CHESTERFIELD COUNTY, SOUTH CAROLINA**

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



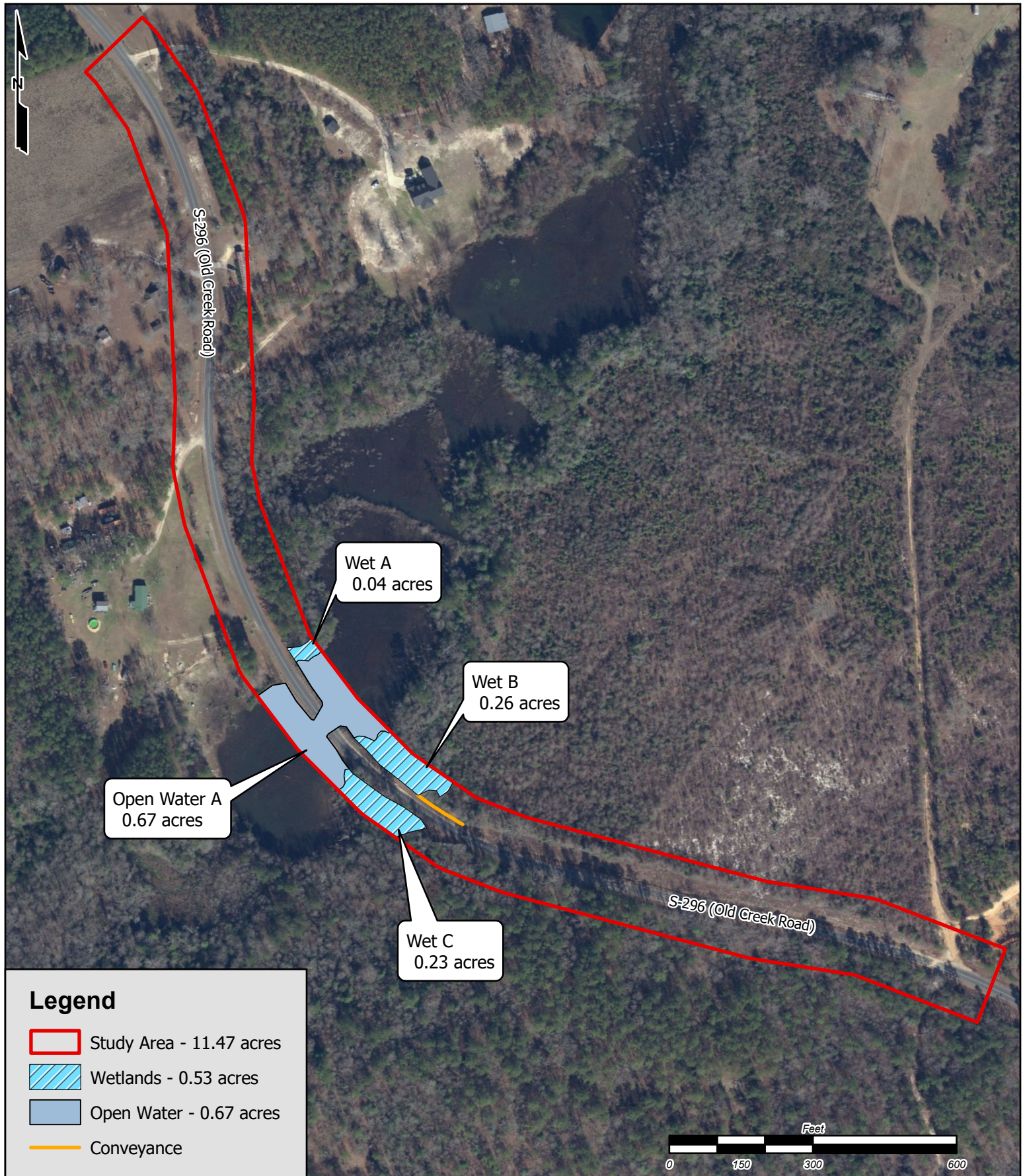
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DATE: 06/06/2023

**AERIAL IMAGERY**

**FIGURE 3**





## Legend

- Study Area - 11.47 acres
- Wetlands - 0.53 acres
- Open Water - 0.67 acres
- Conveyance



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Project  
Study  
Area



## S-296 BRIDGE REPLACEMENT OVER BLACKWELL MILL STREAM PROJECT ID: P041957

**CHESTERFIELD COUNTY, SOUTH CAROLINA**

Source: Approximate boundaries of WOTUS were delineated on May 10, 2023; SC Geodetic High Resolution 6-inch, RGB Aerial Imagery [Statewide, South Carolina (2020)]



