



South Carolina Department of Transportation  
On Behalf of the Federal Highway Administration - South Carolina Division Office



PROCESSING FORM FOR PROGRAMMATIC CATEGORICAL EXCLUSIONS  
NON MAJOR FEDERAL ACTIONS

Project ID P041157

Route S-26-31

County Horry

Part 1 - Project Description

Include the Project Name/Description

S-26-31 (Red Bluff Road) over Tod Swamp

South Carolina Department of Transportation (SC DOT) proposes to replace the S-26-31 (Red Bluff Road) Bridge over Tod Swamp in Horry County.

The purpose of this 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. The bridge was built in 1973. According to the SCDOT Structure Inventory and Appraisal Report from August 2022, the bridge has a sufficiency rating of 41.3. An off-site detour may be utilized during construction. The bridge is currently open to traffic.

NEPA studies revealed no significant impacts or effects to resources within the project study area.

Part 2 - PCE Type

Select the appropriate Categorical Exclusion from 23 CFR Part 771.117 that best fits the entire project from the drop-down menu. **Reference Appendix A of the PCE Agreement for a more detailed description of each CE contained in 23 CFR 771.117.**

23 CFR 771.117(c) Bridge rehabilitation, reconstruction, or replacement or railroad crossing improvements

23 CFR 771.117(d)

Part 3 - Thresholds

To be processed as a Programmatic Categorical Exclusion (PCE) the following conditions must be met in addition to the General Criteria (as outlined in the PCE Agreement between FHWA-SC and SCDOT). Place a "X" in the appropriate box below. If the answer is "Yes" to any of the below criteria, SCDOT will consult with FHWA-SC to determine the appropriate level of NEPA documentation required and forward to FHWA-SC for approval. **\*Reference Part 4 of the Processing form or Section IV of the PCE Agreement for more details and definitions regarding each threshold.**

1.	Involves any unusual circumstances as described in <u>*23 CFR Part 771.117(b)</u>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2.	The acquisition of more than <u>*minor amounts</u> of temporary or permanent strips of right-of-way	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
3.	Involves acquisitions that result in residential or non-residential displacements	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
4.	Involves any adverse impacts to EJ populations	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

## Part 3 - Thresholds Continued

5.	Results in capacity expansion of a roadway by adding through lanes	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6.	Involves construction that would result in <u>*major traffic disruptions</u>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7.	Involves <u>*changes in access control</u> requiring FHWA approval	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8.	An adverse effect determination under Section 106 of the National Historic Preservation Act.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
9.	Use of Section 4(f) property that cannot be documented with a FHWA <i>de minimis</i> determination or a programmatic Section 4(f) other than the programmatic evaluation for the use of historic bridges	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
10.	Any use of a Section 6(f) property	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
11.	Requires an Individual USACE 404 Permit	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
12.	Requires an Individual U.S. Coast Guard Permit.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
13.	Work encroaching in a regulatory floodway, adversely affecting the base floodplain (100 yr.) pursuant to E.O. 11988 and 23 CFR Part 650 Subpart A	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
14.	Construction in, across, or adjacent to a river designated as a National Wild and Scenic River	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
15.	Involves an increase of 15 dBA or greater on any noise receptor or abatement measures are found to be feasible and reasonable due to noise impacts	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
16.	May affect and is likely to adversely affect a Federally listed species or designated critical habitat or projects with impacts subject to the BGEPA	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
17.	Involves acquisition of land for hardship, protective purposes, or early acquisition	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
18.	Does not meet the latest Conformity Determination for air quality non-attainment areas (if applicable).	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
19.	Any known or potential <u>major</u> hazardous waste sites within the right-of-way.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
20.	Is not included in or is inconsistent with the STIP and/or TIP	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

## Part 3 Continued - Additional criteria to be completed for disposal of excess right-of-way PCE

1.	Is the parcel part of a SCDOT environmental mitigation effort or could it be used for environmental mitigation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.	Is there a formal plan to use this parcel for a future transportation project (is it part of an approved LRTP)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**Part 4 - Threshold Definitions**

**Unusual Circumstances (23 CFR Part 771.117)** - Unusual circumstances are defined as:

- a. Significant environmental impacts;
- b. Substantial controversy on environmental grounds;
- c. Significant impact on properties protected by Section 4(f) of the DOT ACT or Section 106 of the National Historic Preservation Act; or
- d. Inconsistencies with any Federal, State, or local law, requirement, or administrative determination relating to the environmental aspects of the action.

**Minor Amount of Right-of-Way (ROW):**

A minor amount of ROW is defined as less than 3 acres per linear mile for linear projects or less than 10 acres of impacts for non-linear projects (eg: intersections, bridges), and no removal of major property improvements. Examples of major improvements include residential and business structures, or the removal of other features which would change the functional utility of the property. Removal of minor improvements, such as fencing, landscaping, sprinkler systems, and mailboxes would be allowed.

**Major Traffic Disruptions:**

A major traffic disruption is defined as an action that would result in: a) adverse effects to through-traffic businesses or schools, b) substantial change in environmental impacts, or c) public controversy associated with the use of the temporary road, detour, or ramp closure.

**Changes in Access Control:**

Requires approval from FHWA for changes in access control on the Interstate system (eg: Interchange Modification Reports or Interchange Justification Reports).

**Environmental Commitments: (Check all that apply)**

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> USTs/Hazardous Materials  | <input checked="" type="checkbox"/> General Permit     | <input type="checkbox"/> Right of Way                                   |
| <input checked="" type="checkbox"/> Water Quality             | <input type="checkbox"/> Individual Permit             | <input checked="" type="checkbox"/> Floodplains                         |
| <input checked="" type="checkbox"/> Migratory Bird Treaty Act | <input type="checkbox"/> Essential Fish Habitat        | <input type="checkbox"/> Lead Based Paint                               |
| <input checked="" type="checkbox"/> Stormwater                | <input checked="" type="checkbox"/> Cultural Resources |   |
| <input type="checkbox"/> Coast Guard Permit Exclusion         | <input type="checkbox"/> Noise                         | <input checked="" type="checkbox"/> Non-Standard Commitment (see below) |

Non-standard Commitments: USACE Section 408, Northern Long-Ear Bat (NLEB)

Relevant field studies and environmental reviews have been completed to determine that the project meets the criteria set forth in the Programmatic Categorical Exclusion Agreement signed by FHWA-SC and SCDOT. It is understood that any additions/deletions to the project may void environmentally processing the project as presently classified; consequently, any engineering changes must be brought to the attention of SCDOT Environmental Services Office immediately. A copy of this form is included in the project file and one (1) copy has been provided to FHWA.

\*The stream crossing at S-26-31 is referred to as Todd Swamp throughout the PCE documents and appendices (submitted 4/4/24). It should be noted that FEMA flood insurance maps were recently updated in April 2024 and the creek is now reflected as Tod Swamp. SCDDT has attempted to reflect this change in most of the design documents, however in some cases Todd Swamp may appear and should be acknowledged as one in the same with Tod Swamp.

Approved By:

**Will McGoldrick**

Digitally signed by Will McGoldrick  
Date: 2024.05.01 10:07:36 -04'00'

Date

Primavera:  Yes  No

NEPA Start Date:

Does the project contain additional commitments?: (if Yes attach to form)  Yes  No

Date: 02/26/2024



Project ID: P041157 County: Horry District: District 5 Doc Type: PCE Total # of Commitments: 9

Project Name: S-26-31 over Todd Swamp

The Environmental Commitment **Contractor Responsible** measures listed below **are to be included in the contract and must be implemented**. It is the responsibility of the Program Manager to make sure the Environmental Commitment **SCDOT Responsible** measures are adhered to. If there are questions regarding the commitments listed please contact:

**CONTACT NAME:** Michael Pitts

**PHONE #:** (803)-737-2566

**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**USTs/Hazardous Materials**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

If avoidance of hazardous materials is not a viable alternative and soils that appear to be contaminated are encountered during construction, the South Carolina Department of Health and Environmental Control (SCDHEC) will be informed. Hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and the SCDHEC requirements, if necessary.

Special Provision

**Water Quality**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

The contractor will be required to minimize possible water quality impacts through implementation of BMPs, reflecting policies contained in 23 CFR 650B and the Department's Supplemental Specification on Erosion Control Measures (latest edition) and Supplemental Technical Specifications on Seeding (latest edition). Other measures including seeding, silt fences, sediment basins, etc. as appropriate will be implemented during construction to minimize impacts to water quality.

Special Provision

**Migratory Bird Treaty Act**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

The federal Migratory Bird Treaty Act, 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The South Carolina Department of Transportation (SCDOT) will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking of individual migratory birds and the destruction of their active nests.

The contractor shall notify the Resident Construction Engineer (RCE) at least four (4) weeks prior to construction/demolition/maintenance of bridges and box culverts. The RCE will coordinate with SCDOT Environmental Services Office (ESO), Compliance Division, to determine if there are any active birds using the structure. After this coordination, it will be determined when construction/demolition/maintenance can begin. If a nest is observed that was not discovered after construction/demolition/maintenance has begun, the contractor will cease work and immediately notify the RCE, who will notify the ESO Compliance Division. The ESO Compliance Division will determine the next course of action.

The use of any deterrents by the contractor designed to prevent birds from nesting, shall be approved by the RCE with coordination from the ESO Compliance Division. The cost for any contractor provided deterrents will be provided at no additional cost to SCDOT.

Special Provision

Project ID: P041157

SCDOT  
NEPA ENVIRONMENTAL COMMITMENTS  
FORM



**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Stormwater**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

Stormwater control measures, both during construction and post-construction, are required for SCDOT projects with land disturbance and/or constructed in the vicinity of 303(d), TMDL, ORW, tidal, and other sensitive waters in accordance with the SCDOT's MS4 Permit. The selected contractor would be required to minimize potential stormwater impacts through implementation of construction best management practices, reflecting policies contained in 23 CFR 650 B and SCDOT's Supplemental Specifications on Seed and Erosion Control Measures (latest edition).

Special Provision

**General Permit**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

Impacts to jurisdictional waters will be permitted under a Department of the Army Section 404 permit from the U.S. Army Corps of Engineers. Based on preliminary design, it is anticipated that the proposed project would be permitted under SCDOT's General Permit (GP). The required mitigation for this project will be determined through consultation with the USACE and other resource agencies.

Special Provision

**Cultural Resources**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

The contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramics, flakes, bones, graves, gravestones, or brick concentrations during the construction phase of the project, if any such remains are encountered, the Resident Construction Engineer (RCE) will be immediately notified and all work in the vicinity of the discovered materials and site work shall cease until the SCDOT Archaeologist directs otherwise.

Special Provision

Project ID: P041157

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NEPA ENVIRONMENTAL COMMITMENTS  
FORM



**ENVIRONMENTAL COMMITMENTS FOR THE PROJECT**

**Floodplains**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

The Engineer of Record will send a set of final plans and request for floodplain management compliance to the local County Floodplain Administrator.

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref:

Responsibility:

CONTRACTOR

USACE Section 408

The USACE Charleston District has identified Todd Swamp as being part of the USACE Section 408 program. Coordination with the USACE Section 408 office will be required for the project. The project will be designed to avoid alterations to the channel that would impair or reduce channel conveyance or functionality. The Contractor shall provide the USACE a bridge plan and profile to the USACE Charleston District Section 408 office for review and concurrence prior to construction

Special Provision

**Non-Standard Commitment**

NEPA Doc Ref:

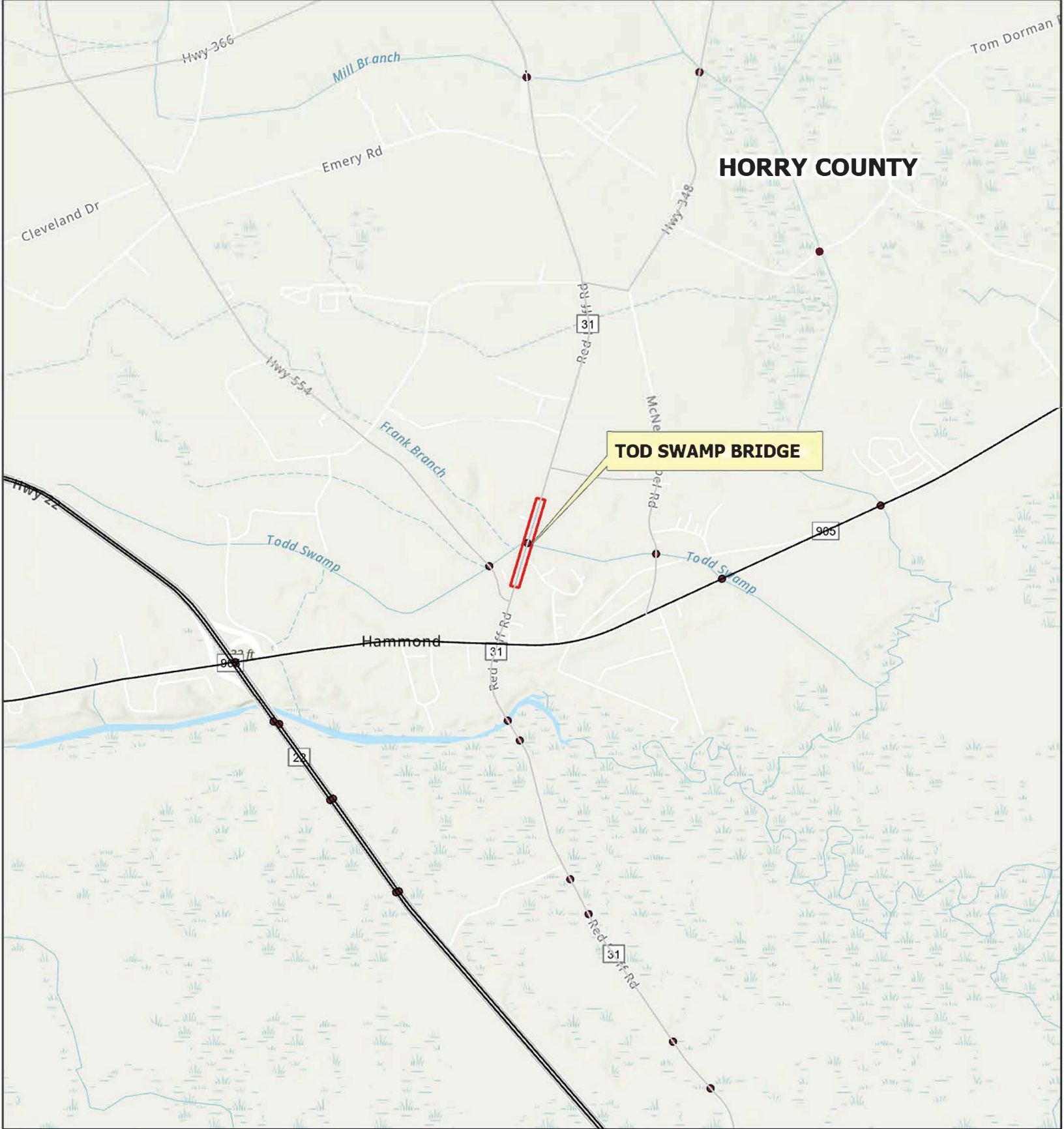
Responsibility:

CONTRACTOR

Northern Long-Eared Bat (NLEB)

The removal or trimming of trees with a diameter at breast height (dbh) of three inches or greater shall only occur during the inactive season for NLEB. USFWS dates for the NLEB active season are December 15th to February 15th and May 1st to July 15th so clearing must occur outside these dates.

