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 P041158 Route S-26-154 County Horry

Part 1 - Project Description

Include the Project Name/Description

The SCDOT proposes to rehabilitate the existing S-26-154 (Cypress Avenue) bridge over Murrells Inlet Creek (Tidal Swash) in Horry County, SC. The bridge, built in 1997, is located in Garden City approximately 0.3 mile from Garden City Beach and serves as one of two carriers of traffic over the Garden City Inlet. The proposed project would rehabilitate the existing bridge with a modern structure on its existing alignment and profile to correct the load restriction placed on the bridge and restore all components to good condition. The bridge currently accommodates one lane of traffic in each direction.

The existing bridge is 69 feet long and 27.5 feet wide, with 3 spans. **There is a**pproximately 0 feet of vertical clearance over Murrells Inlet Creek at high water elevation and approximately 4 feet at normal water elevation.

The existing bridge is posted for load restrictions and has one or more components in poor condition. It currently accommodates one lane of traffic in each direction. According to the SCDOT Structure Inventory and Appraisal Report from July 2020, the sufficiency rating is 32.40 out of a possible 100.

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 *23 CFR Part 771.117(b)	☐ Yes	☒ No
2.	The acquisition of more than *minor amounts of temporary or permanent strips of right-of-way	☐ Yes	☒ No
3.	Involves acquisitions that result in residential or non-residential displacements	☐ Yes	☒ No
4.	Involves any adverse impacts to EJ populations	☐ Yes	☒ No

PCE Processing Form Continued:

Part 3 - Thresholds Continued			
5.	Results in capacity expansion of a roadway by adding through lanes	☐ Yes	☒ No
6.	Involves construction that would result in *major traffic disruptions	☐ Yes	☒ No
7.	Involves *changes in access control requiring FHWA approval	☐ Yes	☒ No
8.	An adverse effect determination under Section 106 of the National Historic Preservation Act.	☐ Yes	☒ No
9.	Use of Section 4(f) property that cannot be documented with a FHWA *de minimis* determination or a programmatic Section 4(f) other than the programmatic evaluation for the use of historic bridges	☐ Yes	☒ No
10.	Any use of a Section 6(f) property	☐ Yes	☒ No
11.	Requires an Individual USACE 404 Permit	☐ Yes	☒ No
12.	Requires an Individual U.S. Coast Guard Permit.	☐ Yes	☒ 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	☐ Yes	☒ No
14.	Construction in, across, or adjacent to a river designated as a National Wild and Scenic River	☐ Yes	☒ 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	☐ Yes	☒ 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	☐ Yes	☒ No
17.	Involves acquisition of land for hardship, protective purposes, or early acquisition	☐ Yes	☒ No
18.	Does not meet the latest Conformity Determination for air quality non-attainment areas (if applicable).	☐ Yes	☒ No
19.	Any known or potential major hazardous waste sites within the right-of-way.	☐ Yes	☒ No
20.	Is not included in or is inconsistent with the STIP and/or TIP	☐ Yes	☒ 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?	☐ Yes	☐ No
2. Is there a formal plan to use this parcel for a future transportation project (is it part of an approved LRTP)?	☐ Yes	☐ 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)

☒ USTs/Hazardous Materials	☒ General Permit	☐ Right of Way
☒ Water Quaility	☐ Individual Permit	☐ Floodplains
☒ Migratory Bird Treaty Act	☐ Essential Fish Habitat	☒ Lead Based Paint
☒ Stormwater	☒ Cultural Resources	
☐ Coast Guard Permit Exclusion	☐ Noise	☒ Non-Standard Commitment (see below)

Non-Standard Essential Fish Habitat, Non-Standard U.S. Coast Guard Permit Exemption

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 bought 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-26-154 is referred to as Swash Creek (Tidal Swash) 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 Murrells Inlet Creek. SCDOT has attempted to reflect this change in most of the design documents, however in some cases Swash Creek (Tidal Swash) may appear and should be acknowledged as one in the same with Murrells Inlet Creek.

Approved By: Will McGoldrick Digitally signed by Will McGoldrick Date: 2024.05.02 09:23:27 -04'00' Date

Primavera: ☒ Yes ☐ No NEPA Start Date: 3/1/24

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

Date: 05/01/2024

NEPA ENVIRONMENTAL COMMITMENTS FORM

Project ID : P041158 County : Horry District : District 5 Doc Type: PCE Total # of Commitments: 9

Project Name: S-26-154 over Swash Creek (Tidal Swash)

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 : P041158	SCDOT NEPA ENVIRONMENTAL COMMITMENTS FORM	SCDOT ENVIRONMENTAL SERVICES

ENVIRONMENTAL COMMITMENTS FOR THE PROJECT

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

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

Lead-Based Paint | NEPA Doc Ref: | Responsibility: CONTRACTOR

The existing structures shall be removed and disposed of by the Contractor in accordance with Subsection 202.4.2 of the Standard Specifications. The Contractor's attention is called to the fact that this project may require removal and disposal of structural components containing lead-based paints. Removal and disposal of structural components containing lead-based paints shall comply with all applicable Federal, State, and Local requirements for lead as waste, lead in air, lead in water, lead in soil, and worker health and safety.

☐ Special Provision

Project ID : P041158	SCDOT NEPA ENVIRONMENTAL COMMITMENTS FORM	SCDOT ENVIRONMENTAL SERVICES

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

Non-Standard Commitment | NEPA Doc Ref: | Responsibility: CONTRACTOR

Essential Fish Habitat

- During pile jacket installation, temporary cofferdams will be utilized to dewater the area immediately surrounding the existing piles.
- Existing riprap surrounding the end bents will be removed and sheet pile walls installed to access the end bents in dry conditions. Riprap will be reinstalled following the cathodic protection procedures to provide oysters the opportunity to recolonize.
- Temporary piles or barges will be utilized to support falsework and concrete forms for the new bridge deck. The falsework and supports will be removed once the concrete has cured. Riprap would be reinstalled following completion to provide oysters the opportunity to recolonize.
-Raw or live concrete may not come in contact with wetlands or open water until the concrete has cured.

☐ Special Provision

Non-Standard Commitment | NEPA Doc Ref: | Responsibility: CONTRACTOR

U.S. Coast Guard Permit Exemption

Contractor must submit photographs and as-built drawings of both plan and elevation views of the bridge upon completion of the project. Plans should be in the standard 8 ½ x 11 inch format. The drawings, along with the Completion Report Form, must indicate the vertical clearance from ordinary high water to the lowest portion of the bridge and horizontal clearance, pier face to pier face, or bank to bank, in the main navigation span.