DRAWN BY: TRC

DATE: 06/06/2023

**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 and DeWitt

CONTACT INFO (phone and/or email) russell.chandler@robbins-dewitt.com

SCDOT PROJECT ENGINEER Michael Pitts

TO Will McGoldrick - Design Build Coordinator

Project Description S-296 over Blackwell Mill Stream

Route or Road No. S-296 County Chesterfield

CONST. PIN P041957 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 \* HG, ECOLI

TMDL developed ☒ no ☐ yes, for \* \_\_\_\_\_

\*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:** Construction

**Address:** 7100 OLD CREEK RD, MCBEE,  
SC, 29101

**Latitude/Longitude:** 34.398516 / -80.285286

**MS4 Designation:** Not in designated area

**Monitoring Station:** PD-071

**Within Coastal Critical Area:** No

**Water Classification (Provisional):** FW

**Waterbody Name:** BLACKWELL MILL STREAM

**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-071	X	F	F	F	N	F	F	F	F	F	F	N	X	X	X	X	X	X	X	X
PD-364	X	A	A	A	A	A	A	A	A	A	A	A	X	F	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)

**HG** - Mercury

**ECOLI** - Escherichia coli (Freshwaters)

## Fish Consumption Advisory

## Waters of Concern (WOC)

## TMDL Information - TMDL Parameters to be addressed

**In TMDL Watershed:** No  
**TMDL Report No:**  
**TMDL Document Link:**

**TMDL Site:**  
**TMDL Parameter:**

Report Date: May 30, 2023



# **Attachment C**

## **Biological Evaluation - Section 7 of the Endangered Species Act**



**ROBBINS  
& DEWITT**

## Introduction

The proposed project consists of replacing the S-296 (Old Creek Road) bridge over Blackwell Mill Stream, 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 six (6) 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 June, 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

## 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 10 and 25, 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 in the PSA includes low density residential housing, man-made ponds, and silviculture. No natural communities were observed within the PSA.

The man-made ponds are surrounded by mixed hardwood-pine upland forest and palustrine forested wetlands. Dominant overstory species include loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), and white oak (*Quercus alba*). Mid-story species included loblolly pine, red maple, sweetgum, American holly (*Ilex opaca*), and Eastern red cedar (*Juniperus virginiana*). Herbaceous species include netted chainfern (*Woodwardia areolata*), royal fern (*Osmunda regalis*), and various grass species. The man-made pond in the PSA is dominated by white water lily (*Nymphaea odorata*) and other aquatic grasses.

## 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.

Field reviews of the PSA found no suitable habitat for red-cockaded woodpecker, Atlantic sturgeon, shortnose sturgeon, or Carolina heelsplitter.

The man-made ponds are considered suitable foraging and nesting habitat for bald eagle, but no bald eagle nests were observed. The nearest known bald eagle nest is located approximately 8 miles northeast of the PSA on Lake Robinson near Hartsville, SC.

Suitable habitat for tri-colored bat exists in the PSA. Roosting habitat exists under the existing Blackwell Mill Stream bridge and in cavities and crevices of trees within the PSA. A structure survey of the existing Blackwell Mill Stream 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. However, the man-made ponds and surrounding forested lands represent suitable habitat for the species. A Structures Survey Data Sheet and Habitat Assessment Data Sheet are included in Attachment D.

## Conclusions

Based on the literature and field reviews, it is determined that the proposed project will have a biological conclusion of 'no effect' on federally protected species.

Effect conclusions for the bald eagle are not required under the Endangered Species Act. However, the project is not anticipated to result in the mortality of any bald eagles or limit the ability of the species to adequately breed, feed, or shelter.

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 Matt DeWitt at (864) 201-8446 or [matt.dewitt@robbins-dewitt.com](mailto:matt.dewitt@robbins-dewitt.com).

Respectfully Submitted

A handwritten signature in blue ink that reads "Matt DeWitt". The signature is stylized, with a large, looped "D" and a long horizontal stroke extending from the end of the name.

Matt DeWitt, AICP  
Robbins & DeWitt, LLC

# **Attachment D**

## **Biological Evaluation Attachments**



**ROBBINS  
& DEWITT**



## CHESTERFIELD COUNTY

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

# 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  
Charleston, SC 29407-7558

# 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 species<sup>1</sup> 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 Fisheries<sup>2</sup>).

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

## Birds

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

## Clams

NAME	STATUS
<b>Carolina Heelsplitter</b> <i>Lasmigona decorata</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/3534">https://ecos.fws.gov/ecp/species/3534</a>	Endangered

## Insects

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

## Critical habitats

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

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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.