Special Provision

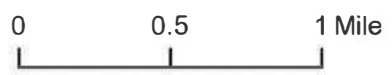


**HORRY COUNTY**

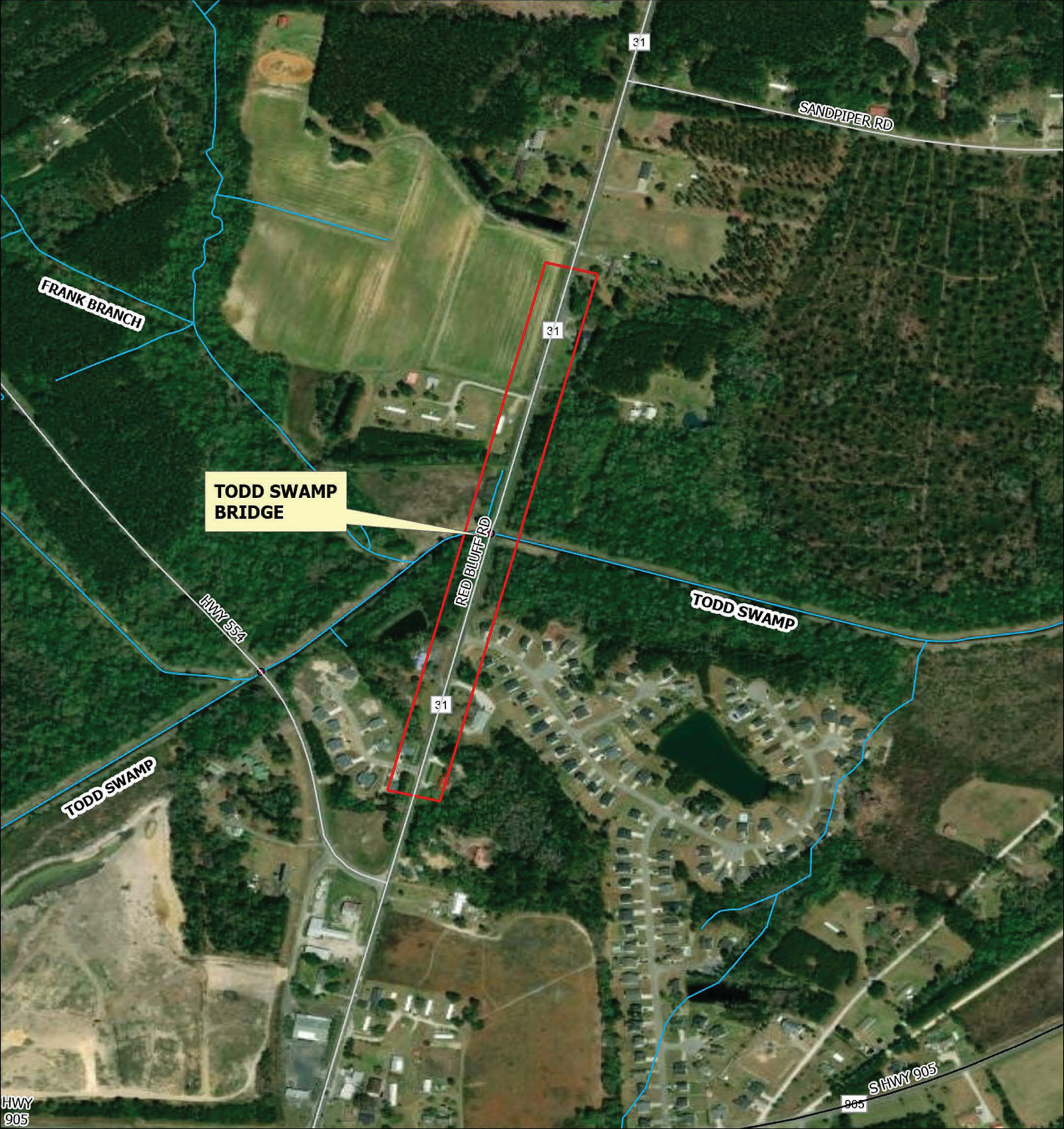
**TOD SWAMP BRIDGE**

**Legend**

- Local Road
- SC Route
- Bridge
- Study Area



**Figure 1.**  
**Vicinity Map**  
**Replacement of SC Bridge 6308**  
**on Red Bluff Road over Tod Swamp**  
**in Horry County, SC**



**Legend**

- Local Road
- SC Route
- Bridge
- Streams
- ▭ Study Area



0 0.13 0.25 Mile



**Figure 2.**  
**Study Area Map**  
**Replacement of SC Bridge 6308**  
**on Red Bluff Road over Tod Swamp**  
**in Horry County, SC**



## **Attachments**

**Attachment A- Cultural Resources Project Screening Form and Field Report**

**Attachment B- Natural Resources Technical Memorandum**

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

**Attachment D- Floodplain Checklist**

**Attachment E- Public Comments**

**Attachment A- Cultural Resources Project Screening Form and Field Report**



# 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-26-31 (Red Bluff Rd) over Tod Swamp. 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 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 September 2023 and created a short form report detailing the project (attached). The survey consisted of a pedestrian reconnaissance of the entire archaeological APE augmented by the excavation of shovel test pits (STPs). A total of 42 STP locations were investigated. Thirty-eight STPs were not excavated due to standing water, buried utilities, or the presence of gravel or paved driveways. The remaining four STPs were negative for cultural material. One historic architectural resource was recorded. SHPO Site No. 4098 is a linear ranch house constructed in circa-1967. It is not eligible for the NRHP. The current bridge to be replaced (Asset ID 06308) is a concrete slab bridge with timber piles constructed in 1973. Although it is 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 historic properties will be affected by this project. No additional cultural resources investigations are recommended. Documentation of this project in a cultural resources screening form was approved through email consultation with the SC SHPO on 11/14/2023.

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:

**CULTURAL RESOURCE FIELD REPORT**

**SCDOT ENVIRONMENTAL SECTION**



**TITLE:** Phase I Cultural Resources Survey of Proposed Improvements to the S-26-31 Bridge over Tod Swamp

**DATE OF RESEARCH:** 9/28/23

**ARCHAEOLOGIST:** Lauren Christian, MA, RPA

**ARCHITECTURAL HISTORIAN:** Sean Stucker, MHP

**COUNTY:** Horry

**PROJECT:** Closed and Load Restricted Bridge Replacements- Package 18

**F. A. No.:**

**File No.**

**PIN:** P041157

**DESCRIPTION:**

The South Carolina Department of Transportation (SCDOT) proposes to replace various closed or load-restricted bridges including the S-26-31 (Red Bluff Road) bridge over Tod Swamp in Horry County, South Carolina. The project area is defined as that area within 75 feet of either side of the proposed roadway centerline and extending 1500 feet on either side 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 11 miles south of the city of Loris in northeastern Horry County, South Carolina (Figure 1).

**USGS QUADRANGLE:** Hammond, SC

**DATE:** 2014 **SCALE:** 1:24000

**UTM:** NAD83

**ZONE:** 17N

**EASTING:** 699854

**NORTHING:** 3754536

**ENVIRONMENTAL SETTING:**

The project area is situated in the Lower Coastal Plains physiographic region, which is characterized by flat swamplands and hardwood bottomlands. The topography in the project area ranges from 26 feet above mean sea level (amsl) at the northern and southern ends of the project area to 20 feet amsl in the vicinity of Todd Swamp. The surrounding landscape is mostly rural, with forested private property along most of the project area, though there is a section of agricultural fields present in the northwestern portion of the project area. Vegetation in the central portion consists of mixed pines and hardwoods with a moderately dense understory with agricultural fields in the northwest portion and manicured lawns in the northern and southern portions.

**NEAREST RIVER/STREAM AND DISTANCE:**

Todd Swamp bisects the project area, joining Simpson Creek approximately 1.6 miles east of the project area. Simpson Creek (Hydrologic unit code [HUC] 030402060705) is a tributary of the Waccamaw River (HUC 03040206) and joins the river approximately 1.5 miles southeast of the project area. The Waccamaw River then flows in a general southwest direction until Georgetown, South Carolina, where it drains into Winyah Bay (South Carolina Department of Health and Environmental Control (SCDHEC) 2023).



**SOIL TYPE:**

Soils in the project area were formed from recent fluvial sands, marsh, and barrier beach sands. The majority of the soils are well drained (60.2 percent), with 39.8 percent identified as somewhat poorly drained (Table 1).

*Table 1. Soils Mapped in the Project Area*

Map Unit	Map Name	Drainage Class	Notes	Acres in Project Area	Percent of Project Area
Bd	Bladen fine sandy loam	Poorly Drained		0.2	1.1
EuA	Eulonia loamy fine sand	Moderately Well Drained	0 to 2 percent slopes	4.8	33.1
KeB	Kenansville fine sand	Well Drained	0 to 6 percent slopes	1.8	12.5
Me	Meggett loam	Poorly Drained		5.3	36.8
Og	Ogeechee loamy fine sand	Poorly Drained		0.3	1.9
YaA	Yauhannah fine sandy loam	Moderately Well Drained	0 to 2 percent slopes	2.1	14.6
Total				14.4	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:**

The vegetation in the project area primarily consists of mixed pines and hardwoods with a moderately dense understory. The understory during the survey was very dense along the creek banks on either side of the bridge and along the transmission line on the east side of the road. Many of the stands of trees are contained in the central portion of the project area, while modern residential and commercial buildings with manicured landscapes, as well as a section of fallow agricultural field, are present at the northern and southern ends 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 (SCIAA) and the South Carolina Department of Archives and History (SCDAH). The background research identified one previous intensive survey area and three previously recorded historic architectural resources located within the 0.5-mile search radius, although none are located within the project area itself (Figure 5). All were identified during the *Horry County Historic Resources Survey* conducted in 2006 by NSA, and all were recommended as not eligible for listing in the National Register of Historic Places (NRHP) (Richey and Langdale 2009). There are no previously recorded archaeological sites located in the search radius.



The previous intensive survey within the half-mile search radius was conducted in 2002 by the SCDOT and consisted of an archaeological and historic architectural investigation of the Red Bluff Cross Road with Highway 905 (Frick and Norton 2002). The survey identified no new archaeological sites or historic resources (ArchSite 2023).

**Table 2. Previously Recorded Cultural Resources**

SHPO Site No.	Type or Address	Temporal Affiliation/Build Date	NRHP Recommendation	Reference
1900	Behind 1706 Hwy 905	ca. 1885	Not Eligible	Richey and Langdale 2009
2108	370 McNeil Chapel Road	ca. 1950	Not Eligible	Richey and Langdale 2009
2111	504 McNeil Chapel Road	ca. 1920	Not Eligible	Richey and Langdale 2009

## SURVEY RESULTS

The cultural resources survey did not identify any new or previously recorded archaeological sites or isolated finds within the project area, while the architectural survey recorded one new resource within the Area of Potential Effects (APE). The results of both the archaeological and architectural surveys are discussed below.

### ARCHAEOLOGY

The Phase I Archaeology Survey was conducted on September 28, 2023. Lauren Christian, MA, RPA, served as Field Director and was assisted in the field by Kelly Higgins, MA, RPA. The archaeological investigation included a pedestrian walkover of the entire project area and the excavation of 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 Red Bluff Road (State Road S-26-31). Soil profiles were recorded for all excavated shovel tests, and location data was recorded for all investigated shovel tests using handheld GPS instruments.

Forty-two shovel test locations were investigated across the project area, of which four were negative for cultural material. The remaining 38 shovel tests were not excavated due to paved or gravel surfaces, dense vegetation, restricted access areas, standing water, and buried utilities (Figure 6). One general soil profile was noted before encountering the water table. It consisted of approximately 20 centimetres of brown (10YR 4/3) sandy clay loam Ap horizon overlying a dark yellowish brown (10YR 4/6) sandy clay loam Bt horizon mottled with Strat 1 (Figure 7). No new or previously recorded archaeological sites were identified in the project area.

### ARCHITECTURAL SURVEY

On September 22, 2023, Architectural Historian Sean Stucker, MHP, conducted the architectural history survey of the APE, which was defined as all buildings and structures 50 years of age or older with sightlines to the bridge within the 300-foot viewshed of the project area. Such resources were documented with South Carolina State Survey forms and digital 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*.

One historic architectural resource was recorded, but the bridge itself, constructed in 1973, was not evaluated per the FHWA's Post-1945 Bridges Program Comment (U.S. Department of Transportation, Federal Highway Administration 2012). This bridge (ID 06308) is of a common type and has a concrete main span, a precast concrete panel deck structure, and a bituminous (asphalt) deck surface set atop prestressed concrete channel beams and round wood piers set into the creek channel (Figure 8). The newly identified resource is shown in Figure 9 and detailed below.

**Table 3. Newly Recorded Cultural Resources**

SHPO Site No.	Address	Style/Type	Build Date	NRHP Recommendation
4098	5895 Red Bluff Road	Linear Ranch house	1967 ca.	Not Eligible
N/A	5895 Red Bluff Road	carport/shed	1980 ca.	Not Assessed
N/A	5895 Red Bluff Road	shed	1980 ca.	Not Assessed



## SHPO Site Number 4098 – 5895 Red Bluff Road

Facing west from its site approximately 900 feet north of Tod Swamp on Red Bluff Road, SHPO Site Number 4098 is a Linear Ranch house that Horry County Land Records indicate was built in 1967. The house does not appear in aerial imagery from 1964 but is present in 1972 aerial imagery, and the only imagery from the years in between are grainy contact sheets from 1968, so this survey assumes a build date of circa 1967 (United States Agricultural Stabilization and Conservation Service 1972; United States Geological Survey 1973, 1975).

The rectangular one-story frame house is slightly elevated on a continuous CMU foundation with a laterally-gabled, raised seam metal roof and a projecting front gable covering the entry bay and porch. The porch stairs are centered on the entrance bay that has a modern half-glazed door flanked by paired windows, of which only the inner window on each side is sheltered by the porch roof. To the right of the porch, the section at the south end of the house has a slightly stepped-down roof structure and a single window centered in its façade with two single windows spaced across the south elevation; it is either an enclosed porch or an addition, though it seems to be present in aerial imagery from 1977 so is an early addition if it is the latter. Based on the wide concrete driveway in front of the section at the north end, this portion of the house is most likely an enclosed garage that is finished in what could be described as a commercial fashion, with a full-glazed metal commercial door flanked by a wide storefront window and an eight-over-eight vinyl sash window on the left and right, respectively. Although it appeared in disuse during the survey, with a “closed” sign stationed in the store window, this assumption is supported by a 2010 memo in the Land Records that reads “small store in garage.” The façade between this northern portion and the porch is punctuated by a set of paired windows, and, except for the windows described in the enclosed garage portion, all visible windows are six-over-six vinyl sash windows. A cross-gabled wing that is visible in 1983 aerial imagery extends back from the northern bays of the rear elevation and is unfenestrated on its north side, but the other elevations of this addition, as well as the rear of the house, are otherwise inaccessible and not visible from the ROW (NETRonline 2023). The house is clad in vinyl (siding and eaves) and has triangular louvered vents in both gable ends and faux shutters on all the visible windows (Figure 10).