☐ Special Provision

Appendices

Appendix A- Project Figures

Appendix B- Cultural Resources Field Report

Appendix C- Natural Resources Technical Memorandum

Appendix D- Coast Guard Permit Exemption

Appendix E- Critical Area Plat

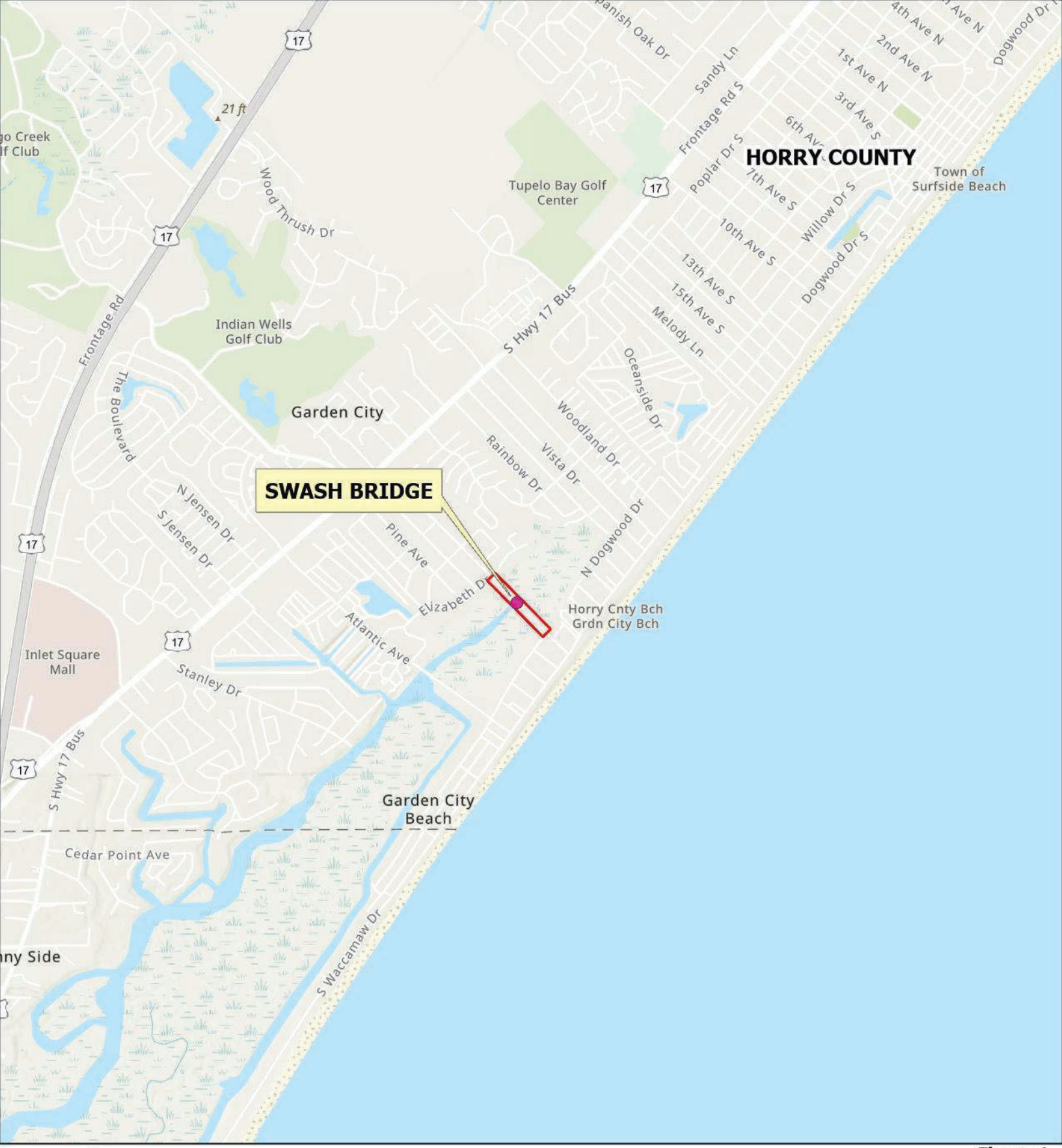
Appendix F- Bridge Replacement Scoping Risk Assessment Form

Appendix G- Floodplain Checklist

Appendix H- Public Involvement and Comments

Appendix I- Asbestos and Lead Paint Inspection Report

Appendix A: Project Figures



Legend

- Study Area
- Bridge

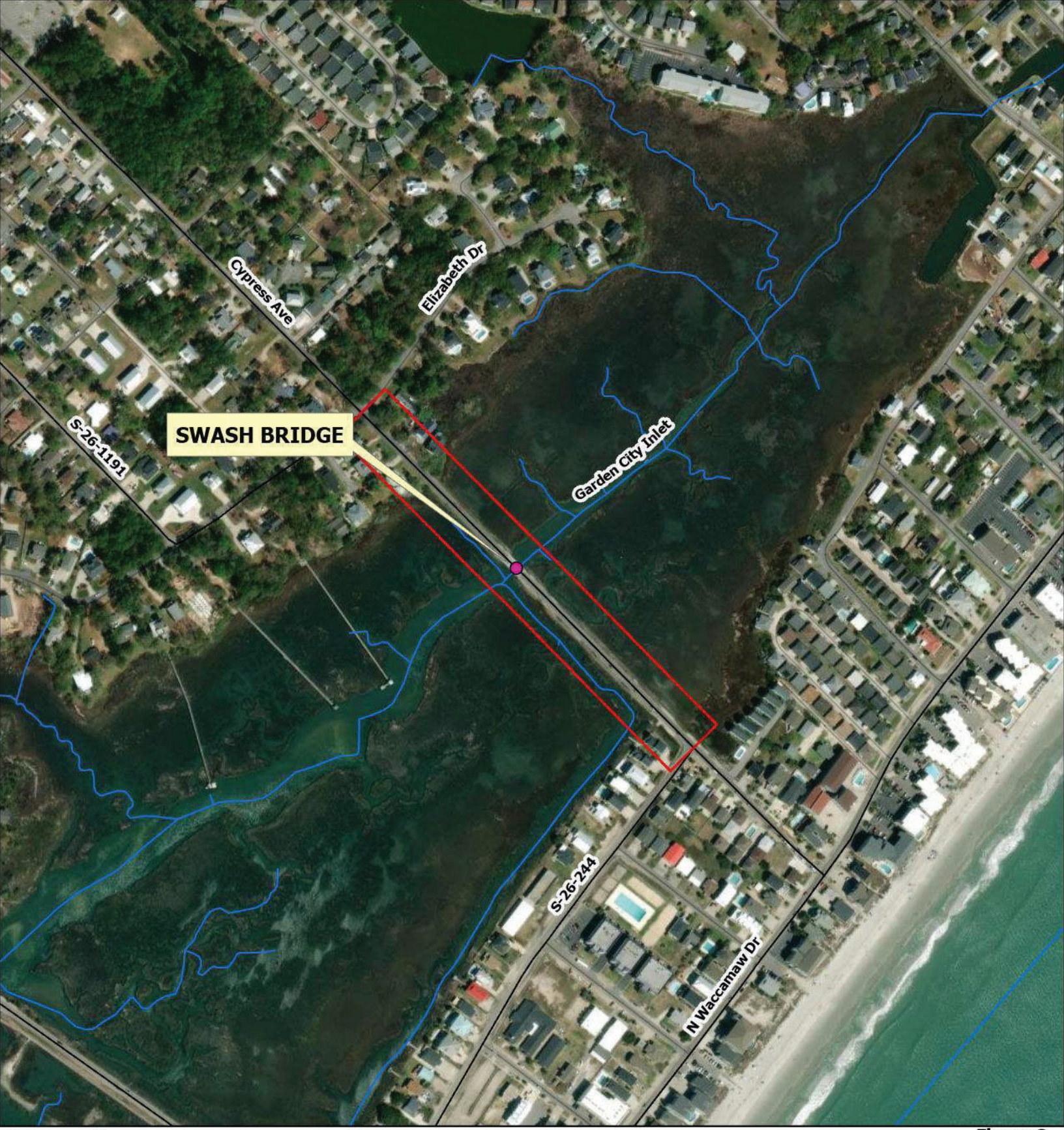
N

0 0.5 1 Mile

HNTB

Figure 1.
Vicinity Map
Replacement of SC Bridge 9211 on Cypress Avenue in Horry County, SC

Sources: SCDOT, ArcGIS ESRI Basemap. 2023.