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-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

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
------	-----------------

<b>American Kestrel</b> <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9587">https://ecos.fws.gov/ecp/species/9587</a>	Breeds Apr 1 to Aug 31
--	------------------------

**Bald Eagle** *Haliaeetus leucocephalus*

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

**Brown-headed Nuthatch** *Sitta pusilla*

Breeds Mar 1 to Jul 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

**Chimney Swift** *Chaetura pelagica*

Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Eastern Whip-poor-will** *Antrostomus vociferus*

Breeds May 1 to Aug 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Prairie Warbler** *Dendroica discolor*

Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Prothonotary Warbler** *Protonotaria citrea*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Red-headed Woodpecker** *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

## 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.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### 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.

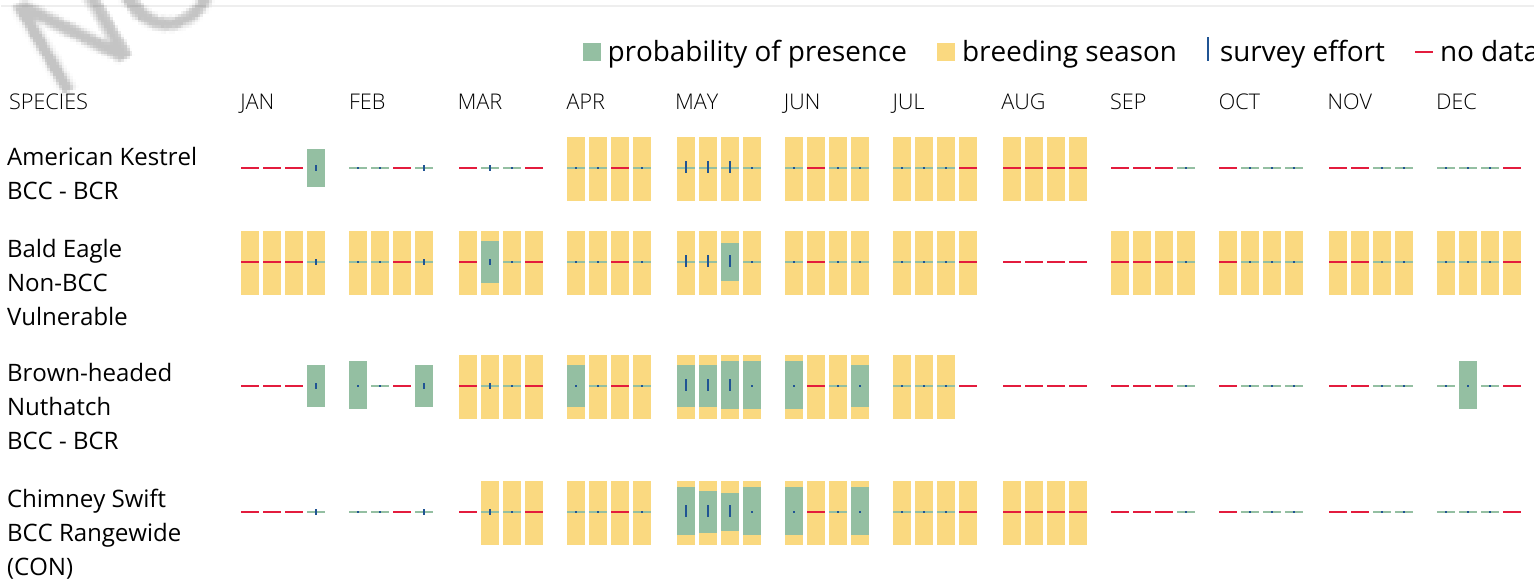
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