A detached combination carport and storage shed is located about 20 feet to the north of the house, while a partially enclosed shed building is located about 30 feet to the south. Neither building is listed in the Horry County Land Records, and neither appears in aerial imagery from 1977. Both seem to appear in 1983, so this survey assumes a build date of circa 1980 for both (NETRonline 2023). Based on these build dates, neither of the gabled frame buildings was assessed (Figure 11).

SHPO Site Number 4098 is a circa 1967 Linear Ranch house, but is not a distinctive or noteworthy example of this house type that is common in South Carolina. Moreover, alterations that include replacement fenestration, vinyl siding, the rear addition, and conversion of the garage (and possibly a porch) into a commercial retail space adversely impacts the building’s integrity. 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.

### **REMARKS AND RECOMMENDATIONS:**

No new or previously recorded archaeological sites or isolated finds were identified during the archaeological survey. The architectural survey recorded one new historic resource that is recommended as not eligible for the NRHP. The proposed project, as currently defined, would have no effects to historic properties.

-Natalie Adams Pope, Principal Investigator

**SIGNATURE:**

**DATE:** October 30, 2023



**BIBLIOGRAPHY AND FIGURES**

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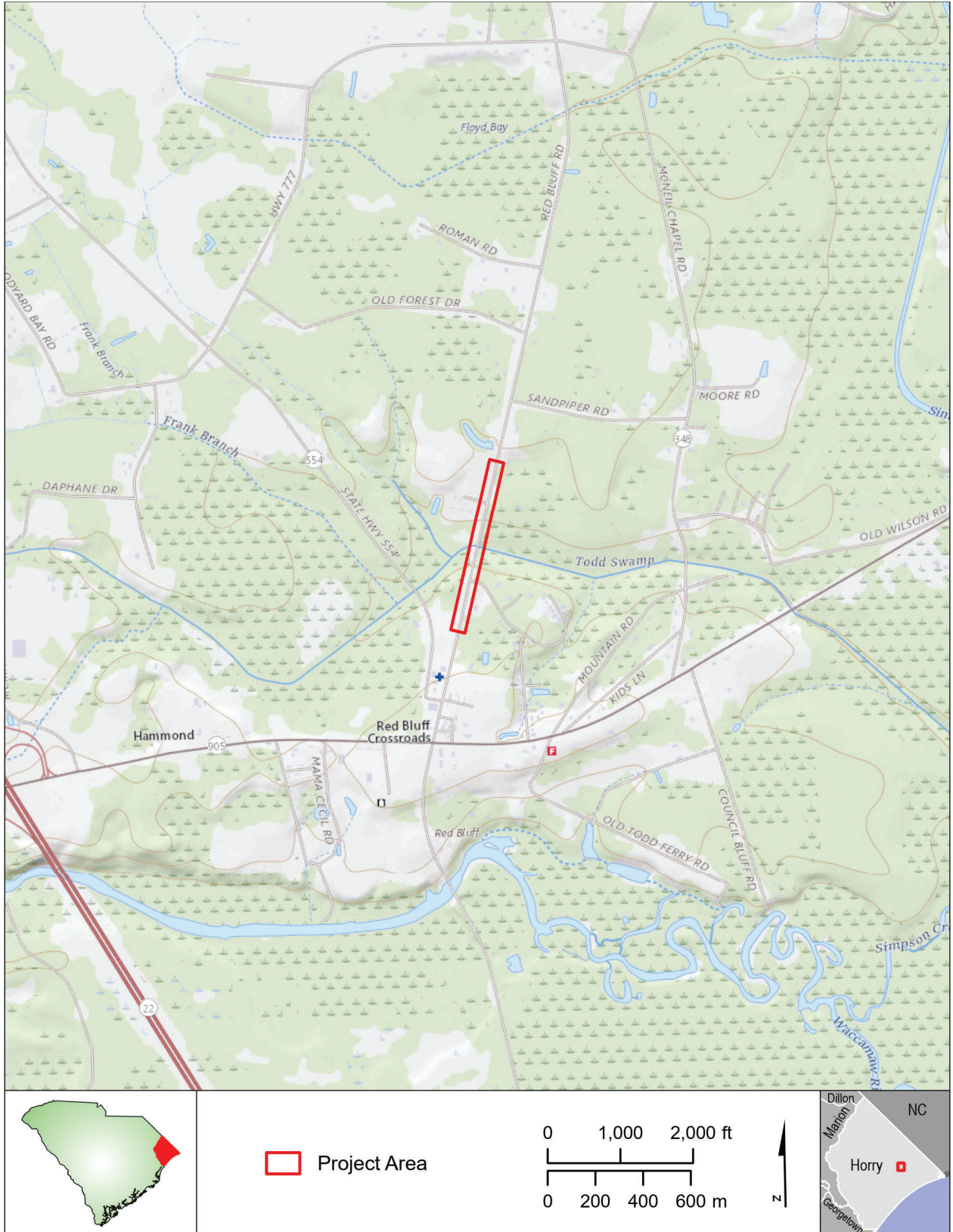
U.S. Department of Transportation, Federal Highway Administration

- 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: USGS The National Map (2023)



Figure 2.  
Buried Utilities and Dense Vegetation along Transmission Line on East Side of Project Area  
(Facing South)





Figure 3.  
Fallow Agricultural Field in Northwest Portion of Project Area (Facing North)





Figure 4.  
Residential and Commercial Buildings and Paved Roads within Project Area (Facing North)



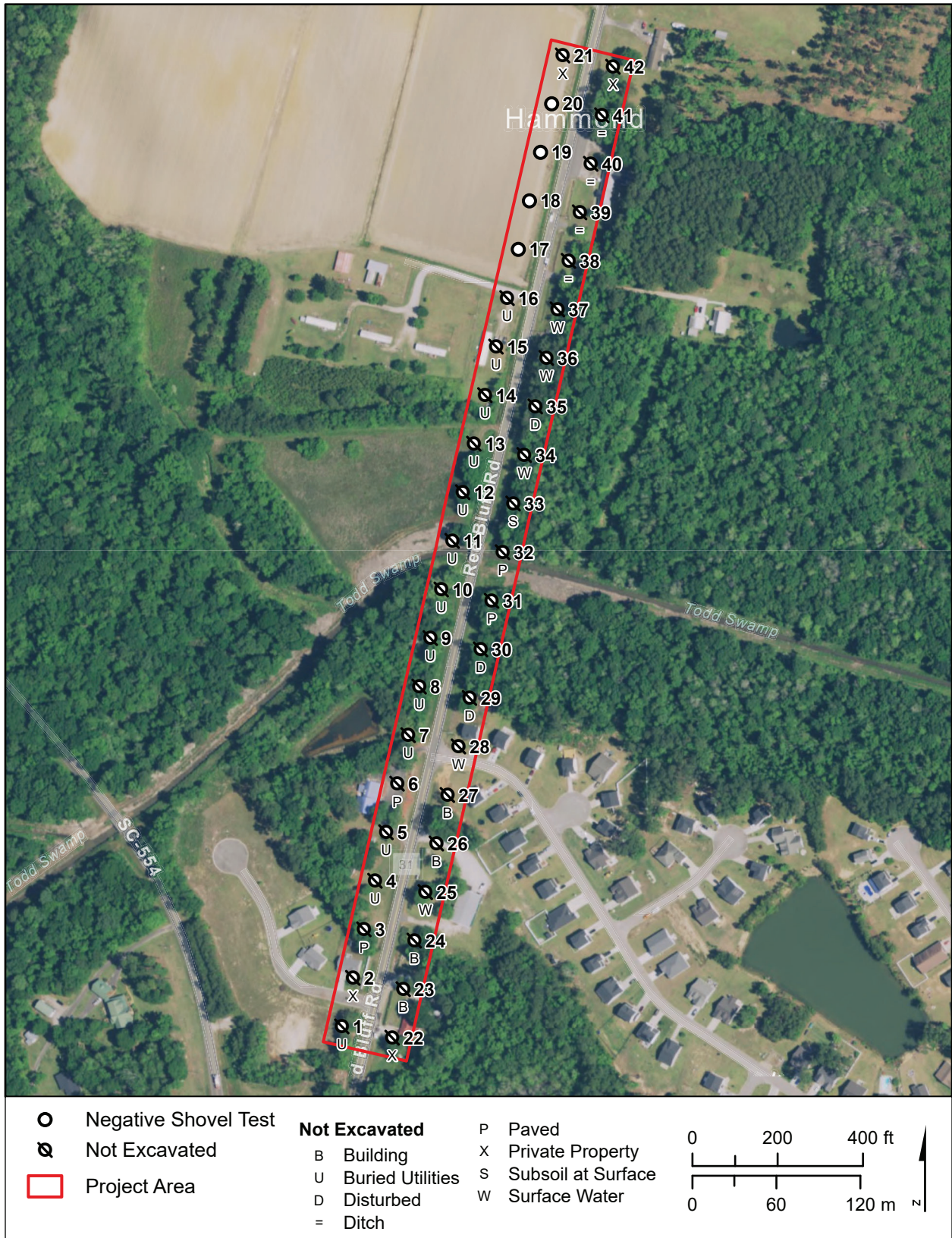


Figure 5.  
Previously Identified Cultural Resources within 0.5 Mile of the APE





Figure 6.  
 Shovel Tests Results Map



Basemap: NAIP (2021)



Figure 7.  
Soil Profile of STP 45 (Facing East)





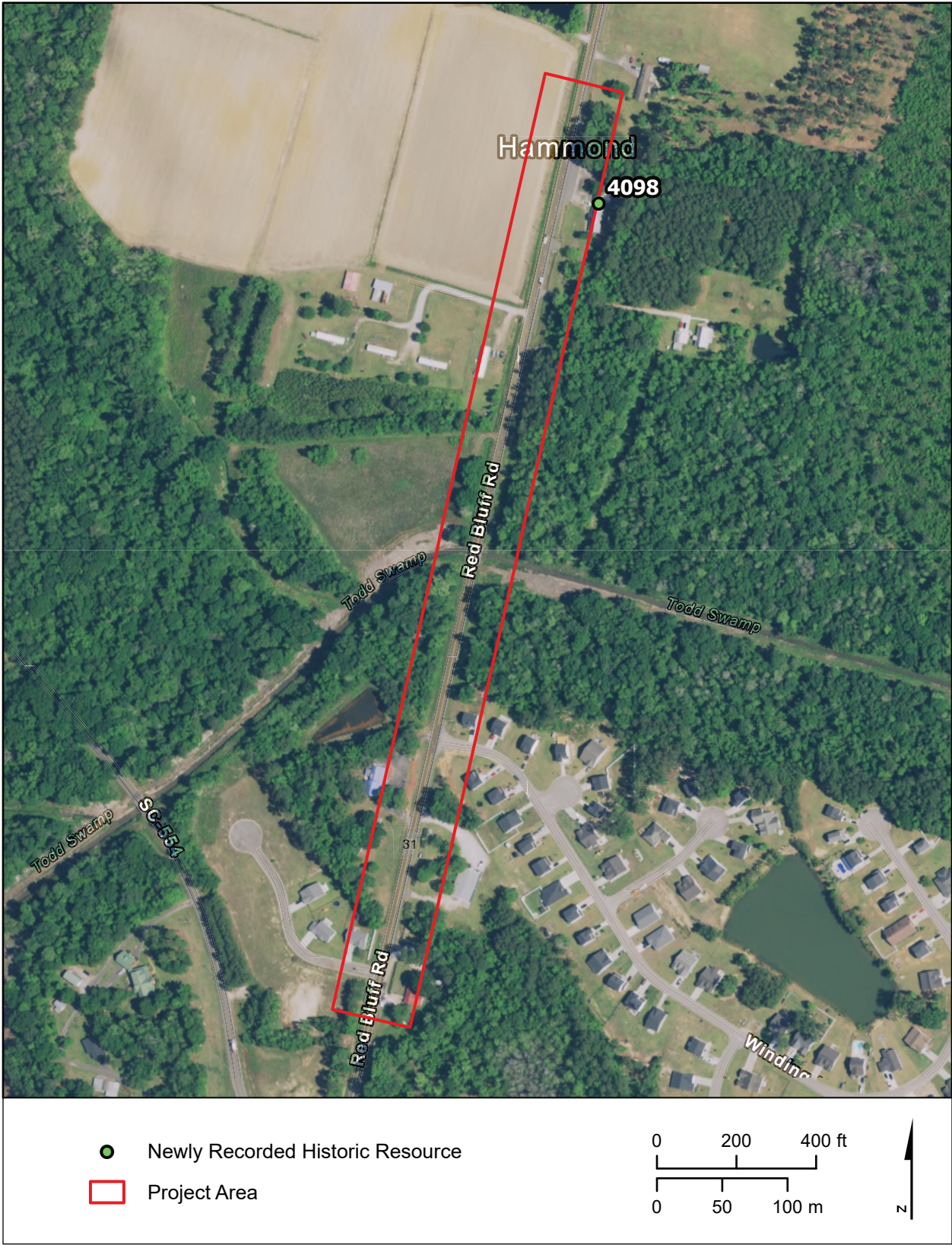
Figure 8.  
S-26-154 Bridge over Tod Swamp, Built 1973 and Not Assessed, Facing Northwest







Figure 9.  
Newly Recorded Cultural Resources Map



Basemap: NAIP (2021)



Figure 10.  
SHPO Site Number 4098 – 5895 Red Bluff Road

A. Façade, Facing East



B. Oblique, Facing North-east



C. Oblique, Facing South-east



D. Façade Detail, Facing Southeast





Figure 11.  
Unassessed Outbuildings – 5895 Red Bluff Road



A. Circa-1980 Carport and Storage Shed Oblique View, Facing Northeast



B. Circa 1980 Partially Enclosed Shed Building Oblique View, Facing Northeast

**Attachment B- Natural Resources Technical Memorandum**



# Natural Resources Technical Memorandum

S-31 (Red Bluff Road) Bridge Replacement over Todd Swamp, Horry County

SCDOT Project ID: P041157

April 9, 2024



## Introduction

The South Carolina Department of Transportation (SCDOT) proposes to replace the S-31 (Red Bluff Road) bridge over Todd Swamp in Horry County, South Carolina. The project is approximately 8.5 miles south of Loris, South Carolina. The project is in the Waccamaw River watershed (03040206 8-digit Hydrologic Unit Code) and the 63h (Carolina Flatwoods) Level 4 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 acres in size and approximately 2,410 feet (0.46 mile) in total length, generally centered on Todd Swamp in either direction.

Furthermore, the PSA is 200 feet in total width, generally centered on the centerline of Red Bluff 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 assessment 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) – Hammond, 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 November 29, 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 (acres)
Wetland A	33.9117811	-78.8386247	0.46
Wetland B	33.9119359	-78.8381333	0.35
Wetland C	33.9127044	-78.8379248	0.54
Wetland D	33.9126237	-78.8383948	0.32
<b>Total</b>			<b>1.67 acres</b>

*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	33.9122996	-78.8382886	199	0.06
<b>Total</b>			<b>199 feet</b>	<b>0.06 acres</b>

## 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.

The USACE Charleston District has identified this location as being part of the USACE Section 408 program. Coordination with the USACE Section 408 office will be required for the project. It is anticipated that the project will be designed to avoid alterations to the channel that would impair or reduce conveyance or functionality. The Contractor shall provide a bridge plan and profile depicting the final bridge design to the Section 408 USACE Charleston District office for review and concurrence prior to construction.