Legend

- Study Area
- Bridge
- Stream
- Highway
- Road

N

0 500 1,000 Feet

HNTB

Figure 2.
Study Area Map
Replacement of SC Bridge 9211 on Cypress Avenue in Horry County, SC

Sources: SCDOT, ArcGIS ESRI Basemap. 2023.

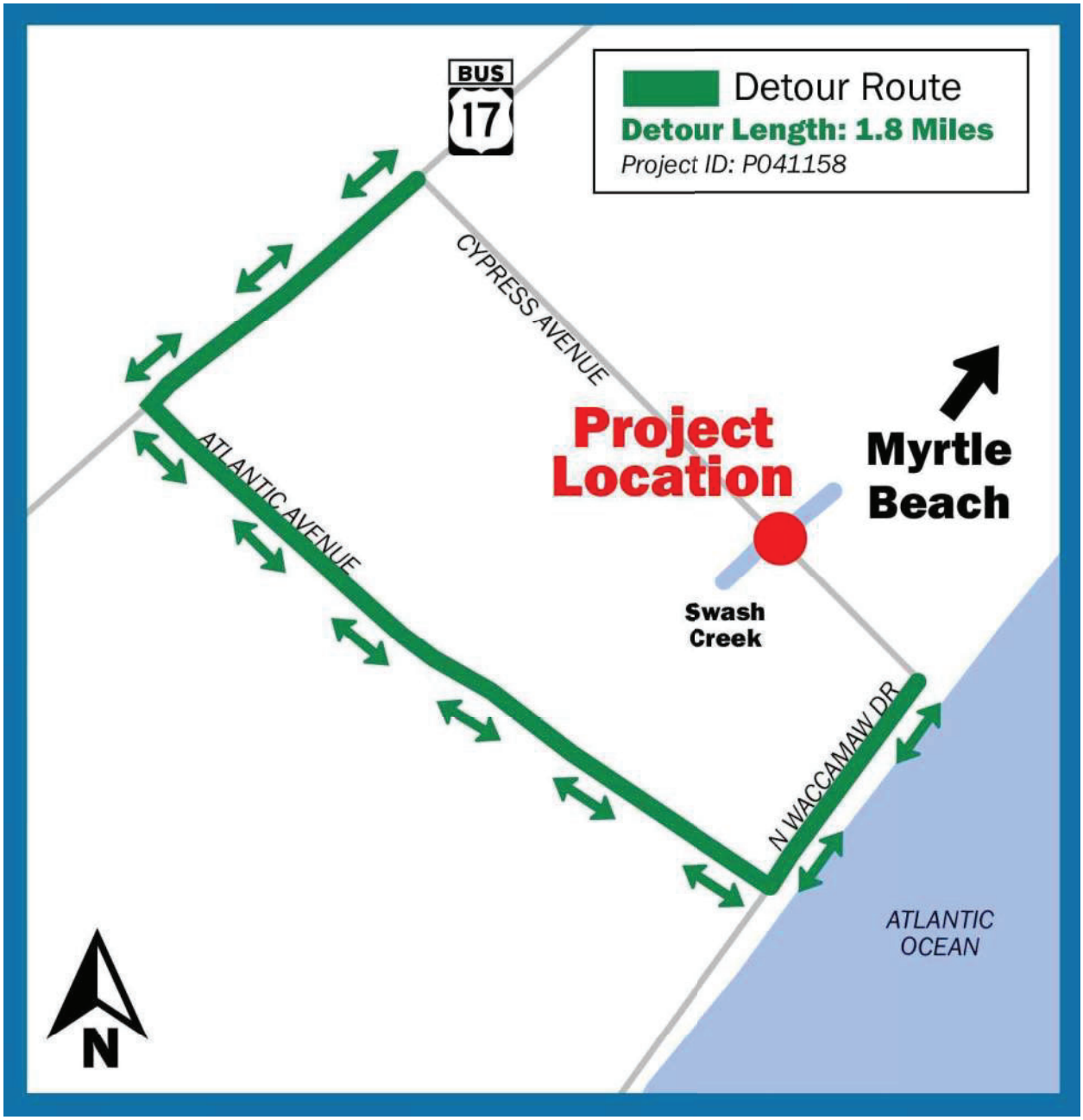


Figure 3. S-154 Proposed Detour Route

Appendix B- Cultural Resources Field Report

Cultural Resources Project Screening Form

File Number: | PIN: 41158 | Route: S-154 | County: Horry

Project Name:

CRLB 2022, Package 18, S-154 (Cypress Ave) over Swash Creek Bridge Replacement

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

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)

Project Type: 2

Comments

This project replaces the bridge carrying S-26-154 (Cypress Avenue) over Swash Creek. The bridge will be replaced on alignment and it is anticipated that minor amounts of new right-of-way (ROW) will be required. The archaeological project area is 75 feet from the road centerline (150 feet total) and 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 28 STP locations were investigated in the project area, but none were excavated due to surface water or restricted access areas. Four architectural resources were recorded. SHPO Site Numbers 4094, 4085, 4096, and 4097 are houses dating from 1961 to 1973. None are eligible for the NRHP. The current bridge to be replaced (Asset ID 09211) is a concrete slab bridge constructed in 1997. It is not yet 50 years old and therefore not survey eligible. 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: No Historic Properties Affected

*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: Rebecca Shepherd | Review Date: 12/12/2023

CULTURAL RESOURCE FIELD REPORT

SCDOT ENVIRONMENTAL SECTION

TITLE: Phase I Cultural Resources Survey of Proposed Improvements to the S-26-154 Bridge over Swash Creek

DATE OF RESEARCH: 9/21/23 **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**: P041158

DESCRIPTION:

The South Carolina Department of Transportation (SCDOT) proposes to replace various closed or load restricted bridges including the S-26-154 (Cypress Avenue) bridge over Swash Creek in Horry County, South Carolina. The project area is defined as the area within 75 feet of either side of the proposed roadway centerline and extending 1500 feet 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 within the town of Garden City in southern Horry County, South Carolina approximately 9.5 miles southwest of Myrtle Beach (Figure 1).