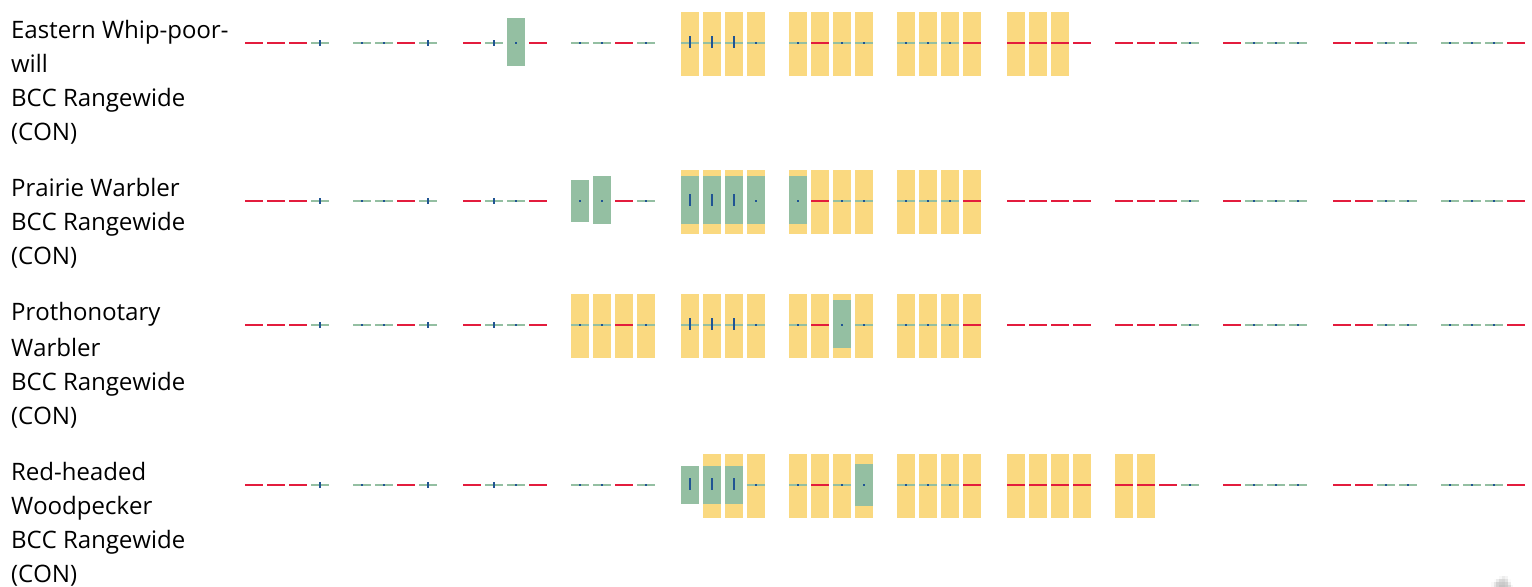
### No Data (—)

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.





### 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 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.

## Facilities

### National Wildlife Refuge lands

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 at this location.

### Fish hatcheries

There are no fish hatcheries at this location.

### Wetlands in the National Wetlands Inventory (NWI)

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](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

#### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

# STRUCTURES SURVEY DATA SHEET

Investigator Names(s): A. CHANDLER

Date: 5/25/2023





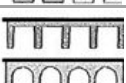
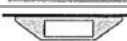
County: CHESTERFIELD

Lat Long/w3w: 34.398481, -80.285311

Project Name: S-296 (OLD CREEK RD) OVER BLACKWELL MILL STREAM

SCDOT Structure ID: 04976

SCDOT Project No.: P041957

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 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-296	

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

Conditions Under Bridge (check all that apply):			
<input type="checkbox"/> Bare Ground/Sediment	<input type="checkbox"/> Concrete	<input type="checkbox"/> Rip Rap	<input checked="" type="checkbox"/> Flowing Water
<input checked="" type="checkbox"/> Standing Water	<input 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/Crevise/Expansion Joint: Under Bridge		<input type="checkbox"/> Crack/Crevise/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 type="checkbox"/> Low	<input checked="" type="checkbox"/> None

Areas Inspected (check all that apply):			
<input type="checkbox"/> Vertical Surfaces on I-Beams		<input type="checkbox"/> Vertical Surfaces between Concrete End Walls and Bridge Deck	
<input type="checkbox"/> Expansion Joints	<input type="checkbox"/> Rough Surfaces	<input checked="" type="checkbox"/> Guardrails	<input type="checkbox"/> Cervices
<input type="checkbox"/> Other:			
Areas NOT Inspected because of Safety or Inaccessibility: BENEATH BRIDGE – LOW CLEARANCE AND UNKNOWN WATER DEPTH			

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

- ACTIVE NEST

Additional Information:

# BAT HABITAT ASSESSMENT DATA SHEET

Project Name: S-296 (OLD CREEK RD) OVER BLACKWELL MILL STREAM

Date: 5/25/2023

County: CHESTERFIELD

Lat Long: 34.398481, -80.285311

Surveyor: A. CHANDLER

## Brief Project Description

Replacing the S-296 bridge over Blackwell Mill Stream and associated roadway approach work.