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 September 14 and November 29, 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 the following federally protected species; finback whale, humpback whale, right whale, sei whale, sperm whale, West Indian manatee, American wood stork, bald eagle, red-cockaded woodpecker, piping plover, red knot, green sea turtle, Kemp’s Ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, Atlantic sturgeon, shortnose sturgeon, American chaffseed, Canby’s dropwort, pondberry, or seabeach amaranth.

Due to the presence of suitable habitat for northern long-eared bat, project information was provided to the USFWS through the Information for Planning and Consultation (IPaC) system. Based on the IPaC submission and a standing analysis completed by the USFWS, the project reached the determination of “May Affect, Not Likely to Adversely Affect” the northern long-eared bat (see Attachment D). A Biological Assessment 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 undeveloped forestland, cultivated cropland, disturbed/successional areas, and developed areas, including commercial and residential with maintained lawns and sparse vegetation. Natural communities observed within the PSA are upland mixed pine forest and bottomland hardwoods. 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, 6 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
Bd	Bladen fine sandy loam	0.0	0.4%
EuA	Eulonia loamy fine sand, 0 to 2 percent slopes	3.9	35.7%
KeB	Kenansville fine sand, 0 to 6 percent slopes	1.4	12.4%
Me	Meggett loam	4.1	37.3%



Og	Ogeechee loamy fine sand	0.1	0.8%
YaA	Yuahannah fine sandy loam, 0 to 2 percent slopes	1.5	13.5%

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



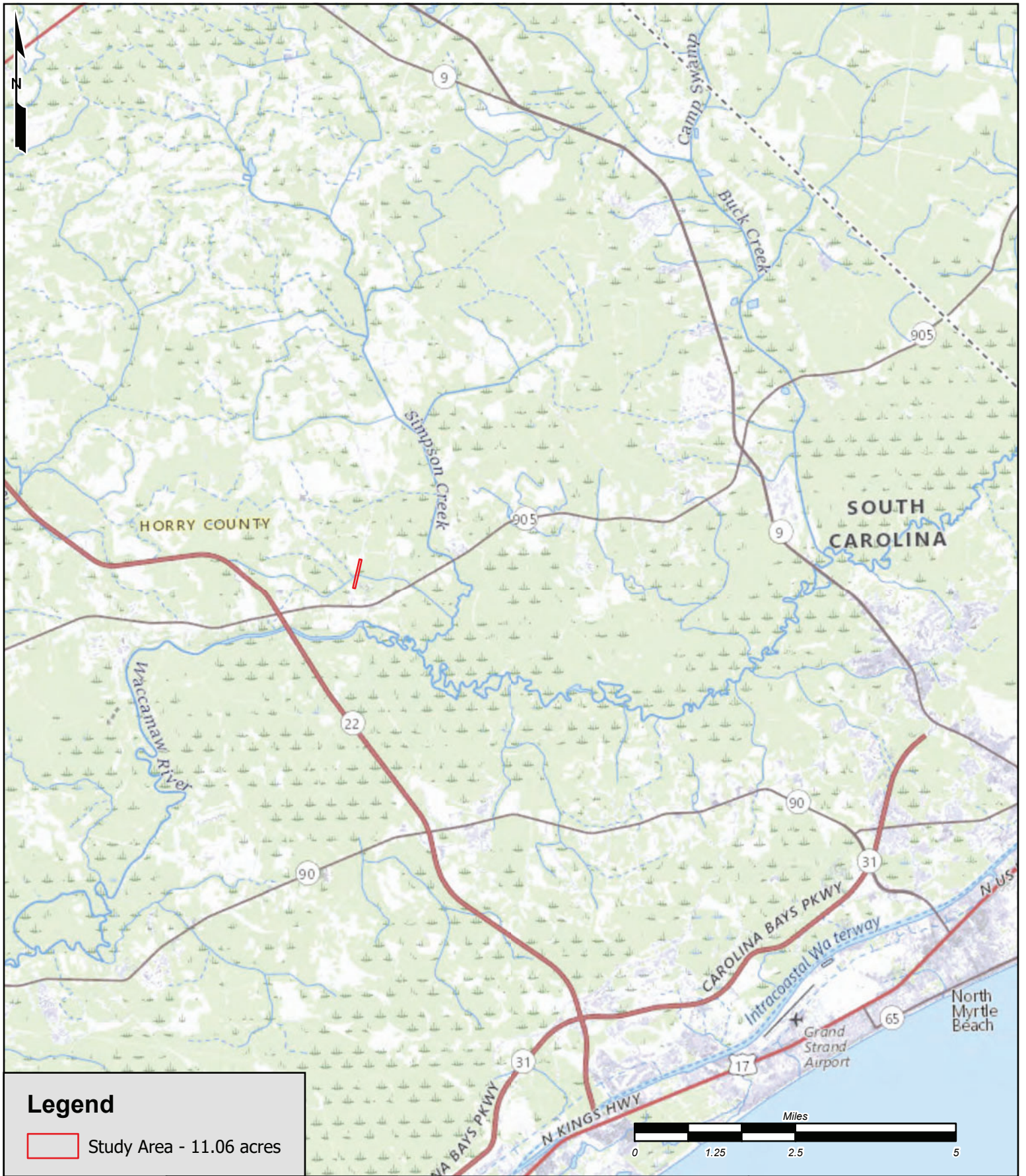
Matt DeWitt, AICP  
Robbins & DeWitt, LLC

# Attachment A

## Figures



**ROBBINS  
& DEWITT**



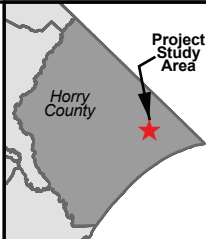
**Legend**

 Study Area - 11.06 acres



**ROBBINS & DEWITT**

www.Robbins-DeWitt.com



**S-31 BRIDGE REPLACEMENT  
OVER TODD SWAMP  
PROJECT ID: P041157**

**HORRY COUNTY, SOUTH CAROLINA**

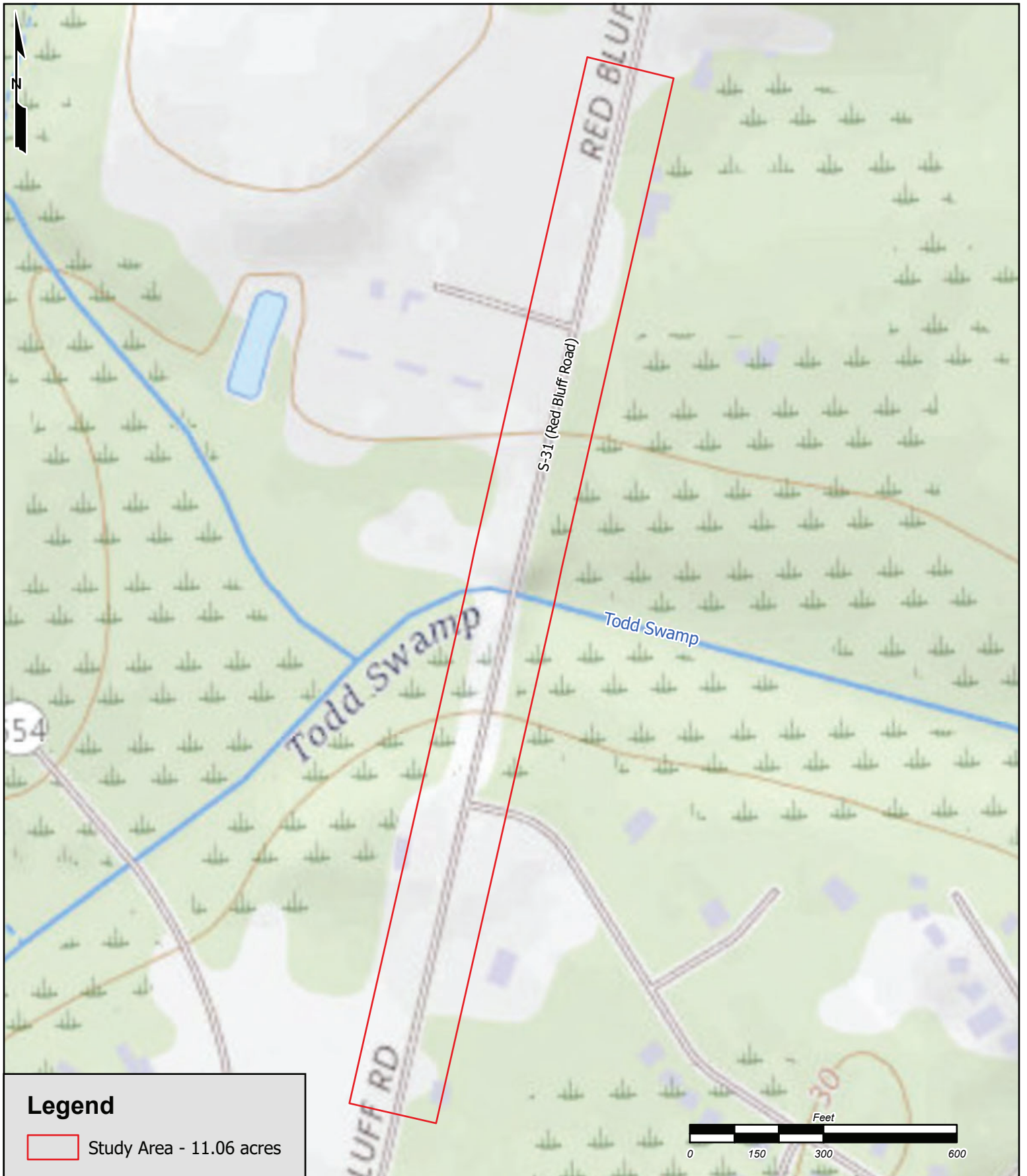
Source: USGS National Map (2023); USGS Hammond, SC Quadrangle (2020)




DRAWN BY: TRC      DATE: 12/5/2023

**PROJECT VICINITY**

**FIGURE 1**



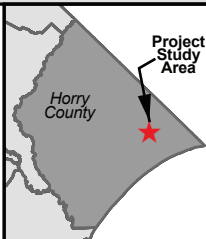
**Legend**

 Study Area - 11.06 acres



**ROBBINS & DEWITT**

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**S-31 BRIDGE REPLACEMENT  
OVER TODD SWAMP  
PROJECT ID: P041157**

**HORRY COUNTY, SOUTH CAROLINA**

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



DRAWN BY: TRC

DATE: 12/5/2023

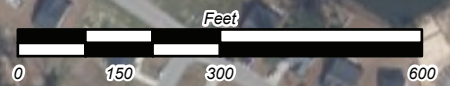
**USGS TOPOGRAPHIC MAPPING**


**FIGURE 2**



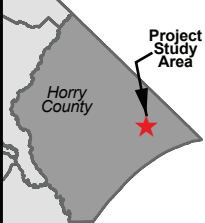
**Legend**

- Study Area - 11.06 acres
- ⚡ Bridges
- NHD Flowline





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Project Study Area  
Horry County

**S-31 BRIDGE REPLACEMENT  
OVER TODD SWAMP  
PROJECT ID: P041157**

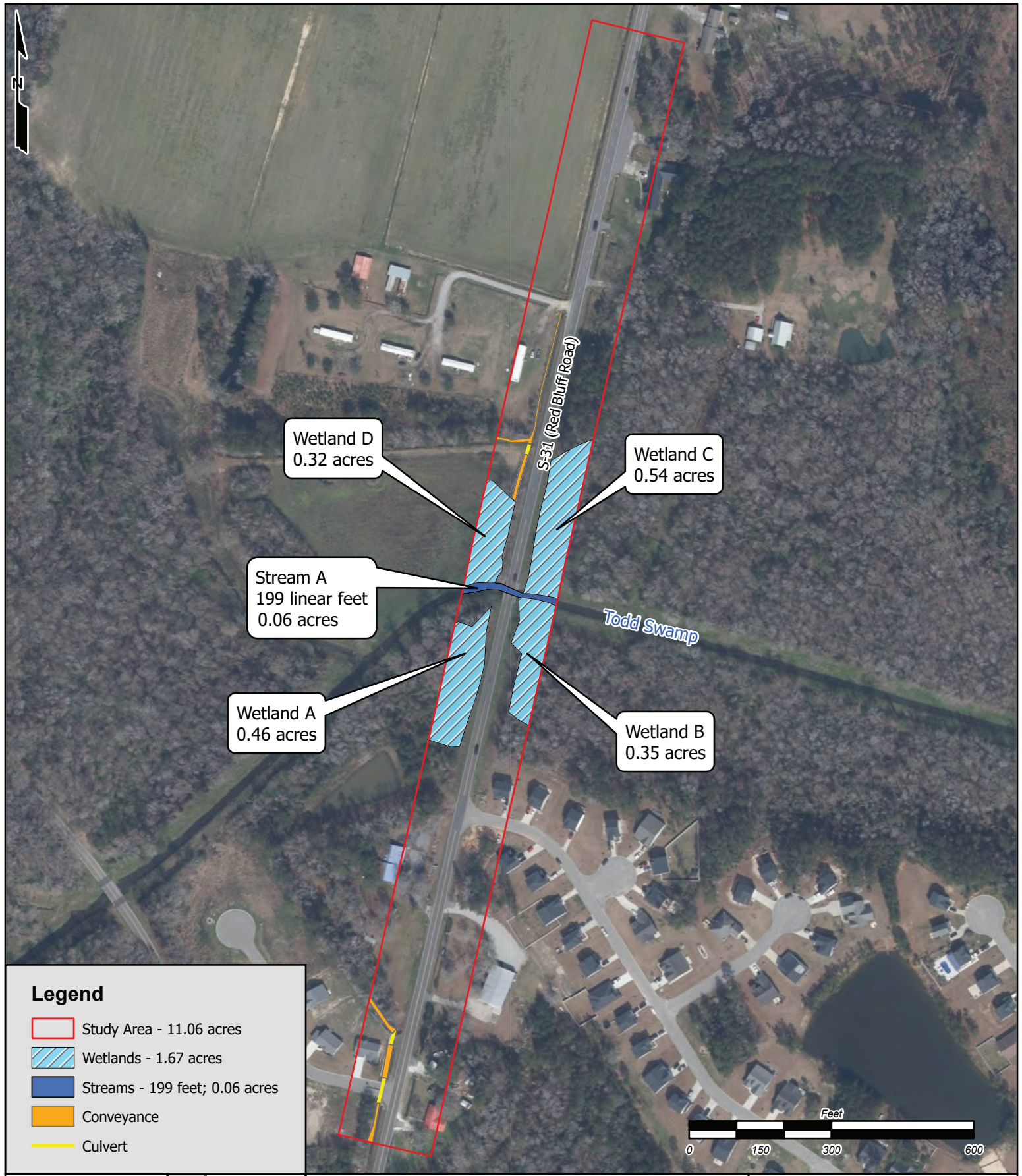
**HORRY COUNTY, SOUTH CAROLINA**

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



South Carolina Department of Transportation

<small>DRAWN BY: TRC</small>	<small>DATE: 12/5/2023</small>
<b>AERIAL IMAGERY</b>	
<b>FIGURE 3</b>	



**ROBBINS & DEWITT**  
www.Robbins-DeWitt.com

Horry County  
Project Study Area

**S-31 BRIDGE REPLACEMENT  
OVER TODD SWAMP  
PROJECT ID: P041157**

**HORRY COUNTY, SOUTH CAROLINA**

Source: Approximate boundaries of WOTUS were delineated on November 28 and 29, 2023; SC Geodetic High Resolution 6-inch; RGB Aerial Imagery [Statewide, South Carolina (2020)]

**SCDOT**  
South Carolina Department of Transportation

DRAWN BY: TRC      DATE: 12/5/2023

**APPROXIMATE BOUNDARIES OF WOTUS**

**FIGURE 4**

Attachment

**SCDOT Permit Determination  
Form & Water Quality  
Information Report**



**ROBBINS  
& DEWITT**

Date: 02/01/2024

### PERMIT DETERMINATION

FROM Matt DeWitt COMPANY Robbins & DeWitt

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

SCDOT PROJECT ENGINEER Michael Pitts

TO Will McGoldrick - Design Build Coordinator

Project Description S-31 (Red Bluff Road) over Todd Swamp

Route or Road No. S-31 County Horry

CONST. PIN \_\_\_\_\_ OTHER PINS or STRUCTURE # P041157

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 Section 408

Water Classification: FW *Print and attach the SCDHEC water quality report*

303(d) listed  no  yes, for \* HGF

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

\*List all that apply using the SCDHEC abbreviations

Comments: Todd Swamp has been identified as being part of the USACE Section 408 program.