USGS QUADRANGLE: Surfside Beach, SC **DATE:** 2014 **SCALE:** 1:24000

UTM: NAD83 **ZONE:** 17N **EASTING:** 6857780 **NORTHING:** 3717772

ENVIRONMENTAL SETTING:

The project area is situated in the Coastal Zone of the Coastal Plain physiographic region, which is characterized by sandy barrier islands. The topography in the project area ranges from 10 feet above mean sea level (amsl) at the western end of the project area to 1-foot amsl in the vicinity of Swash Creek. The surrounding landscape is mostly urban with private residences bookending the project area and surrounding vicinity. Vegetation consists predominantly of smooth cordgrass.

NEAREST RIVER/STREAM AND DISTANCE:

Swash Creek bisects the project area and then joins Main Creek approximately 0.1 mile southwest of the project area. Main Creek (Hydrologic unit code [HUC] 030402080308) is a tributary of the Coastal South Carolina Drainage (HUC 03040208) and drains into the Atlantic Ocean at Murrells Inlet, approximately 4.1 miles southwest of the project area (South Carolina Department of Health and Environmental Control (SCDHEC) 2023).

SOIL TYPE:

Soils in the project area were formed from coastal currents creating a barrier island terrain. The majority of the soils within the project area are poorly drained (90.5 percent), with 9.5 percent identified as excessively drained. The

Natural Resource Conservation Service maps two soil types in the project area as depressions or flats (90.5 percent) (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 (%)
Bo	Bohicket silty clay loam	Very Poorly Drained	Tidal flats	4.8	71.1
Le	Leon fine sand	Poorly Drained	Depressions, flats	1.3	19.5
NhB	Newhan fine sand	Excessively Drained	0 to 6 percent slopes	0.6	9.5
Total				6.7	100

REFERENCE FOR SOILS INFORMATION:

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

GROUND SURFACE VISIBILITY: 0% _X_ 1-25% _ _ 26-50% _ _ 51-75% ___ 76-100% ___

CURRENT VEGETATION:

The vegetation in the project area primarily consists of smooth cordgrass in the tidal flats along either side of Swash Creek. Both ends of the project area consist of manicured landscapes on private property (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 12 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 (Richey and Langdale 2009). All 12 resources date to the 1950s, and all were recommended as not eligible for listing in the National Register of Historic Places (NRHP). There are no previously recorded archaeological sites within the search radius.

Table 2. Previously Recorded Cultural Resources

SHPO Site No.	Type or Address	Temporal Affiliation/Build Date	NRHP Recommendation	Reference
3493	Garden City Pier	ca. 1950, 1990s	Not Eligible	Richey and Langdale 2009
2834	517 North Waccamaw Drive	ca. 1955	Not Eligible	Richey and Langdale 2009
2837	1021 North Waccamaw Drive	ca. 1955-60	Not Eligible	Richey and Langdale 2009
2829	404 Delton Drive	ca. 1950-55	Not Eligible	Richey and Langdale 2009
2835	525 North Waccamaw Drive	ca. 1955	Not Eligible	Richey and Langdale 2009
2838	1019 North Waccamaw Drive	ca. 1955	Not Eligible	Richey and Langdale 2009
2832	131 North Waccamaw Drive	ca. 1955-60	Not Eligible	Richey and Langdale 2009
2833	401 North Waccamaw Drive	ca. 1950-55	Not Eligible	Richey and Langdale 2009
2836	923 North Waccamaw Drive	ca. 1955-60	Not Eligible	Richey and Langdale 2009
2827	119 Atlantic Avenue	ca. 1955	Not Eligible	Richey and Langdale 2009
2828	123 Atlantic Avenue	ca. 1960	Not Eligible	Richey and Langdale 2009
2839	1123 North Waccamaw Drive	ca. 1955-60	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 history survey recorded four new resources 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 21, 2023, by Lauren Christian, MA, RPA, serving as Field Director. 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 Cypress Avenue (State Road S-26-154). Soil profiles were recorded for all excavated shovel tests, and location data was recorded for all investigated shovel tests using handheld GPS instruments.

Twenty-eight shovel test locations were investigated across the project area, but none were excavated due to surface water and/or restricted access areas (Figure 6). 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 above-ground resources 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*.

Four architectural resources were recorded. The subject bridge was constructed in 1997 and was not evaluated, based on its age. This bridge (ID 09211) is of a common type, with a continuous concrete main span, a cast-in-place concrete deck structure, and a monolithic concrete deck surface. Despite being only about 25 years old, cracks and dislodged sections of concrete are abundant, and the brackish environment in which the bridge resides has caused the internal steel members that were intended to reinforce it to exacerbate the bridge's deterioration as they rust, expand, and push out through the masonry (Figure 7). Newly identified resources are shown in Figure 8 and are detailed below.

Table 3. Newly Recorded Cultural Resources

Site No.	Address	Style/Type	Build Date	NRHP Recommendation
4094	135 Cypress Avenue	Bungalow	ca. 1973	Not Eligible
4095	136 Cypress Avenue	House	ca. 1962	Not Eligible
4096	141 Cypress Avenue	Bungalow	ca. 1972	Not Eligible
4097	501 Dogwood Drive North	Bungalow	ca. 1961	Not Eligible

SHPO Site Number 4094 – 135 Cypress Avenue

Located about a half mile north of the central business district of Garden City and facing northeast from its site approximately 950 feet southeast of Swash Creek on Cypress Avenue, SHPO Site Number 4094 is a front-gabled bungalow that Horry County land records indicate was built in 1972. However, it does not appear in aerial imagery from December 1972, but it appears to be under construction in aerial imagery from 1973 and is present in 1975 aerial imagery, so this survey assumes a build date of circa 1973 (United States Agricultural Stabilization and Conservation Service 1972; United States Geological Survey 1973, 1975).

The one-story frame house has a rectangular plan, a front-gabled composition shingle roof, and an elevated CMU pier foundation with infill along the side elevations (Figure 9). Board and batten siding covers the exterior, and the infill is a combination of CMU and board and batten. The symmetrical façade has a modern full-glazed door in the center

bay flanked by faux doors that are identical appearance to the main door but non-operable. Single windows are present in the façade's the outer bays. An octagonal shed roof spans the center bay, as does an uncovered entry deck with an L-shaped staircase on its west side. The windows are vinyl replacement two-over-two sash with similar windows on the symmetrical side elevations, and the eaves are clad with vinyl. A few louvered vents are embedded in the infill foundation walls, and an enclosed area beneath the house at its southwest corner has door-height louver vents, though the space's function/use is unclear. Archival Google Streetview imagery shows a fully walled lower level through 2019, but only the sidewalls are presently enclosed, and most of the ground level is a concrete slab parking area. A triangular louvered vent is centered in the gable peak of the façade and most likely on the rear elevation, but that elevation is not accessible or visible from the ROW.

SHPO Site Number 4094 is a circa 1973 front-gabled bungalow, but it is not a distinctive or noteworthy example of this house type that is common in South Carolina. Moreover, alterations that include replacement fenestration, likely replacement siding, and the removal of the enclosed lower level adversely impact 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.