## Project Area

Project	Total Acres	Forest Acres	Open Acres
	11.47 acres	4.37 acres	7.1 acres
Proposed Tree Removal	Completely Cleared	Partially Cleared (Will Leave Trees)	Preserve Acres – No Clearing
	< .25 acres (anticipated)	None	> 4 acres (anticipated)

## Vegetation Cover Types

Pre-Project	Post-Project
Large ponds, Mixed Forest, Maintained right-of-way	Large ponds, Mixed Forest, Maintained right-of-way

## Landscape within 5-mile Radius

### Flight corridors to other forested areas?

Yes

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

Forested, Commercial and Residential Development, Ponds, Lynches River

## 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)?

McBee WMA ~0.5 miles north of PSA, Sand Hills State Forest WMA ~2.5 miles north of PSA

## Sample Site Description

Sample Site No. (s): Project Study Area (11.47 acres)

Water Resources at Sample Site			
Stream Type (# and length)	Ephemeral	Intermittent	Perennial

Pools/Ponds (# and size)	Open Water A – 0.67 ac	Open and accessible to bats?
		Yes

Wetland (approx. acres)	Permanent	Seasonal
	Wet A – 0.04 ac Wet B – 0.26 ac Wet C – 0.23 ac	

Describe existing condition of water sources: Blackwell Mill Stream (Pond)
--

Forest Resources at Sample Site			
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (< 20')
	1 (1-10%)	3 (21-40%)	3 (21-40%)

Dominant Species of Mature Trees	Oak spp., loblolly pine, red maple, sweetgum, American holly
----------------------------------	--

Exfoliating Bark (%)	5%
----------------------	----

Size of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (> 15 in)
	2 (11-20%)	3 (21-40%)	1 (1-10%)

No. of Suitable Snags	10% - several along pond edge
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?

PSA is outside known range

IS THE HABITAT SUITABLE FOR TRI-COLORED BATS?

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: 5/25/2023

Taken by: M. DeWitt

From S-296 bridge,  
facing northeast



Photograph 2

Date: 5/25/2023

Taken by: A. Chandler

From S-296 bridge,  
facing northwest





Photograph 3

Date: 5/25/2023

Taken by: A. Chandler

From S-296 bridge,  
facing southeast



Photograph 4

Date: 5/25/2023

Taken by: M. DeWitt

From S-296 bridge,  
facing west

**Attachment C- Bridge Replacement Scoping Risk Assessment Form**



## BRIDGE SCOPE AND RISK ASSESSMENT FORM

COUNTY: \_\_\_\_\_

DATE: \_\_\_\_\_

ROAD #: \_\_\_\_\_

STREAM CROSSING: \_\_\_\_\_

Purpose & Need for the Project:

### I. FEMA Acknowledgement

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

Panel Number: \_\_\_\_\_ Effective Date: \_\_\_\_\_ (See Attached)

### II. FEMA Floodmap Investigation

FEMA Flood Profile Sheet Number \_\_\_\_\_ 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:

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

Justification:

## BRIDGE SCOPE AND RISK ASSESSMENT FORM

### IV. Preliminary Bridge Assessment

#### A. Locate Existing Plans

a. Bridge Plans ☐ Yes File No. \_\_\_\_\_ Sheet No. \_\_\_\_\_ (See Attached)  
☐ No

b. Road Plans ☐ Yes File No. \_\_\_\_\_ Sheet No. \_\_\_\_\_ (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: \_\_\_\_\_ ft. Width: \_\_\_\_\_ ft. Max. span Length: \_\_\_\_\_ ft.

Alignment: ☐ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☐ No Angle: \_\_\_\_\_

End Abutment Type: \_\_\_\_\_

Riprap on End Fills: ☐ Yes ☐ No Condition: \_\_\_\_\_

Superstructure Type: \_\_\_\_\_

Substructure Type: \_\_\_\_\_

Utilities Present: ☐ Yes ☐ No

Describe:

Debris Accumulation on Bridge: Percent Blocked Horizontally: \_\_\_\_\_ %  
Percent Blocked Vertically: \_\_\_\_\_ %

Hydraulic Problems: ☐ Yes ☐ No

Describe:

## BRIDGE SCOPE AND RISK ASSESSMENT FORM

### V. Field Review (cont.)

#### B. Hydraulic Features

a. Scour Present: ☐ Yes ☐ No Location: \_\_\_\_\_

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

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

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

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

f. Channel Banks Stable: ☐ Yes ☐ No

Describe:

g. Soil Type: \_\_\_\_\_

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.