Coordination and concurrence from the USACE Section 408 office will be required.

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.

**Matt DeWitt**  
Digitally signed by Matt DeWitt  
Date: 2024.02.01 15:04:52  
-05'00'  
\_\_\_\_\_  
Biologist, SCDOT/Consultant

02/01/2024  
\_\_\_\_\_  
Date





# Watershed and Water Quality Information

## General Information

**Applicant Name:** SCDOT

**Permit Type:** Construction

**Address:** 101 WINDING PATH DR,  
LORIS, SC, 29569

**Latitude/Longitude:** 33.912316 / -78.838272

**MS4 Designation:** Not in designated area

**Monitoring Station:** CSTL-553

**Within Coastal Critical Area:** No

**Water Classification (Provisional):** FW

**Waterbody Name:** TODD SWAMP

**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	
CSTL-553	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N	X
PD-373	X	F	F	F	F	F	F	F	F	F	F	F	X	X	X	X	X	X	A	X	
CSTL-554	X	A	A	A	A	A	A	A	A	A	A	A	X	X	X	X	X	X	A	X	
CSTL-555	X	A	A	A	A	A	A	A	A	A	A	A	X	X	X	X	X	X	A	X	
CSTL-556	X	A	A	A	A	A	A	A	A	A	A	A	X	X	X	X	X	X	A	X	
MD-144	X	A	A	A	A	A	A	A	A	A	A	A	X	X	X	X	X	X	A	X	
MD-145	X	A	A	A	A	A	A	A	A	A	A	A	X	X	X	X	X	X	A	X	

F = Standards full supported

A = Assessed at upstream station

WnTN = Within TMDL, parameter not supported

WnTF = Within TMDL, parameter full supported

N = Standards not supported

X = Parameter not assessed at station

InTN = In TMDL, parameter not supported

InTF = In TMDL, parameter full supported

## Parameters to be addressed (those not supporting standards)

## Fish Consumption Advisory

**HGF - Mercury (Fish Tissue)**

## Waters of Concern (WOC)

## TMDL Information - TMDL Parameters to be addressed

**In TMDL Watershed:** No

**TMDL Site:**

**TMDL Report No:**

**TMDL Parameter:**

**TMDL Document Link:**

Report Date: February 1, 2024

# Attachment C

## Biological Assessment Section 7 of the Endangered Species Act



ROBBINS  
& DEWITT

## Introduction

The proposed project consists of replacing the S-31 (Red Bluff Road) bridge over Todd Swamp, and associated road work, in Horry 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 species known to occur or to have formerly occurred in Horry County. A Resource List was also requested from the USFWS Information for Planning and Consultation (IPaC) in September 2023, to detail protected species under USFWS jurisdiction that are known or expected to be on or near the project area. The South Carolina Department of Natural Resources (SCDNR) Heritage Trust Tracked Species by County site was also reviewed for protected species within Horry County. 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), Threatened (T), At-risk species (ARS), 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 At-risk or Candidate species, they are listed in Table 1 in the event of a status change 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	American wood stork	<i>Mycteria americana</i>	Threatened
	Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA
	Black-capped petrel	<i>Pterodroma hasitata</i>	At-risk species
	Piping plover	<i>Charadrius melodus</i>	Threatened, Critical Habitat
	Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered
	Rufa Red knot	<i>Calidris canutus rufa</i>	Threatened
	Saltmarsh sparrow	<i>Ammodramus caudacuta</i>	At-risk species
Fishes	Atlantic sturgeon*	<i>Acipenser oxyrinchus</i>	Endangered
	Robust redhorse	<i>Moxostoma robustum</i>	At-risk species
	Shortnose sturgeon*	<i>Acipenser brevirostrum</i>	Endangered
Insect	Monarch butterfly	<i>Danaus plexippus</i>	Candidate

Mammal	Finback whale*	<i>Balaenoptera physalus</i>	Endangered
	Humpback whale*	<i>Megaptera novaengliae</i>	Endangered
	Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered
	Right whale*	<i>Balaena glacialis</i>	Endangered
	Sei whale*	<i>Balaenoptera borealis</i>	Endangered
	Sperm whale*	<i>Physeter macrocephalus</i>	Endangered
	Tri-colored bat	<i>Perimyotis subflavus</i>	Proposed Endangered
	West Indian Manatee	<i>Trichechus manatus</i>	Threatened
Plant	American chaffseed	<i>Schwalbea americana</i>	Endangered
	Canby's dropwort	<i>Oxypolis canbyi</i>	Endangered
	Carolina-birds-in-a-nest	<i>Macbridea caroliniana</i>	At-risk species
	Ciliate-leaf tickseed	<i>Coreopsis integrifolia</i>	At-risk species
	Godfrey's stitchwort	<i>Minuartia godfreyi</i>	At-risk species
	Harper's fimbriostylis	<i>Fimbristylis perpusilla</i>	At-risk species
	Pondberry	<i>Lindera melissifolia</i>	Endangered
	Seabeach amaranth	<i>Amaranthus pumilus</i>	Threatened
	Venus flytrap	<i>Dionaea muscipula</i>	At-risk species
	Wire-leaved dropseed	<i>Sporobolus teretifolius</i>	At-risk species
Reptile	Green sea turtle**	<i>Chelonia mydas</i>	Threatened
	Kemp's ridley sea turtle**	<i>Lepidochelys kempii</i>	Endangered
	Leatherback sea turtle**	<i>Dermochelys coriacea</i>	Endangered
	Loggerhead sea turtle**	<i>Caretta caretta</i>	Threatened, Critical Habitat
	Spotted turtle	<i>Clemmys guttata</i>	At-risk species

\* Contact National Marine Fisheries Service (NMFS) for more information on this species.

\*\* USFWS and National Marine Fisheries Service (NMFS) share jurisdiction of this species.

## 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 September 14 and November 29, 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

The proposed project is located within the Carolina Flatwoods (63h) Level IV ecoregion. Land use in the PSA includes undeveloped forestland, cultivated cropland, disturbed/successional areas, and developed areas, including commercial and residential with maintained lawns and sparse vegetation. Natural communities observed within the PSA are upland mixed pine forest and bottomland hardwoods. Overhead powerlines also extend along the east side of S-31.

Biotic Communities within the PSA were identified using high-resolution aerial photography and field reconnaissance. A description of natural communities identified within the PSA are included below:

Upland mixed pine forests within the PSA consist of pine forest with a small mixture of deciduous forest habitats. The community is dominated by loblolly pine (*Pinus taeda*). The hardwoods, most commonly found on the edges of the community, include live oak (*Quercus virginiana*), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), and red maple (*Acer rubrum*). The understory consists of yaupon holly (*Ilex vomitoria*), and grass species. Within the PSA, mixed pine forests are located in the eastern portion of the PSA, north and south of Todd Swamp, and southwest of the bridge over Todd Swamp.

Bottomland hardwoods are present along the banks and floodplain of Todd Swamp. Tree species observed include sweetgum, red maple, water oak, river birch, yaupon holly, and sparse loblolly pine. The understory, consisting of dense shrub and herbaceous species contains Chinese privet (*Ligustrum sinense*) and saplings of the tree species observed. False nettle (*Boehmeria cylindrica*) is the dominant herbaceous ground cover.

## 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 finback whale, humpback whale, right whale, sei whale, sperm whale, West Indian manatee, bald eagle, red-cockaded woodpecker, piping plover, red knot, green sea turtle, Kemp's Ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, Atlantic sturgeon, shortnose sturgeon, American chaffseed, Canby's dropwort, pondberry, or seabeach amaranth.

No nesting habitat for the American wood stork was identified in the PSA. Marginal suitable feeding habitat exists in the forested wetlands in the PSA. The primary channel of Todd Swamp exceeds a preferred habitat depth of 4 to 12 inches and lacks banks suitable for wading. The surrounding wetlands have a closed canopy with a dense understory and do not represent preferred habitat. Furthermore, no individuals of the species were observed during field reviews. Based on the absence of suitable nesting habitat and lack of preferred feeding habitat, the likelihood of American wood stork with the PSA is discountable.

Suitable habitat for northern long-eared bat and tri-colored bat exists within the PSA. Roosting habitat exists under the existing Todd Swamp bridge and in cavities and crevices of trees within the PSA. A structure survey of the existing Todd Swamp bridge found no evidence of bat roosting. A Structures Survey Data Sheet and Habitat Assessment Data Sheet are included in Attachment D. Due to the presence of suitable habitat, project information was provided to the USFWS through the Information for Planning and Consultation (IPaC) system. Based on the IPaC submission and a standing analysis completed

by the USFWS, the project reached the determination of “May Affect, Not Likely to Adversely Affect” the northern long-eared bat (see Attachment D).

## Conclusions

Based on the literature and field reviews, the proposed project will have a biological conclusion of ‘no effect’ on the following federally protected species; Finback whale, Humpback whale, Right whale, Sei whale, Sperm whale, West Indian manatee, American wood stork, Bald eagle, Red-cockaded woodpecker, Piping plover, Red knot, Green sea turtle, Kemp’s Ridley sea turtle, Leatherback sea turtle, Loggerhead sea turtle, Atlantic sturgeon, Shortnose sturgeon, American chaffseed, Canby’s dropwort, Pondberry, or Seabeach amaranth.

The proposed project will have a biological conclusion of ‘may affect, not likely to adversely affect’ the northern long-eared bat. A copy of the USFWS concurrence (USFWS Project Code 2023-0131976) and associated Determination Key (DKey) is included in Attachment D.

If there is a change in listing for the tri-colored bat, coordination with USFWS will be required to assess potential project impacts. SCDOT will lead all coordination efforts with the USFWS.

## IPaC Determinations

The project was entered into the USFWS IPaC’s *South Carolina Project Review Determination Key for Federally Listed Species*. The USFWS IPaC System subsequently issued a Consistency Letter dated April 8, 2024. This letter documented a NLAA (not likely to adversely affect) effect determination for Piping plover and Red knot. Further coordination with USFWS determined the NLAA effect determination for Piping plover and Red knot is a known error with IPaC. A copy of the Consistency Letter and USFWS email correspondence is included in Attachment D.

In conclusion, the project will have a biological conclusion of ‘may affect, not likely to adversely affect’ the northern long-eared bat, and will have ‘no effect’ on all other federally protected species.

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 D

## Biological **Assessment** Attachments



**ROBBINS  
& DEWITT**

## HORRY COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
Bird	American wood stork (T)	<i>Mycteria americana</i>	February 15-September 1	Nesting season
Bird	Bald eagle (BGEPA)	<i>Haliaeetus leucocephalus</i>	October 1-May 15	Nesting season
Bird	Black-capped petrel (ARS)	<i>Pterodroma hasitata</i>	April-October	Offshore water primarily
Bird	Piping plover (T, CH)	<i>Charadrius melodus</i>	July 15-May 1	Migration and wintering
Bird	Red-cockaded woodpecker (E)	<i>Picoides borealis</i>	March 1-July 31	Nesting season
Bird	Red knot (T)	<i>Calidris canutus rufa</i>	August 1-May 31	Migration and wintering
Bird	Saltmarsh sparrow (ARS)	<i>Ammodramus caudacuta</i>	Fall/winter	Fall/winter surveys
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	Shortnose sturgeon* (E)	<i>Acipenser brevirostrum*</i>	February 1-April 30	Spawning migration
Insect	Monarch butterfly (C)	<i>Danaus plexippus</i>	August-December	Overwinter population departs; March-April
Mammal	Finback whale* (E)	<i>Balaenoptera physalus*</i>	November 1-April 30	Off the coast
Mammal	Humpback whale * (E)	<i>Megaptera novaengliae*</i>	January 1-March 31	Migration off the coast
Mammal	Northern long-eared bat (T)	<i>Myotis septentrionalis</i>	Year round	Winter surveys not as successful
Mammal	Right whale* (E)	<i>Balaena glacialis*</i>	November 1-April 30	Off the coast
Mammal	Sei whale* (E)	<i>Balaenoptera borealis*</i>		
Mammal	Sperm whale* (E)	<i>Physeter macrocephalus*</i>		
Mammal	Tri-colored bat (ARS)	<i>Perimyotis subflavus</i>	Year round	Found in mines and caves in the winter
Mammal	West Indian manatee (T)	<i>Trichechus manatus</i>	May 1-November 15	In coastal waters
Plant	American chaffseed (E)	<i>Schwalbea americana</i>	May-August	1-2 months after a fire
Plant	Carolina-birds-in-a-nest (ARS)	<i>Macbridea caroliniana</i>	July-November	
Plant	Ciliate-leaf tickseed (ARS)	<i>Coreopsis integrifolia</i>	August-November	
Plant	Godfrey's stitchwort (ARS)	<i>Minuartia godfreyi</i>	April-June	
Plant	Harper's fimbriatilis (ARS)	<i>Fimbristylis perpusilla</i>	July-September	
Plant	Seabeach amaranth (T)	<i>Amaranthus pumilus</i>	July-October	
Plant	Venus flytrap (ARS*)	<i>Dionaea muscipula</i>	May-June	
Plant	Wire-leaved dropseed (ARS)	<i>Sporobolus teretifolius</i>	August-September	Following fire



## HORRY COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
Reptile	Green sea turtle ** (T)	<i>Chelonia mydas</i> **	May 1-October 31	Nesting and hatching
Reptile	Kemp's ridley sea turtle ** (E)	<i>Lepidochelys kempii</i> **	May 1-October 31	In coastal waters
Reptile	Leatherback sea turtle ** (E)	<i>Dermochelys coriacea</i> **	May 1-October 31	Nesting and hatching
Reptile	Loggerhead sea turtle ** (T, CH)	<i>Caretta caretta</i> **	May 1-October 31	Nesting and hatching
Reptile	Spotted turtle (ARS)	<i>Clemmys guttata</i>	Feburary-early April	

**Note: There are no federally protected species found in this county in the amphibian, crustacean, and mollusk family categories.**



# 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:  
Project Code: 2023-0131976  
Project Name: S-31 over Todd Swamp

March 01, 2024

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 IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC 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: <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.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 [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

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/library/collections/threats-birds>.