SHPO Site Number 4095 – 136 Cypress Avenue

Located about a half mile north of the central business district of Garden City and facing southwest from its site approximately 900 feet southeast of Swash Creek on Cypress Avenue, SHPO Site Number 4095 is a flat-roofed dwelling that Horry County land records indicate was built in 1950. However, its absence in 1950s aerial imagery – up through 1959 – contradicts this supposition. The building is present in 1963 aerial imagery, so this survey assumes a build date of circa 1962 (NETRonline 2023; United States Agricultural Stabilization and Conservation Service 1963).

The one-story frame house has a rectangular plan, though aerial imagery portrays it as T-shaped, due to the front and rear porches. It is raised on wood piers with corner braces, and it has a flat roof, so the cladding is not visible from the ground (Figure 10). Both porches are appended to the eastern half of their respective elevations, and the front porch has a single-entry door with a paired window to the right, while the rear porch has sliding-glass double doors and a single window to its right. A single window punctuates the west half of the façade, and two single windows are found on the side elevations and on the west half of the rear elevation. Replacement fenestration includes doors and the one-over-one sash windows on all elevations. There is an enclosed area beneath the rear porch that appears to be a storage room, but the ground level is otherwise comprised of an open-walled concrete slab parking area. Vinyl siding has a novelty siding profile, and the wide overhanging eaves and mechanical chases on the underside of the house are clad with vinyl, as well.

SHPO Site Number 4095 is a circa 1962 flat-roofed dwelling, but it is not a distinctive or noteworthy example of this house type that is relatively common in South Carolina. Moreover, alterations that include replacement fenestration and replacement siding adversely impact 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.

SHPO Site Number 4096 – 141 Cypress Avenue

Located about a half mile north of the central business district of Garden City and facing northeast from its site approximately 900 feet southeast of Swash Creek on Cypress Avenue, SHPO Site Number 4096 is a front-gabled bungalow that Horry County land records indicate was built in 1973. However, it appears in aerial imagery from 1972, so this survey assumes a build date of circa 1972 (United States Agricultural Stabilization and Conservation Service 1972).

The one-story front-gabled frame house is elevated on a combination CMU pier and raised basement foundation. The house originally had a rectangular plan but is now T-shaped, due to the front-gabled addition centered on the façade. The roof of this wing is set about two feet lower than the main gable, and both have composition shingle cladding with replacement wood shingle siding on the exterior walls (Figure 11). The central bay on the ground level is open through to the backyard, but enclosed frame sections are found below the rear half of the core structure in both outer bays. Other than the entry doors, these apparent storage areas appear to be unfenestrated. Three sets of sliding windows punctuate the southeast and northeast elevations of the addition, with the primary entrance located in the northwest wall of the addition and accessed by a set of exterior stairs leading to an uncovered entry deck situated in the L between the addition and the core façade west bay. Single vinyl replacement six-over-six sash windows are found in the upper level of the building core, both façade and side elevations, and the eaves are vinyl clad. The rear elevation is not accessible or visible from the ROW.

SHPO Site Number 4096 is a circa 1972 front-gabled bungalow, but it is not a distinctive or noteworthy example of this house type that is common in South Carolina. Moreover, alterations that include replacement fenestration, replacement siding, and the façade addition adversely impact 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.

SHPO Site Number 4097 – 501 Dogwood Drive North

Located about a half mile north of the central business district of Garden City and facing southeast from its site approximately 750 feet southeast of Swash Creek on Cypress Avenue, SHPO Site Number 4097 is a front-gabled bungalow that Horry County land records indicate was built in 1961. This build date seems to be corroborated by the fact that it does not appear in aerial imagery from 1959 but does in 1963, so this survey assumes a build date of circa 1961 (NETRonline 2023; United States Agricultural Stabilization and Conservation Service 1963).

The heavily modified house has a one-story frame portion elevated on a stuccoed raised basement foundation with stuccoed piers supporting the gabled wing on the facade. The house originally had a rectangular plan with a laterally-gabled roof but is now T-shaped with a cross-gabled roof due to the gabled additions across the northern halves of both the façade and rear elevation. The raised basement level extends beneath the rear wing, while the front wing is supported by two stuccoed piers. The rear wing seems to appear in aerial imagery as early as 1983, and archival Google Streetview imagery from February 2008 shows a brick veneer lower level and a shed roof porch in place of the gable wing on the façade, but current alterations had occurred by 2012 (Figures 12 and 13, NETRonline 2023). The roof has raised seam cladding and the exterior walls have replacement wood shingle siding. The primary entrance is located in the southwest wall of the front addition and is accessed by a T- shaped staircase leading to an uncovered entry deck situated in the L between the addition and the south half of the core façade. The gable wing addition and deck create a covered patio area on the lower level, and single six-over-six vinyl sash windows are found on both levels across all elevations, with the exception being the off-center doorway on the lower-level southwest elevation. Both doors are modern, and the main entrance has a decorative glazed door with sidelights, while the lower-level door has a small gable roof covering it. There are louvered awning "half" shutters over some upper windows (sunshades), and there is another raised deck at the back leading to the rear entrance in the rear gable wing.

SHPO Site Number 4097 is a circa 1961 bungalow, but it is not a distinctive or noteworthy example of this house type that is common in South Carolina. Moreover, alterations that include replacement fenestration, replacement siding, and façade and rear additions – as well as the application of stucco parging on the lower level – adversely impact 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. Four new architectural resources were recorded, but none are recommended as eligible for the NRHP. The proposed project, as currently defined, would have no effects to historic properties.

SIGNATURE: Adam Pope **DATE:** October 31, 2023

BIBLIOGRAPHY AND FIGURES

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1972 Aerial Photograph Index, Horry County (S.C.), 1973Aerial Photograph. South Carolina Aerial Photograph Indexes, 1937-1989. University of South Carolina Government Information and Maps Department.