#### C. Existing Roadway Geometry

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

☐ Yes ☐ No

Describe:

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

If "No", will the proposed bridge be:

☐ Staged Constructed

☐ Replaced on New Alignment



# BRIDGE SCOPE AND RISK ASSESSMENT FORM

## VI. Field Review (cont.)

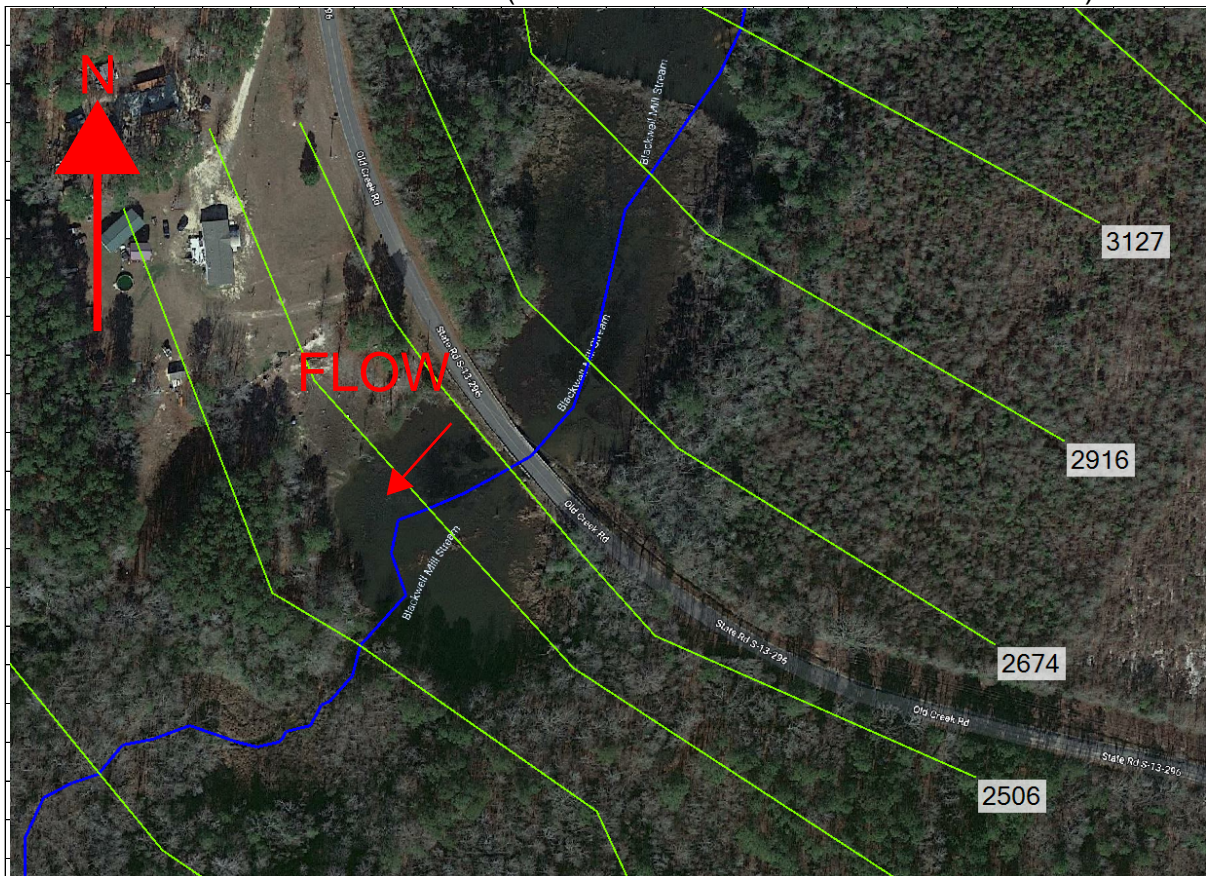
### A. Proposed Bridge Recommendation:

Length: \_\_\_\_\_ ft.      Width: \_\_\_\_\_ ft.      Elevation: \_\_\_\_\_ ft.

Span Arrangement: \_\_\_\_\_

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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