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/partner/council-conservation-migratory-birds>.

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

## **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: 2023-0131976

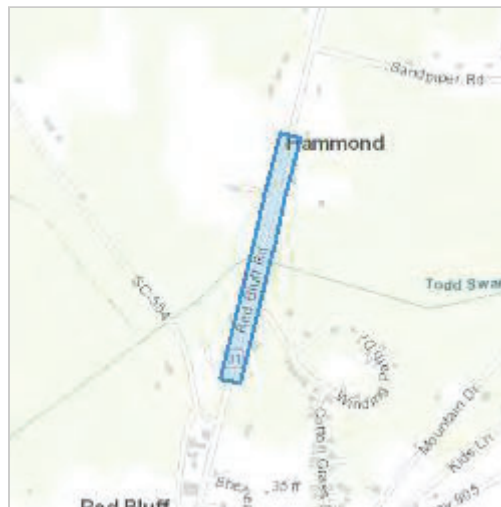
Project Name: S-31 over Todd Swamp

Project Type: Bridge - Replacement

Project Description: The South Carolina Department of Transportation (SCDOT) proposes to replace the existing S-31 (Red Bluff Road) bridge over Todd Swamp in Horry County, South Carolina. The purpose of the proposed bridge replacement project is to eliminate structural defects and improve roadway approaches.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.91232615,-78.83825707862555,14z>



Counties: Horry County, South Carolina

## ENDANGERED SPECIES ACT SPECIES

There is a total of 14 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 Fisheries<sup>1</sup>, 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
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

**BIRDS**

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7614">https://ecos.fws.gov/ecp/species/7614</a>	Endangered
Rufa Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8477">https://ecos.fws.gov/ecp/species/8477</a>	Threatened

**REPTILES**

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: North Atlantic DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>	Threatened
Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5523">https://ecos.fws.gov/ecp/species/5523</a>	Endangered
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1493">https://ecos.fws.gov/ecp/species/1493</a>	Endangered
Loggerhead Sea Turtle <i>Caretta caretta</i> Population: Northwest Atlantic Ocean DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1110">https://ecos.fws.gov/ecp/species/1110</a>	Threatened

**INSECTS**

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

## FLOWERING PLANTS

NAME	STATUS
American Chaffseed <i>Schwalbea americana</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1286">https://ecos.fws.gov/ecp/species/1286</a>	Endangered
Canby's Dropwort <i>Oxypolis canbyi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7738">https://ecos.fws.gov/ecp/species/7738</a>	Endangered
Pondberry <i>Lindera melissifolia</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1279">https://ecos.fws.gov/ecp/species/1279</a>	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.



## **IPAC USER CONTACT INFORMATION**

Agency: South Carolina Department of Transportation  
Name: Amanda Chandler  
Address: P.O. Box 536  
City: Blythewood  
State: SC  
Zip: 29016  
Email: amanda.chandler@robbins-dewitt.com  
Phone: 8032387089

## **LEAD AGENCY CONTACT INFORMATION**

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



## 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:  
Project code: 2023-0131976  
Project Name: S-31 over Todd Swamp

March 01, 2024

Subject: Consistency letter for the 'S-31 over Todd Swamp' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated March 01, 2024 to verify that the **S-31 over Todd Swamp** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures. **At least one of the qualification interview questions indicated an activity or portion of your project is consistent with a not likely to adversely affect determination therefore, the overall determination for your project is, may affect, and is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the endangered northern long-eared bat (*Myotis septentrionalis*).** Consultation with the Service pursuant to section 7(a)(2) of the ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

This "may affect - not likely to adversely affect" determination becomes effective when the lead Federal action agency or designated non-federal representative requests the Service rely on the PBO to satisfy the agency's consultation requirements for this project.

Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative with a request for review, and as the agency deems appropriate, submit for concurrence verification through the IPaC system. The lead Federal action agency or designated

non-federal representative should log into IPaC using their agency email account and click "Search by record locator". They will need to enter the record locator **460-139470613**.

**For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:** If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to the Service).

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA section 7(a)(2) may be required.

**For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:**

If your initial bridge/culvert or structure assessments failed to detect Indiana bats and/or NLEB use or occupancy, yet bats are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service. If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- American Chaffseed *Schwalbea americana* Endangered
- Canby's Dropwort *Oxypolis canbyi* Endangered
- Green Sea Turtle *Chelonia mydas* Threatened
- Kemp's Ridley Sea Turtle *Lepidochelys kempii* Endangered
- Leatherback Sea Turtle *Dermochelys coriacea* Endangered
- Loggerhead Sea Turtle *Caretta caretta* Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Piping Plover *Charadrius melodus* Threatened
- Pondberry *Lindera melissifolia* Endangered
- Red-cockaded Woodpecker *Picoides borealis* Endangered
- Rufa Red Knot *Calidris canutus rufa* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

- Wood Stork *Mycteria americana* Threatened

## **PROJECT DESCRIPTION**

The following project name and description was collected in IPaC as part of the endangered species review process.

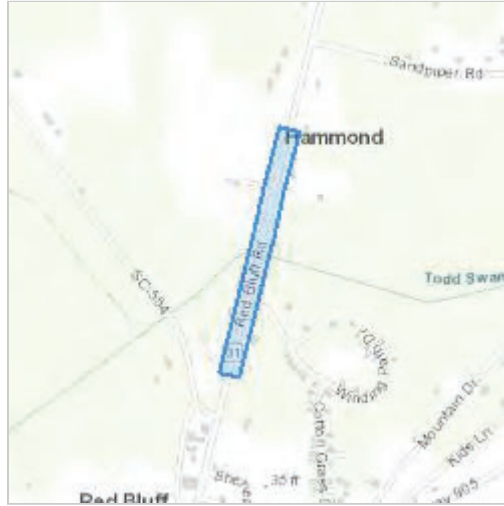
### **NAME**

S-31 over Todd Swamp

### **DESCRIPTION**

The South Carolina Department of Transportation (SCDOT) proposes to replace the existing S-31 (Red Bluff Road) bridge over Todd Swamp in Horry County, South Carolina. The purpose of the proposed bridge replacement project is to eliminate structural defects and improve roadway approaches.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.91232615,-78.83825707862555,14z>



## DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the endangered northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

## QUALIFICATION INTERVIEW

1. Is the project within the range of the Indiana bat<sup>[1]</sup>?

[1] See [Indiana bat species profile](#)

**Automatically answered**

No

2. Is the project within the range of the northern long-eared bat<sup>[1]</sup>?

[1] See [northern long-eared bat species profile](#)

**Automatically answered**

Yes

3. Which Federal Agency is the lead for the action?

A) *Federal Highway Administration (FHWA)*

4. Are *all* project activities limited to non-construction<sup>[1]</sup> activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces<sup>[1]</sup>?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum<sup>[1]</sup>?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

No

7. Is the project located **within** a karst area?

*No*

8. Is there *any* suitable<sup>[1]</sup> summer habitat for Indiana Bat or NLEB **within** the project action area<sup>[2]</sup>? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat](#).

*Yes*

9. Will the project remove *any* suitable summer habitat<sup>[1]</sup> and/or remove/trim any existing trees **within** suitable summer habitat?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

*Yes*

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

*No*

11. Have presence/probable absence (P/A) summer surveys<sup>[1][2]</sup> been conducted<sup>[3][4]</sup> **within** the suitable habitat located within your project action area?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

[4] Negative presence/probable absence survey results obtained using the [summer survey guidance](#) are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

*No*



12. Does the project include activities **within documented NLEB habitat**<sup>[1][2]</sup>?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry triangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

*No*

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

*Yes*

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

*B) During the inactive season*

15. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

*Yes*

16. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

*No*

17. Are *all* trees that are being removed clearly demarcated?

*Yes*

18. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

*No*

19. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

*No*

20. Does the project include slash pile burning?

*No*

21. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

*Yes*

22. Is there *any* suitable habitat<sup>[1]</sup> for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's current [summer survey guidance](#) for our current definitions of suitable habitat.

*Yes*

23. Has a bridge assessment<sup>[1]</sup> been conducted **within** the last 24 months<sup>[2]</sup> to determine if the bridge is being used by bats?

[1] See [User Guide Appendix D](#) for bridge/structure assessment guidance

[2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

Yes

#### **SUBMITTED DOCUMENTS**

- *S-31\_Structures Survey Data Sheet.pdf* <https://ipac.ecosphere.fws.gov/project/PNZIMUDTJVDBPDKKJS7OWPPDHQ/projectDocuments/133075847>

24. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)<sup>[1]</sup>?

[1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

No

25. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

No

26. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

No

27. Will the project involve the use of **temporary** lighting *during* the active season?

No

28. Will the project install new or replace existing **permanent** lighting?

No

29. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?

Yes

30. Will the activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season<sup>[1]</sup>?

[1] Coordinate with the local Service Field Office for appropriate dates.

Yes

31. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season<sup>[1]</sup>?

[1] Coordinate with the local Service Field Office for appropriate dates.

Yes

32. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage, rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

No

33. Will the project raise the road profile **above the tree canopy**?

No

34. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

**Automatically answered**

*Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.*

35. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

**Automatically answered**

*Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season*

36. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

**Automatically answered**

*Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.*

37. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

**Automatically answered**

*Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected*

38. **General AMM 1**

Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

Yes

39. **Tree Removal AMM 1**

Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal<sup>[1]</sup> in excess of what is required to implement the project safely?

Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

[1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

Yes

40. **Tree Removal AMM 3**

Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

Yes

41. **Tree Removal AMM 4**

Can the project avoid cutting down/removal of *all* (1) **documented**<sup>[1]</sup> Indiana bat or NLEB roosts<sup>[2]</sup> (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

[1] The word documented means habitat where bats have actually been captured and/or tracked.

[2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

Yes

## PROJECT QUESTIONNAIRE

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

*Yes*

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

*No*

3. How many acres<sup>[1]</sup> of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

[1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

*2*

4. Please describe the proposed bridge work:

*Replace the S-31 (Red Bluff Rd) bridge over Todd Swamp.*

5. Please state the timing of all proposed bridge work:

*2025-01-01*

6. Please enter the date of the bridge assessment:

*2023-09-14*

## AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

### TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

### TREE REMOVAL AMM 2

Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

### TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

### TREE REMOVAL AMM 4

Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or **documented** foraging habitat any time of year.

**GENERAL AMM 1**

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

## **DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT**

This key was last updated in IPaC on October 30, 2023. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the endangered **northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion \(dated March 23, 2023\) for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

## **IPAC USER CONTACT INFORMATION**

Agency: South Carolina Department of Transportation

Name: Amanda Chandler

Address: P.O. Box 536

City: Blythewood

State: SC

Zip: 29016

Email: amanda.chandler@robbins-dewitt.com

Phone: 8032387089

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Federal Highway Administration

Name: Will McGoldrick

Email: McGoldriWR@scdot.org



# STRUCTURES SURVEY DATA SHEET

Investigator Names(s): A. CHANDLER, M.DeWITT

Date: 2023-09-14







County: HORRY

Lat Long/w3w: 33.91230, -78.83825

Project Name: S-31 (RED BLUFF ROAD) OVER TODD SWAMP

SCDOT Structure ID: 06308

SCDOT Project No.: P041157

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:	
		<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-31	

Surrounding Habitat (check all that apply):				
<input checked="" type="checkbox"/> Residential	<input checked="" type="checkbox"/> Agricultural	<input checked="" type="checkbox"/> Commercial	<input type="checkbox"/> Pine Forest	<input type="checkbox"/> Grassland
<input checked="" type="checkbox"/> Riparian	<input 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 checked="" 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 checked="" 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 checked="" 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"/> Cervices
<input type="checkbox"/> Other:			
Areas NOT Inspected because of Safety or Inaccessibility:			

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

Additional Information:
Abandoned structure north of bridge, within PSA. Large pile of droppings photographed, unsafe to thoroughly inspect, floor was deteriorating.

# BAT HABITAT ASSESSMENT DATA SHEET

Project Name: S-31 (RED BLUFF ROAD) OVER TODD SWAMP

Date: 2023-09-14

County: HORRY

Lat Long: 33.91230, -78.83825

Surveyor: A. CHANDLER

## Brief Project Description

Replacing the S-31 (Red Bluff Rd) bridge over Todd Swamp and associated roadway approach work.

## Project Area

Project	Total Acres	Forest Acres	Open Acres
	11.1 acres	3.0 acres	8.1 acres
Proposed Tree Removal	Completely Cleared	Partially Cleared (Will Leave Trees)	Preserve Acres (No Clearing)
	< 2 acres (anticipated)	None	> 1 acre (anticipated)

## Vegetation Cover Types

Pre-Project	Post-Project
Mixed forest	Mixed forest
Maintained Roadway and right-of-way	Maintained Roadway and 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, Residential and Commercial Development, Agriculture, Todd Swamp, Ponds

## 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)?

Within 2.5 miles: Waccamaw River, Waccamaw River WMA

Within 5 miles:

## Sample Site Description

Sample Site No. (s):	Project Study Area (11.1 acres)
----------------------	---------------------------------

Water Resources at Sample Site			
Stream Type (# and length)	Ephemeral	Intermittent	Perennial
		Parallel feature (~1,115 ft)	Todd Swamp (~205 ft)
Pools/Ponds (# and size)	~0.25 ac	Open and accessible to bats?	
		YES	
Wetland (approx. acres)	Permanent		Seasonal
Describe existing condition of water sources: Todd Swamp and ponds are accessible, parallel feature is overgrown			

Forest Resources at Sample Site			
Closure/Density	Canopy (> 50')	Midstory (20-50')	Understory (< 20')
	2 (11-20%)	4 (41-60%)	3 (21-40%)
Dominant Species of Mature Trees	Pine spp., Red Maple, Sweetgum, Black Willow, Oak spp.		
Exfoliating Bark (%)	5%		
Size of Live Trees (%)	Small (3-8 in)	Med (9-15 in)	Large (> 15 in)
	3 (21-40%)	4 (41-60%)	2 (11-20%)
No. of Suitable Snags	5%		
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? YES

IS THE HABITAT SUITABLE FOR TRI-COLORED BATS? YES

Additional Comments:
Water resources are approximate, delineations have not been conducted at the time of the habitat assessment survey. Abandoned structure within study area, evidence of animal use, unsafe to thoroughly investigate.

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: 2023-09-14

Taken by: A. Chandler

From S-31 (Red Bluff Rd), facing north



Photograph 2

Date: 2023-09-14

Taken by: A. Chandler

From S-31 bridge over Todd Swamp, facing west



Photograph 3

Date: 2023-09-14

Taken by: A. Chandler

From S-31 bridge over Todd Swamp, facing east (PAS-2)



Photograph 4

Date: 2023-09-14

Taken by: A. Chandler

From S-31, Todd Swamp and parallel feature, facing west



Photograph 5

Date: 2023-09-14

Taken by: A. Chandler

North of Todd Swamp,  
west of S-31 (PAS-1)



Photograph 6

Date: 2023-09-14

Taken by: A. Chandler

South of Todd Swamp,  
west of S-31 (PAS-3)



Photograph 7

Date: 2023-09-14

Taken by: A. Chandler

South of Todd Swamp,  
west of S-31, pond  
(PAS-4)



Photograph 8

Date: 2023-09-14

Taken by: A. Chandler

Abandoned structure,  
north of Todd Swamp,  
east of S-31





# 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:  
Project code: 2023-0131976  
Project Name: S-31 over Todd Swamp

04/08/2024 16:46:38 UTC

Subject: Consistency letter for 'S-31 over Todd Swamp' for specified federally threatened and endangered species and designated critical habitat that may occur in your proposed project area consistent with the South Carolina Ecological Services Field Office (ESFO) Determination Key (DKey) for project review and guidance for federally listed species.