United States Geological Survey

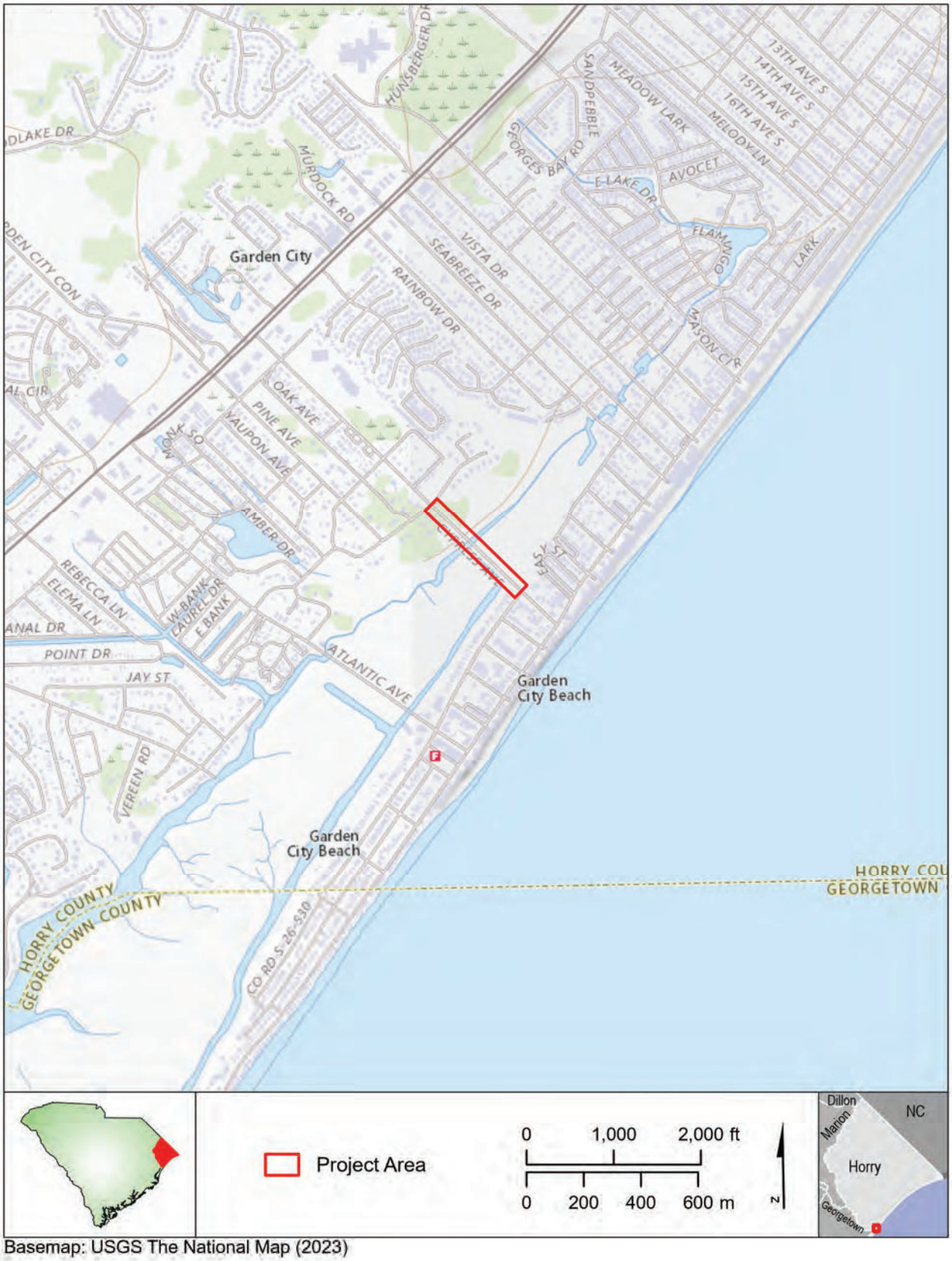
1973 1973 Aerial Photo of Horry County, South CarolinaAerial Photograph. EarthExplorer.

1975 1975 Aerial Photo of Horry County, South CarolinaAerial Photograph. EarthExplorer.

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.
Tidal Marsh on South Side of Cypress Avenue, Facing Southwest

Figure 3.
Tidal Marsh on North Side of Cypress Avenue, Facing East

Figure 4.
Manicured Landscape on Private Property at West End of Project Area, Facing Southeast

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

Basemap: NAIP (2021)

Figure 6.
Shovel Tests Results Map

Basemap: NAIP (2021)

Figure 7.
S-26-154 Bridge over Swash Creek, Built 1997 and Not Assessed

A. Facing North

B. Facing West

Figure 8.
Newly Recorded Cultural Resources Map

Basemap: NAIP (2021)

Figure 9.
SHPO Site Number 4094 – 135 Cypress Avenue

A. Oblique, Facing South

B. Oblique, Facing West

C. Façade, Facing Southwest

Figure 10.
SHPO Site Number 4095 – 136 Cypress Avenue

A. Oblique, Facing East

B. Façade, Facing Northeast

C. Rear Oblique, Facing South

Figure 11.
SHPO Site Number 4096 – 141 Cypress Avenue

A. Oblique, Facing South

B. Oblique, Facing West

C. Façade, Facing Southwest

Figure 12.
SHPO Site Number 4097 – 501 Dogwood Drive N, 1 of 2

A. Façade, Facing Northwest

B. Rear Oblique, Facing East

Figure 13.
SHPO Site Number 4097 – 501 Dogwood Drive N, 2 of 2

A. Oblique, Facing West

Source: Google (2008)

B. Archival Google Streetview Imagery from February 2008, Facing West

Appendix C- Natural Resources Technical Memo

Natural Resources Technical Memorandum

S-154 (Cypress Avenue) Bridge Rehabilitation over Tidal Swash, Horry County

SCDOT Project ID: P041158

April 22, 2024

Robbins & DeWitt

Introduction

The South Carolina Department of Transportation (SCDOT) proposes to rehabilitate the S-154 (Cypress Avenue) bridge over Tidal Swash in Horry County, South Carolina. Specifically, the project proposes to replace the deck and superstructure, and to protect the remaining potions of the bridge (piles and end bents) from corrosion. The project is approximately 0.3 mile northwest of Garden City Beach in Horry County, South Carolina. The project is in the Coastal South Carolina Drainage watershed (03040208 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 6.6 acres in size and approximately 1,440 feet (0.27 mile) in total length, generally centered on the Tidal Swash in either direction. Furthermore, the PSA is 200 feet in total width, generally centered on the centerline of Cypress Avenue.

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

Desktop Analysis Methods

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

- Federal Emergency Management Agency (FEMA) Map Service Center (https://msc.fema.gov/portal)
- SCDHEC Watershed Atlas (https://gis.dhec.sc.gov/watersheds)
- South Carolina Department of Natural Resources (SCDNR) and South Carolina Natural Heritage Program (SCNHP) (https://schtportal.dnr.sc.gov/portal/apps/sites/#/natural-heritage-program)
- SCDNR Digital Elevation Mapping (DEM) and Light Detection and Ranging (LiDAR) (https://www.dnr.sc.gov/GIS/lidar.html)
- SCDNR Open Source Geospatial Data (https://data-scdnr.opendata.arcgis.com/)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/)
- U.S. Fish and Wildlife Services (USFWS) Environmental Conservation Online System (ECOS) (https://ecos.fws.gov/ecp/)
- USFWS Information for Planning and Consultation (IPaC) (https://ecos.fws.gov/ipac/)
- USFWS National Wetland Inventory (NWI) (http://www.fws.gov/wetlands)
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (http://nhd.usgs.gov/)
- USGS Topographic Quadrangle Maps (1:24,000-scale) – Surfside Beach, 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 September 14 and October 24, 2023. A summary of jurisdictional features identified in the PSA is provided in Table 1. A survey plat of the Critical Area Line (CAL) was approved by the SCDHEC Ocean & Coastal Resources Management Office (OCRM) in December 2023 (Attachment A).