Performed By: \_\_\_\_\_

## **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**

**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:

**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?**

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

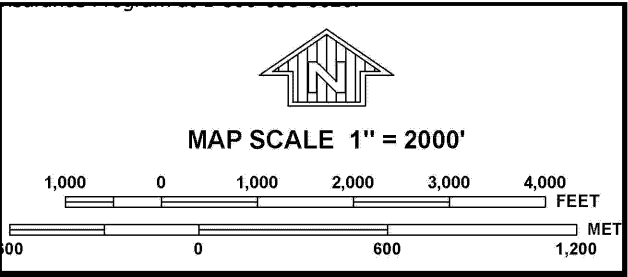
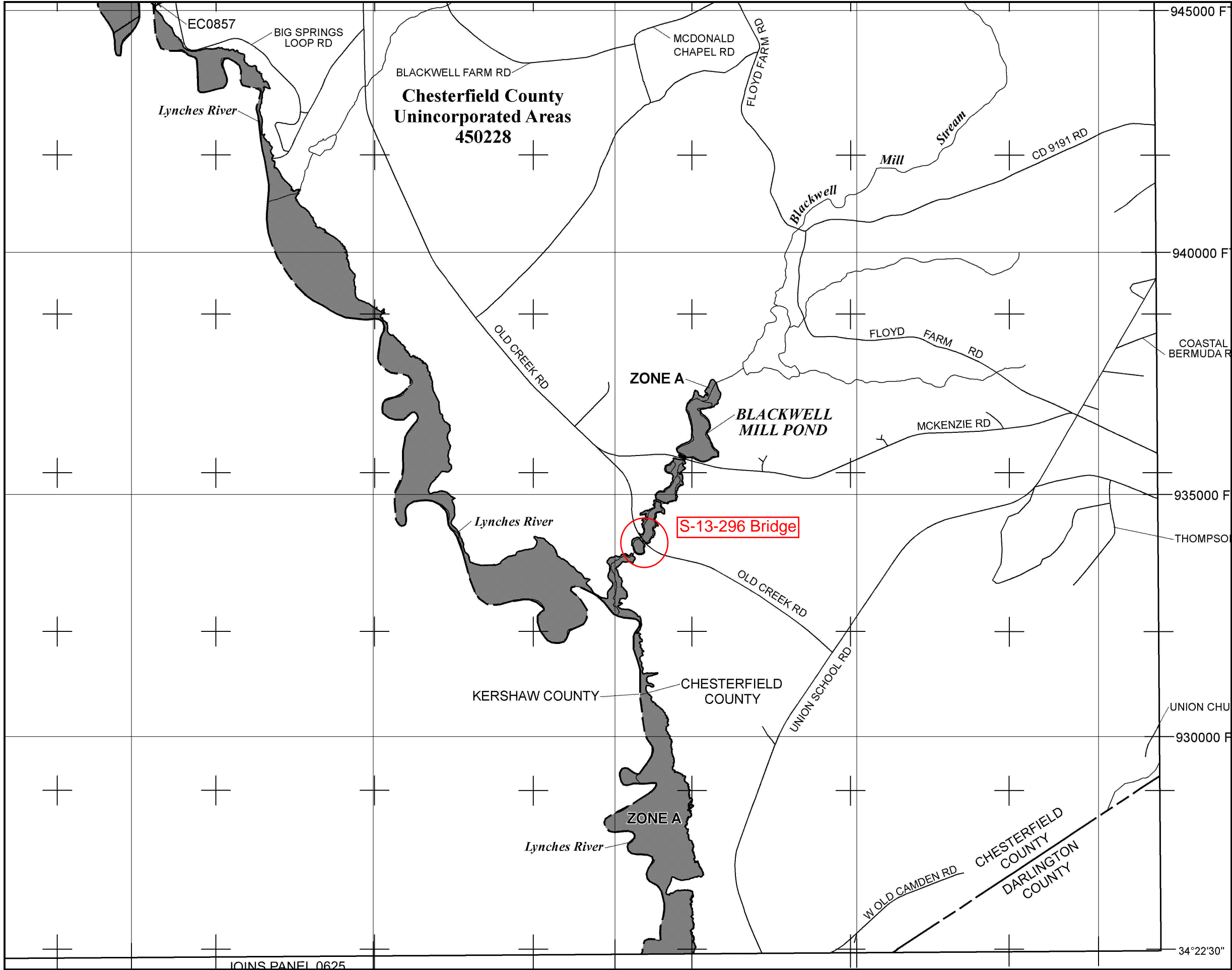
**F. Please include a discussion of the following: commensurate with the significance of the risk or environmental impact for all alternatives containing encroachments and those actions which would support base floodplain development:**



- a. What are the risks associated with implementation of the action?
  - b. What are the impacts on the natural and beneficial floodplain values?
  - c. What measures were used to minimize floodplain impacts associated with the action?
  - d. Were any measures used to restore and preserve the natural and beneficial floodplain values impacted by the action?
- G. Please discuss the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.
- 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.

Paul Cameron, PE  
\_\_\_\_\_  
SCDOT Hydraulic Engineer

\_\_\_\_\_  
Date



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0500C

FIRM

FLOOD INSURANCE RATE MAP

CHESTERFIELD COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

PANEL 500 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHESTERFIELD COUNTY	450228	0500	C
MCBEE, TOWN OF	450305	0500	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER

45025C0500C

EFFECTIVE DATE

SEPTEMBER 16, 2011

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.