Amanda Chandler:

The U.S. Fish and Wildlife Service (Service) received on **April 08, 2024** your effect determination(s) for the 'S-31 over Todd Swamp' (the Action) using the South Carolina ESFO DKey for project review and guidance for federally-listed species within the Information for Planning and Consultation (IPaC) application. The Service developed this application in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers and the assistance of the Service's South Carolina ESFO DKey, you made the following effect determination(s) for the proposed Action:

<b>Species</b>	<b>Listing Status</b>	<b>Determination</b>
American Chaffseed ( <i>Schwalbea americana</i> )	Endangered	No effect
Canby's Dropwort ( <i>Oxypolis canbyi</i> )	Endangered	No effect
Green Sea Turtle ( <i>Chelonia mydas</i> )	Threatened	No effect
Kemp's Ridley Sea Turtle ( <i>Lepidochelys kempii</i> )	Endangered	No effect
Leatherback Sea Turtle ( <i>Dermochelys coriacea</i> )	Endangered	No effect
Loggerhead Sea Turtle ( <i>Caretta caretta</i> )	Threatened	No effect
Piping Plover ( <i>Charadrius melodus</i> )	Threatened	NLAA
Pondberry ( <i>Lindera melissifolia</i> )	Endangered	No effect
Red-cockaded Woodpecker ( <i>Picoides borealis</i> )	Endangered	No effect
Rufa Red Knot ( <i>Calidris canutus rufa</i> )	Threatened	NLAA
Wood Stork ( <i>Mycteria americana</i> )	Threatened	No effect

**Consultation with the Service is not complete.** The above effect determination(s) becomes applicable when the lead federal action agency or designated non-federal representative submits a request to the Service to rely on the South Carolina ESFO DKey in order to satisfy the agency's consultation requirements for this project.

Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative with a request for its review, and as the agency deems appropriate, to submit for concurrence verification through the IPaC system. The lead Federal action agency or designated non-federal representative should log into IPaC using their agency email account and click "Search by record locator." They will need to enter the record locator **460-141375848**

The following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion:

- Monarch Butterfly *Danaus plexippus* Candidate
- Northern Long-eared Bat *Myotis septentrionalis* Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

Please note the Service shares jurisdiction with the Fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries) over sea turtles. The Service exerts jurisdiction when sea turtles are nesting on coastal beaches while NOAA Fisheries has jurisdiction when sea turtles inhabit coastal and offshore waters.

In-water activities may require consultation with NOAA Fisheries. Please visit the NOAA Fisheries website at <https://www.fisheries.noaa.gov/topic/endangered-species-conservation#conservation-&-management> to review their consultation requirements. Also, NOAA Fisheries should be contacted if you think your project will affect Atlantic and/or shortnose sturgeon.

Please note that due to obligations under the ESA, potential impacts of this project must be reconsidered if: (1) new information reveals impacts of this identified action may affect any 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 designated that may be affected by the identified action. If any of the above conditions occurs, additional consultation with the South Carolina ESFO should take place before project changes are final or resources committed.

**Bald and Golden Eagle Protection Act (BGEPA):** Bald and golden eagles are not included in this section 7(a)(2) consultation and this information does not constitute a determination of effects by the Service. The Service developed the [National Bald Eagle Management Guidelines](#) to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of the BGEPA may apply to their activities. The guidelines should be consulted prior to conducting new or intermittent activity near an eagle nest.

If the Federal Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C.

668a-d) may be required. Please contact Ulgonda Kirkpatrick (phone: 321/972-9089, e-mail: [ulgonda\\_kirkpatrick@fws.gov](mailto:ulgonda_kirkpatrick@fws.gov)) with any questions regarding potential impacts to bald or golden eagles.

## Action Description

You provided to IPaC the following name and description for the subject Action.

### 1. Name

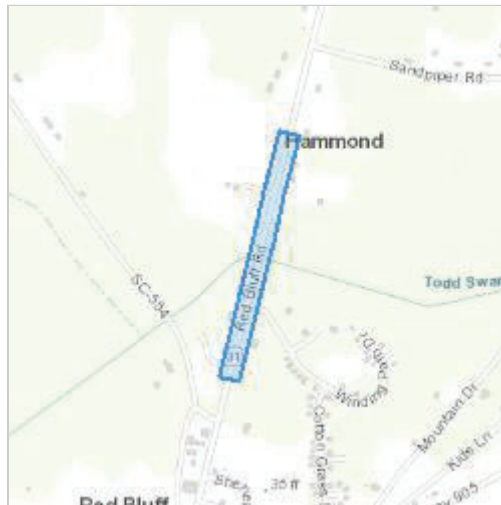
S-31 over Todd Swamp

### 2. Description

The following description was provided for the project 'S-31 over Todd Swamp':

The South Carolina Department of Transportation (SCDOT) proposes to replace the existing S-31 (Red Bluff Road) bridge over Todd Swamp in Horry County, South Carolina. The purpose of the proposed bridge replacement project is to eliminate structural defects and improve roadway approaches.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@33.91232615,-78.83825707862555,14z>



## QUALIFICATION INTERVIEW

1. Does the proposed project involve research or other actions that include the collection, capture, handling, or harassment of any individual federally listed threatened, endangered or proposed species?  
*No*
2. Is the action authorized, funded, or being carried out by a Federal agency?  
*Yes*
3. Are you the Federal agency or designated non-federal representative?  
*Yes*
4. Is the project an existing structure that requires maintenance, repair, or replacement?  
*Yes*
5. Will all project take place within the existing structure's footprint?  
*No*
6. Does the project intersect the piping plover AOI?  
**Automatically answered**  
*Yes*
7. Will the proposed action impact docks, piers, and/or bulkheads?  
*No*
8. Will the project affect shorebird resting/foraging behavior, foraging habitat (i.e., ), AND/OR roosting habitat?  
*No*
9. Does the project intersect the red knot AOI?  
**Automatically answered**  
*Yes*
10. Will the proposed action impact docks, piers, and/or bulkheads?  
*No*
11. Does the project intersect the red-cockaded woodpecker AOI?  
**Automatically answered**  
*Yes*
12. Is the action area located within suitable Red-cockaded woodpecker [foraging habitat](#) (pine or pine/hardwood stands in which 50% or more of the dominant trees are pines and the dominant pine trees are 30 years of age or older or >10-inches diameter breast height (dbh) and the midstory height does not exceed 12 feet)?  
*No*
13. Does the project intersect the wood stork AOI?  
**Automatically answered**  
*Yes*

14. [ Semantic] Does the proposed action intersect the 2,500-foot buffer zone of a known colony?

**Automatically answered**

*No*

15. Is there suitable wood stork foraging habitat (SFH) within the project area?

**Note:** SFH contains patches of relatively open (< 25%) aquatic vegetation, calm water, and a permanent or seasonal water depth between 2 and 15 inches. Examples of SFH include, but are not limited to, freshwater marshes, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.

*No*

16. Is the action area on a sandy beach above the mean high-water line?

*No*

17. Does the project intersect the loggerhead sea turtle AOI?

**Automatically answered**

*Yes*

18. Does the project intersect the leatherback sea turtle AOI?

**Automatically answered**

*Yes*

19. Does the project intersect the Kemp's Ridley sea turtle AOI?

**Automatically answered**

*Yes*

20. Does the project intersect the green sea turtle AOI?

**Automatically answered**

*Yes*

21. Does the project intersect the pondberry AOI?

**Automatically answered**

*Yes*

22. Is there suitable pondberry habitat (e.g., pond margins, swampy depressions, sandy sinks, and seasonally flooded wetlands) for pondberry located within the project area?

*No*

23. Does the project intersect the American chaffseed AOI?

**Automatically answered**

*Yes*

24. Is there suitable habitat for American chaffseed located within the project area?

**Note:** American Chaffseed occurs in sandy (sandy peat, sandy loam), acidic, seasonally moist to dry soils. It is generally found in early successional habitats described as open, moist pine flatwoods, fire-maintained savannas, ecotonal areas between peaty wetlands and xeric (dry) sandy soils, bog borders, and other open grass-sedge systems. American Chaffseed is dependent on factors such as fire and mowing to maintain the open to partly open conditions that it requires. They can be found in habitat that is managed for the red-cockaded woodpecker. The species appears to be shade intolerant. American Chaffseed occurs in species-rich plant communities where grasses, sedges, and savanna dicots are numerous. For more information see: American Chaffseed (*Schwalbea americana*) Recovery Plan. ECOS: [https://ecos.fws.gov/docs/recovery\\_plan/950929c.pdf](https://ecos.fws.gov/docs/recovery_plan/950929c.pdf)

*No*

25. Does the project intersect the Canby's dropwort AOI?

**Automatically answered**

*Yes*

26. Is there suitable habitat for Canby's dropwort located within the project area?

**Note:** Canby's Dropwort can be found in a variety of coastal plain habitats, including natural ponds dominated by pond cypress, grass-sedge-dominated Carolina bays, wet pine savannas, shallow pineland ponds and cypress-pine swamps or sloughs. The largest and most vigorous populations have been found in open bays or ponds that are wet throughout most of the year, but which have little or no canopy cover. Soils are sandy loams or acidic peat mucks underlain by clay layers which, along with the slight gradient of the areas, result in the retention of water.

*No*

27. This determination key does not cover the Northern long-eared bat. Have you or will you complete the Determination Key for the Northern long-eared bat?

*Yes*

## **IPAC USER CONTACT INFORMATION**

Agency: South Carolina Department of Transportation

Name: Amanda Chandler

Address: P.O. Box 536

City: Blythewood

State: SC

Zip: 29016

Email: amanda.chandler@robbins-dewitt.com

Phone: 8032387089

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Federal Highway Administration

Name: Will McGoldrick

Email: McGoldriWR@scdot.org



## Matt DeWitt

---

**From:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Sent:** Tuesday, April 9, 2024 10:01 AM  
**To:** Matt DeWitt  
**Subject:** FW: [EXTERNAL] Question 2023-0131976

Matt,

See below. Good information for future projects. Please attach this email to BA/agency coordination and let's update the BA narrative to include a reference to this exchange and concurrence.

--WM

---

**From:** Olds, Melanie J <melanie\_old@fws.gov>  
**Sent:** Tuesday, April 9, 2024 8:31 AM  
**To:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Subject:** Re: [EXTERNAL] Question 2023-0131976

\*\*\* This is an EXTERNAL email. Please do not click on a link or open any attachments unless you are confident it is from a trusted source. \*\*\*

Hey Will,

It's a known error in the dKey for those two species. I haven't had time to dig into it further to figure out if we need to refine the questions or if it's the underlying GIS layer for the species range that is the issue. We've been having people just document their determination outside of the key when that happens. In this case document the NE and this email and you are good to go on this project in terms of sect. 7.

*Melanie*

---

### Melanie Olds

*Fish & Wildlife Biologist*

*Regulatory Team Lead/FERC Coordinator*

U.S. Fish and Wildlife Service  
South Carolina Ecological Services Field Office  
176 Croghan Spur Road, Suite 200  
Charleston, SC 29407  
Phone: (843) 534-0403



NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

**From:** McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)>

**Sent:** Tuesday, April 9, 2024 8:24 AM

**To:** Olds, Melanie J <[melanie\\_old@fws.gov](mailto:melanie_old@fws.gov)>

**Subject:** [EXTERNAL] Question 2023-0131976

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

Melanie,

I have a question for you but I need to give a little back story. I directed a consultant to run a project through IPAC not realizing we had no effect determinations already made for species in the county list. See the attached BA. They didn't question my direction and ran it through. Something interesting came back when they did.

The project is a bridge replacement in Horry county over Todd Swamp. Pretty simple project. We will replace on alignment so not a lot of new area to be cleared or worked. We ran the NLEB already and were good with that. But when the consultant ran the questionnaire for knot and plover and indicated there was not suitable habitat, we still got a MANLAA. The consultant indicated to me that this seemed inconsistent with other questionnaires for species like stork or others and you answer no habitat, it usually results in a no effect.

I was wondering 2 things. First, can you explain why we might be getting a MANLAA in this instance? Is this a glitch in those questionnaires? If you think it is correct, we will need to revise our BA but we're struggling with the 'what's causing the effect' question. How do we get to an effect? Second, is it possible to have the letter revised or removed and we stick with the no effect determination per the BA or can you provide correspondence based on coordination that would replace the online generated letter.

Thanks for any assistance you provide.

Respectfully,

---

Will McGoldrick, DBIA  
Environmental Mgr for Alternative Delivery  
SCDOT  
955 Park St Rm 506  
Columbia SC 29202  
(o) 803-737-1326

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

# BRIDGE SCOPE AND RISK ASSESSMENT FORM

COUNTY: Horry

DATE: 02/15/2024

ROAD #: S-26-31

STREAM CROSSING: Todd Swamp

## Purpose & Need for the Project:

SCDOT proposes to replace the SC Route S-26-31 in Horry County over Todd Swamp. The purpose of this 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: 45051C0415K Effective Date: 12/16/2021 (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 AE with a regulatory floodway established.  
Preliminary analysis indicates the proposed bridge will satisfy all SCDOT criteria for determine a finding of "No Impact".

- 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. N/A Sheet No. N/a (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: 45 ft. Width: 28 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: Stable

Superstructure Type: Concrete Deck on RC Caps

Substructure Type: Timber Piles

Utilities Present:  Yes  No

Describe: Utility Pipe upstream face of bridge and downstream face.

Debris Accumulation on Bridge: Percent Blocked Horizontally: 0 %

Percent Blocked Vertically: 0 %

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: \_\_\_\_\_ 12.82 ft.

c. Distance from Low Steel to Normal Water Elev.: \_\_\_\_\_ 11.65 ft.

d. Distance from F.G. to High Water Elevation: \_\_\_\_\_ 7.82 ft.

e. Distance from Low Steel to High Water Elev.: \_\_\_\_\_ 6.65 ft.

f. Channel Banks Stable:  Yes  No

Describe: General conditions of banks are stable with minor erosion/scour.

g. Soil Type: sandy soils \_\_\_\_\_

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.

Residential houses located nearby, and within floodplain.

#### C. Existing Roadway Geometry

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

Yes  No

Describe:

The existing roadway will be closed and have a detour.

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

Existing horizontal alignment has been retained with an adjustment to vertical curve.

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: 80 ft.      Width: 42.25 ft.      Elevation: 28.09 ft.