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

Wetland	Latitude	Longitude	Area (acres)
Tidal Wetland A	33.5835077°N	78.9981507°W	4.4
Total			4.4 acres

Permitting Considerations

Based on the conceptual bridge design, impacts to critical areas and other jurisdictional waters may occur during construction but are expected to remain below the SCDOT U.S. Army Corps of Engineers (USACE) General Permit impact thresholds. Additionally, a Critical Area Permit (CAP) is required from SCDHEC-OCRM to authorize impacts to critical areas resulting from the project.

The SCDOT General Permits are certified by SCDHEC, pursuant to Section 401 of the Clean Water Act, and consistency with the South Carolina Coastal Zone Management Act. Therefore, neither an Individual Section 401 Water Quality Certification nor a separate Coastal Zone Consistency (CZC) is required. 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, 2023, and October 24, 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 'not likely to adversely affect' for piping plover, red knot, and the West Indian manatee. A Biological Evaluation is provided in Attachment C. The USFWS concurred with these determinations in an email dated April 19, 2024 (refer to Attachment D).

A separate submission for the northern long-eared bat, using the Information for Planning and Consultation (IPaC) system, was provided to the USFWS on March 1, 2024. Based on this submission the proposed project reached a determination of "no effect" for the Northern long-eared bat. Refer to the Biological Evaluation 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 estuarine systems and high-density residential with maintained lawns and sparse vegetation. Natural communities observed within the PSA consists of salt marsh, salt flat, estuarine intertidal flat, and oyster reef. Residential areas and overhead powerlines extend along the north side of S-154 throughout the PSA. Refer to the Biotic Communities section in Attachment C for a detailed description of vegetation observed in the PSA.

Soils

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

Table 2 - Soil Map Units (SMU) in the Project Study Area

SMU	SMU Name	Area (acres)	Percentage of PSA
Bo	Bohicket silty clay loam	4.7	70.7%
Le	Leon fine sand	1.3	19.1%
NhB	Newhan fine sand, 0 to 6 percent slopes	0.7	10.2%

Essential Fish Habitat

EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 USC 1802, 50 CFR 600.10). The National Oceanic and Atmospheric Administration (NOAA) – National Marine Fisheries Service (NOAA Fisheries) works closely with the South Atlantic Fishery Management Council (SAFMC) and the Mid-Atlantic Fishery Management Council (MAFMC) to minimize adverse impacts to EFH in the southeast. Although the SAFMC and MAFMC manage numerous fish stocks, only those that have Federal Fishery Management Plans (FMPs) have designated EFH. According to the NOAA Fisheries EFH Mapper and SAFMC EFH Mapper Reports, species with FMPs that may inhabit or utilize the waters within the PSA include Atlantic Sharpnose Shark, Clearnose Skate, Snapper Grouper, Windowpane Flounder, Coral, Shrimp, and Spiny Lobster.

SCDOT submitted an EFH Screening Form to NOAA Fisheries on April 1, 2024, including EFH mapping and avoidance, minimization, and conservation measures proposed for the project. NOAA Fisheries responded via email on April 4, 2024, and had no additional recommendations or conservation measures beyond what SCDOT provided in the EFH Screening Form.

Please refer to Attachment E for a copy of the NOAA Fisheries concurrence, EFH Screening Form, Figures, Photographs, and EFH Mapper Reports.