## **Attachment E- Public Involvement**



## Public Outreach Summary:

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

---

**Subject:** Public Information Outreach

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## 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):

<b>S-46-998 (Robertson Road)</b>	<b>WILDCAT CREEK</b>
<b>S-29-292 (Plantation Road)</b>	<b>BEAR CREEK</b>
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. Two (2) 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](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

Date	Full Name	Email	Phone Number	Street Address	City	Zipcode	Comment
7/10/2023	Greg Griggs	gagriggs@hotmail.com	(843) 307-2	6971 Old Creek Rd	Mcbee	29101	Comment for S-13-296 The state could save a lot of money by leaving the road closed and not replacing the bridge. With the adjacent road, Mckenzie Rd, being so close and with so few residents on this section of Old Creek the cost to replace is too much. Considering that traffic can get around with not much inconvenience, I would suggest not replacing the bridge and leave this section of Old Creek closed.
7/14/2023	Mckenzie Heartland	NA	NA	2294 Mckenzie Dr	Mcbee	29101	Handwriting in this comment was not legible. No contact information was provided other than the mailing address of the commenter.

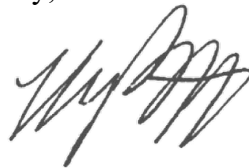
August 18, 2023

Dear Ms. Heartland:

Thank you for your interest in the Closed and Load Restricted Bridge Package 20 Project (Chesterfield, Fairfield, Lancaster, and York Counties). Unfortunately we were unable to read the comment provided on the comment form you submitted during the Public Information Meeting. Your feedback is important to us and we would love for you to reach out by email or phone for your input. Please continue to check for updates on the project website. ([www.scdotgis.online/CLRB\\_2022\\_Package20](http://www.scdotgis.online/CLRB_2022_Package20))

If you have any questions, please contact me, the SCDOT Project Manager, by phone 803-737-2566, or via email at [pittsme@scdot.org](mailto:pittsme@scdot.org).

Sincerely,



Michael E. Pitts, P.E., Assoc. DBIA  
Alternative Delivery Program Manager

**From:** [Pitts, Michael E.](#)  
**To:** [gagriggs@hotmail.com](mailto:gagriggs@hotmail.com)  
**Subject:** SCDOT Closed and Load Restricted Bridge Package 20 (Chesterfield, Fairfield, Lancaster, and York Counties)  
**Date:** Friday, August 18, 2023 10:58:39 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)

---

Good Morning Mr. Griggs –

Thank you for your comment. SCDOT appreciates your input and feedback however it was determined that it is in the Department's best interest to replace this bridge and regain the connection.

Thank you,



**Michael E. Pitts, P.E., Assoc. DBIA**

*Alternative Delivery Program Manager*

**P** 803.737.2566 **M** 803.413.9316 **E** [pittsme@scdot.org](mailto:pittsme@scdot.org)

955 Park Street, P.O. Box 191, Columbia, SC 29202-0191

**LET 'EM WORK. LET 'EM LIVE.**



# 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

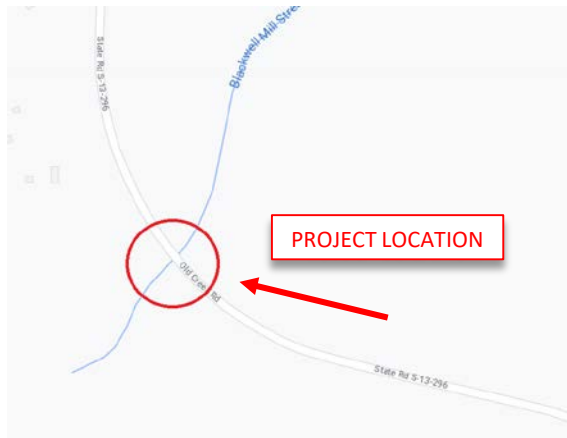
Michael Pitts, PE

Phone: 803-737-2566

Email: [pittsME@scdot.org](mailto:pittsME@scdot.org)

Comments for S-296 proposed bridge replacement will be accepted until Aug. 11, 2023.

### S-296 Blackwell Mill Stream 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-296 over Blackwell Mill Stream**

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

### **Contact Us!**



803-737-2566



[PittsME@scdot.org](mailto:PittsME@scdot.org)



[www.scdotgis.online/CLRB\\_2022\\_Package20](http://www.scdotgis.online/CLRB_2022_Package20)

PLACE  
STAMP  
HERE

### **SCDOT Environmental Services Offices**

PO Box 191

Columbia, SC 29202