Span Arrangement: 1 span @ 80'

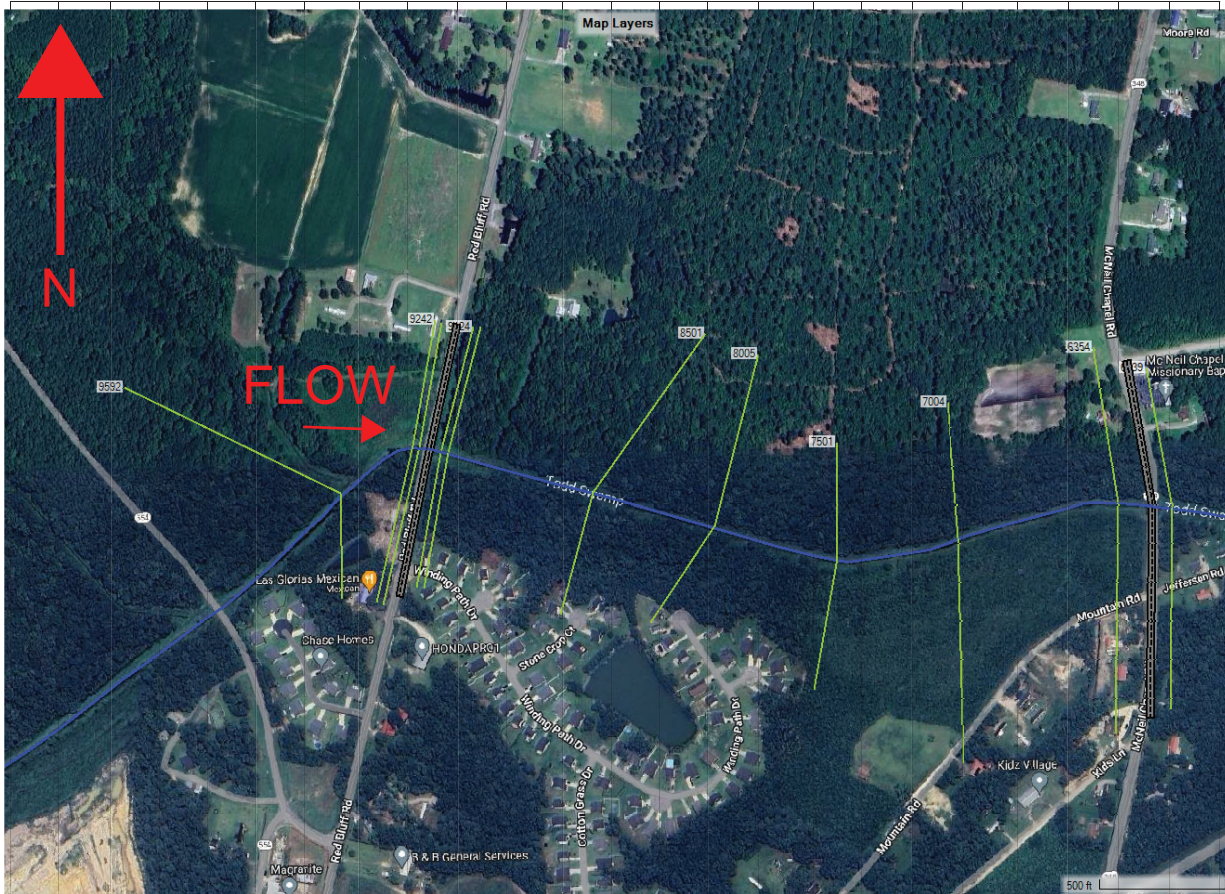
Notes: Proposed replacement is 1 span (80') Type III (4.67' superstructure depth plus crown drop) with sloping abutments protected with rip rap. Minimize impact to channel.

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



Performed By: Richard Hinton, PE

## **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

SCDOT proposes to replace the bridge crossing Todd Swamp along S-26-31 in Horry County.

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 purpose of this 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. Roadway improvements are based on the proposed new structure.

The project crosses Todd Swamp which is shown on the Flood Insurance Map (FIRM) Panel 45051C0415K. The project is located within a FEMA study area. 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 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?

Yes, the existing profile grade will be raised within the floodplain in order to accommodate the larger bridge structure.

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

N/A

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 a larger bridge opening and it will not impact 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?

Used a single span in order to not impact the stream with piers.

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

N/A

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

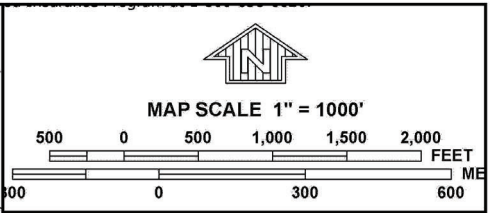
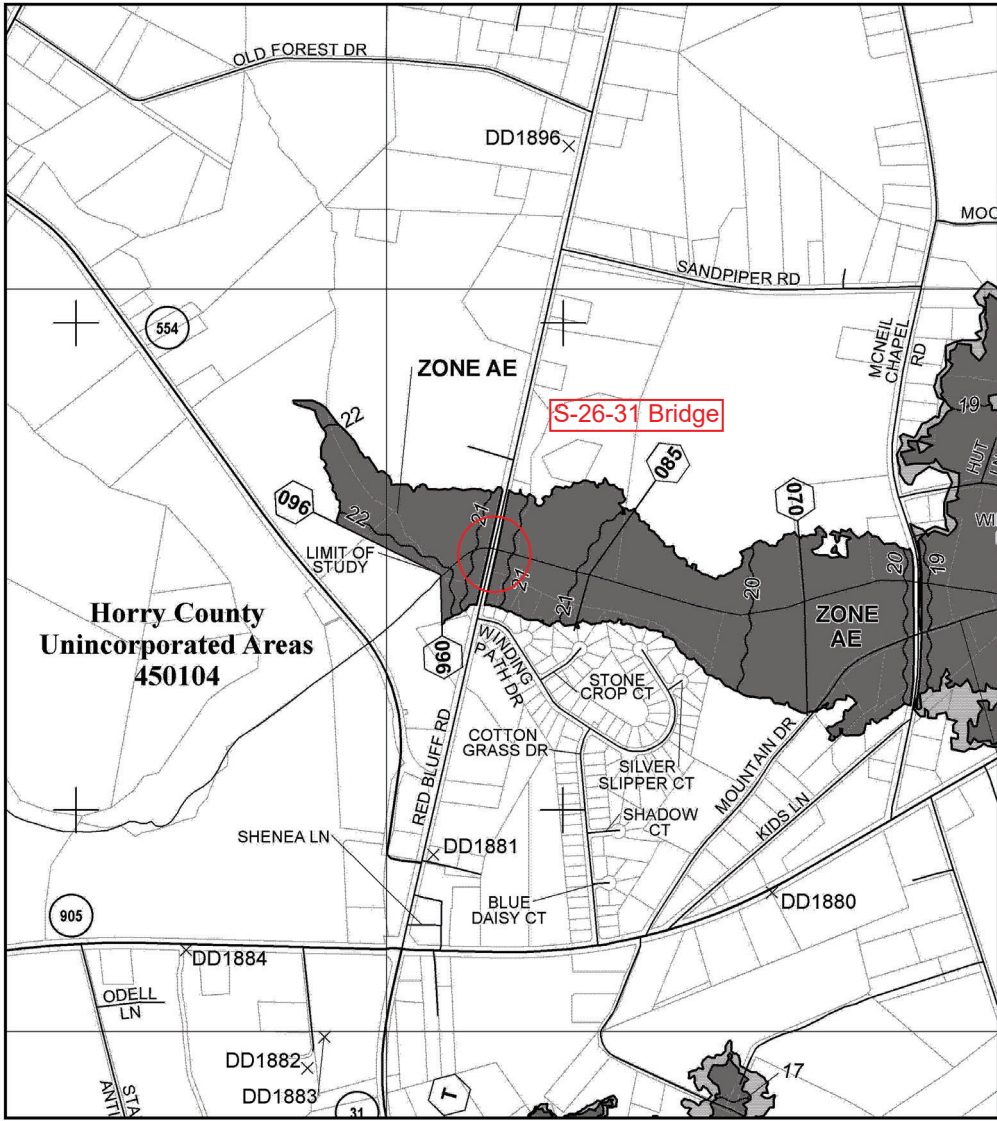
The impacts are not significant encroachments and would not result in a negative impact to the base flood elevations nor potential development.

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.

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

Paul Cameron, PE  
SCDOT Hydraulic Engineer

2/15/24  
Date



PANEL 0415K

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**HORRY COUNTY,**  
**SOUTH CAROLINA**  
**AND INCORPORATED AREAS**

**PANEL 415 OF 803**  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HORRY COUNTY	450104	0415	K

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**  
**45051C0415K**  
**MAP REVISED**  
**DECEMBER 16, 2021**

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>.

## Appendix E- Public Comments

**Table 1. Public Comments and SCDOT Responses**

Full Name	Email	Comment	Draft Comment Response
Barbara Grenfell	<a href="mailto:bgrenfell50@yahoo.com">bgrenfell50@yahoo.com</a>	<p>To Whom it May Concern,</p> <p>Are there plans to finish repaving Red Bluff Road in Loris? Some parts were done but there are still many pot holes from Rt. 777 to Highway 90 both ways. Also, since Red Bluff Road will not be useable to home owners in the area, are there plans to repave/resurface McNeil-Chapel Road between Highway 348 and Highway 905? Trying to avoid all the holes on this road while driving is like being on an obstacle course.</p> <p>Thank you reading this message.</p> <p>Barbara Grenfell</p>	<p>Dear Ms. Grenfell,</p> <p>Thank you for your comment on the proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp in Horry County, South Carolina. The proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp does not include plans for additional resurfacing or repairs on roads outside of the project area. You can submit a maintenance request through the South Carolina Department of Transportation's website at <a href="https://apps.scdot.org/lmwrol/">https://apps.scdot.org/lmwrol/</a>. We appreciate your interest and feedback on the proposed project.</p>
Matt Stevens	<a href="mailto:mattstevensfarms@gmail.com">mattstevensfarms@gmail.com</a>	<p>Michael Pitts, My name is Matt Stevens and I am the owner of Stevens Farms Produce located at 6225 Red Bluff Rd. Loris, SC 29569. I appreciate you taking the time to return my phone call the other day. As you mentioned, I am going to put in writing our conversation of my concern for the construction of the bridge. Red Bluff Road over the years has been a very busy road bringing many tourists to Myrtle Beach. If traffic were to be diverted in another direction around my store, it would be detrimental to my business. As we talked the other day, you mentioned that the proposed diversion would be Hwy 366 to Hwy 554 back to Red Bluff Rd before the 905 intersection. I am not opposed to that diversion because it will still bring traffic by my store. As long as the proposed route still brings traffic back to Red Bluff Rd. Before the Hwy 905 intersection, my business will be okay. Any other route will be detrimental, and I will have to close down my business. Please consider my input on your consideration.</p>	<p>Mr. Stevens,</p> <p>Thank you for your comment on the proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp in Horry County, South Carolina. After reading your written comment and our discussion on the phone, your concerns on the proposed detour and potential impacts to your business have been noted in the project record and will be considered as the project moves forward. We appreciate your interest and feedback on the proposed project.</p>
Thomas William Cochrane	<a href="mailto:irishman@scocoast.net">irishman@scocoast.net</a>	<p>Putting the Todd Swamp bridge out of business for two years will have a significant impact on traffic in the area with major traffic crowding on the remaining accessible roads like 554. Will there be a single lane open on red bluff during construction. If this replacement is the result of heavy loads. Why hasn't the county engaged in some form of weight limitation enforcement? Red Bluff is heavily used by vacationers hauling fifth wheel campers. Routing them onto Highway 9 just north of Loris can help ease the flow. Thank you.</p>	<p>Dear Mr. Cochrane,</p> <p>Thank you for your comment on the proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp in Horry County, South Carolina. The current Red Bluff Road Bridge was built in 1973 and currently has a load restriction in place and some components of the structure are in poor condition. Due to those factors South Carolina Department of Transportation (SCDOT) is proposing replacing the current bridge with a new structure that meets current safety standards. To achieve this, SCDOT will need to close the bridge to traffic and implement a detour while the existing bridge is replaced. SCDOT will work in coordination with the local community and law enforcement, to identify an alternate route to accommodate traffic and maintain safety in the area. The 24-month construction period is the anticipated timeframe to construct all bridges within the proposed Package 18, this does not mean the Red Bluff Road Bridge would be closed for two-years. Once a detour plan is determined, SCDOT will share those plans with the community and identify the best methods to communicate the temporary route and put proper safety measures in place. We appreciate your interest and feedback on the proposed project.</p>

## Nicole Weirich

---

**From:** Pitts, Michael E. <PittsME@scdot.org>  
**Sent:** Monday, March 25, 2024 1:58 PM  
**To:** bgrenfell50@yahoo.com  
**Cc:** McGoldrick, Will; Nicole Weirich  
**Subject:** SCDOT CLRB Package 18 - Public Comment

External Email: Use caution when clicking on links, replying, or opening attachments.

Dear Ms. Grenfell,

Thank you for your comment on the proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp in Horry County, South Carolina. The proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp does not include plans for additional resurfacing or repairs on roads outside of the project area. You are encouraged to submit a maintenance request through the South Carolina Department of Transportation's website at <https://apps.scdot.org/mwro/> for all roadway concerns. We appreciate your interest and feedback on the proposed project.

Thank you,



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

*Alternative Delivery Program Manager*

**O** 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

## Nicole Weirich

---

**From:** Pitts, Michael E. <PittsME@scdot.org>  
**Sent:** Monday, March 25, 2024 1:58 PM  
**To:** mattstevensfarms@gmail.com  
**Cc:** McGoldrick, Will; Nicole Weirich  
**Subject:** SCDOT CLRB Package 18 - Public Comment

External Email: Use caution when clicking on links, replying, or opening attachments.

Mr. Stevens,

Thank you for your comment on the proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp in Horry County, South Carolina. After reading your written comment and our discussion on the phone, your concerns on the proposed detour and potential impacts to your business have been noted in the project record and will be considered as the project moves forward. We appreciate your interest and feedback on the proposed project.

Thank you,



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

*Alternative Delivery Program Manager*

**O** 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

## Nicole Weirich

---

**From:** Pitts, Michael E. <PittsME@scdot.org>  
**Sent:** Monday, March 25, 2024 1:59 PM  
**To:** irishman@sccoast.net  
**Cc:** McGoldrick, Will; Nicole Weirich  
**Subject:** SCDOT CLRB Package 18 - Public Comment

External Email: Use caution when clicking on links, replying, or opening attachments.

Dear Mr. Cochrane,

Thank you for your comment on the proposed replacement of the existing Red Bluff Road Bridge over Todd Swamp in Horry County, South Carolina. The current Red Bluff Road Bridge was built in 1973 and currently has a load restriction in place and some components of the structure are in poor condition. Due to those factors South Carolina Department of Transportation (SCDOT) is proposing replacing the current bridge with a new structure that meets current structural requirements. To achieve this, SCDOT will need to close the bridge to traffic and implement a detour while the existing bridge is replaced. SCDOT will work, in coordination with the local community and law enforcement, to identify an alternate route to accommodate traffic and maintain safety in the area. The 24-month construction period is the anticipated timeframe to construct all bridges within the proposed Package 18, this does not mean the Red Bluff Road Bridge would be closed for two-years. Once a detour plan and duration is determined, SCDOT will share that information with the community. The travelling public will be notified in a timely manner and made aware of the temporary route. We appreciate your interest and feedback on the proposed project.

Thank you,



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

*Alternative Delivery Program Manager*

**O** 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