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

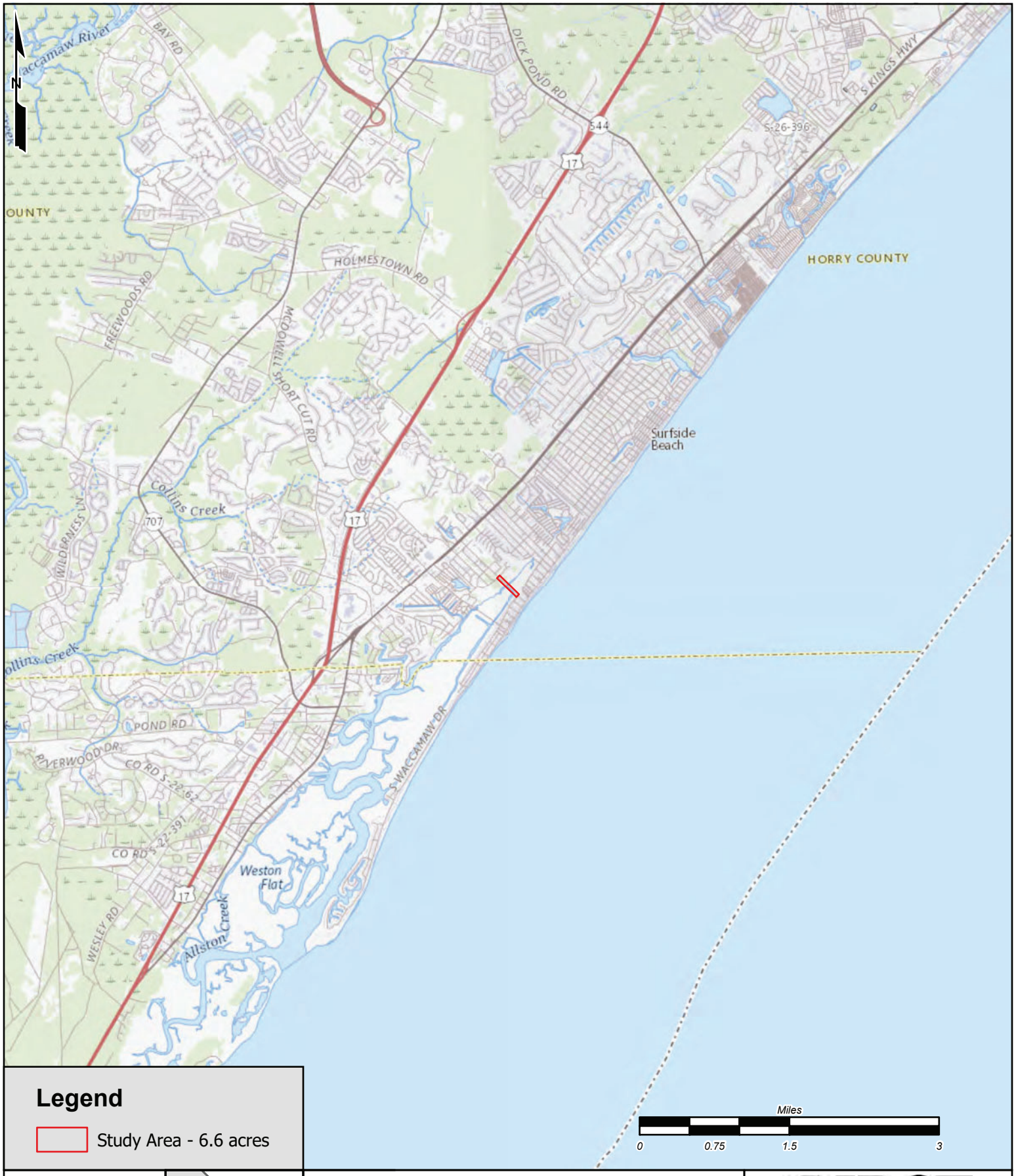
Respectfully Submitted

Russell Chandler
Robbins & DeWitt, LLC

Attachment A

Figures

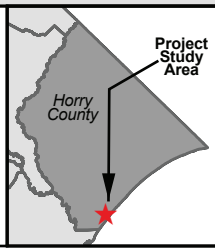
ROBBINS & DEWITT



Legend

Study Area - 6.6 acres

ROBBINS & DEWITT
www.Robbins-DeWitt.com



S-154 BRIDGE REPLACEMENT OVER TIDAL SWASH
PROJECT ID: P041158

HORRY COUNTY, SOUTH CAROLINA

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

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC | DATE: 11/16/2023

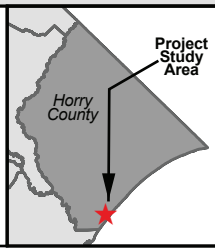
PROJECT VICINITY

FIGURE 1

Legend

Study Area - 6.6 acres

ROBBINS & DEWITT
www.Robbins-DeWitt.com



S-154 BRIDGE REPLACEMENT
OVER TIDAL SWASH
PROJECT ID: P041158

HORRY COUNTY, SOUTH CAROLINA

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

SCDOT
South Carolina Department of Transportation

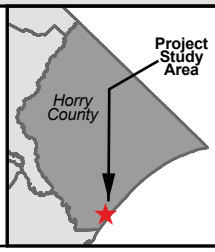
DRAWN BY: TRC | DATE: 11/16/2023

USGS TOPOGRAPHIC MAPPING

FIGURE 2

Legend

- Study Area - 6.6 acres
- Bridges
- NHD Flowline



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S-154 BRIDGE REPLACEMENT OVER TIDAL SWASH
PROJECT ID: P041158

HORRY COUNTY, SOUTH CAROLINA

Source: USGS NHD Flowlines (2018); RGB Aerial Imagery [Statewide, South Carolina (2020)]

SCDOT
South Carolina Department of Transportation

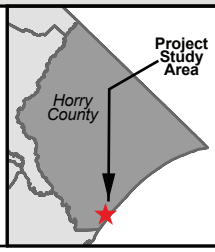
DRAWN BY: TRC | DATE: 11/16/2023

AERIAL IMAGERY

FIGURE 3

Legend

- Study Area - 6.6 acres
- Surveyed Critical Area Line
- CriticalArea - 4.4 acres



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S-154 BRIDGE REPLACEMENT OVER TIDAL SWASH
PROJECT ID: P041158

HORRY COUNTY, SOUTH CAROLINA

Source: Approximate boundaries of WOTUS were delineated on October 24, 2023; RGB Aerial Imagery [Statewide, South Carolina (2020)]

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC	DATE: 11/16/2023

APPROXIMATE BOUNDARIES OF WOTUS

FIGURE 4

Attachment B

SCDOT Permit Determination Form & Water Quality Information Report

ROBBINS & DEWITT

Date: 02/26/2024

PERMIT DETERMINATION

FROM Russell Chandler COMPANY Robbins & DeWitt

CONTACT INFO (phone and/or email) 803-360-5197 russell.chandler@robbins-dewitt.com

SCDOT PROJECT ENGINEER Michael Pitts

TO Will McGoldrick - Design Build Coordinator

Project Description S-154 (Cypress Ave) over Tidal Swash

Route or Road No. S-154 County Horry

CONST. PIN _____ OTHER PINS or STRUCTURE # P041158

RESPONSE:

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

_____

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

USACE Permit ☑ GP ☐ IP ☐ 401 ☑ JD

OCRM Permit ☑ CAP ☐ CZC

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

Other _____

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

303(d) listed ○ no ◉ yes, for * FC, ENTERO

TMDL developed ○ no ◉ yes, for * SFH Fecal

*List all that apply using the SCDHEC abbreviations

Comments: _____

_____

_____

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

Russell Chandler 02/26/2024

Biologist, SCDOT/Consultant Date

Revised 11/2018

Healthy People Healthly Communities

Watershed and Water Quality Information

General Information

Applicant Name: SCDOT
Address: 285 CYPRESS AVE, MURRELLS INLET, SC, 29576
MS4 Designation: Small MS4
Within Coastal Critical Area: Yes
Waterbody Name: Unnamed Trib
Permit Type: Construction
Latitude/Longitude: 33.583549 / -78.998141
Monitoring Station: 04-01
Water Classification (Provisional): SFH
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
04-01	X	X	X	X	X	X	X	X	X	X	X	X	InTN	X	X	X	X	X	X	X
RT-09113	X	X	X	X	X	X	X	X	X	X	X	X	A	X	X	X	X	N	X	X
04-27	X	X	X	X	X	X	X	X	X	X	X	X	A	X	X	X	X	A	X	X

F = Standards full supported
N = Standards not supported
A = Assessed at upstream station
X = Parameter not assessed at station
WnTN = Within TMDL, parameter not supported
InTN = In TMDL, parameter not supported
WnTF = Within TMDL, parameter full supported
InTF = In TMDL, parameter full supported

Parameters to be addressed (those not supporting standards)

FC - Fecal Coliform (Shellfish)

ENTERO - Enterococcus (Coastal Waters)

Fish Consumption Advisory

Waters of Concern (WOC)

TMDL Information - TMDL Parameters to be addressed

In TMDL Watershed: Yes
TMDL Report No: 025-05
TMDL Document Link: https://www.scdhec.gov/sites/default/files/docs/HomeAndEnvironment/Docs/tmdl_murrells_fc.pdf
TMDL Site: 04-01
TMDL Parameter: SFHFecal

Report Date: December 18, 2023

Attachment C

Biological Assessment

Section 7 of the Endangered Species Act

ROBBINS & DEWITT

Introduction

The South Carolina Department of Transportation (SCDOT) proposes to rehabilitate the S-154 (Cypress Avenue) bridge over Tidal Swash in Horry County, South Carolina. Specifically, the project proposes to replace the deck and superstructure, and to protect the remaining potions of the bridge (piles and end bents) from corrosion. 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 Resource List was requested from the USFWS Information for Planning and Consultation (IPaC) in October 2023 (and updated in March 2024) to detail protected species under USFWS jurisdiction that are known or expected to be on or near the project area. Table 1 below includes the species that appear on the IPaC Resource List, as well as all federally protected species in Horry County under the jurisdiction of National Marine Fisheries Service.

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 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	Bald eagle	*Haliaeetus leucocephalus*	BGEPA
	Piping plover	*Charadrius melodus*	Threatened, Critical Habitat
	Red-cockaded woodpecker	*Picoides borealis*	Endangered
	Rufa Red knot	*Calidris canutus rufa*	Threatened
Fish	Atlantic sturgeon *	*Acipenser oxyrinchus*	Endangered, Critical Habitat
	Shortnose sturgeon *	*Acipenser brevirostrum*	Endangered
Insect	Monarch butterfly	*Danaus plexippus*	Candidate
Mammal	Northern long-eared bat	*Myotis septentrionalis*	Endangered
	Tri-colored bat	*Perimyotis subflavus*	Proposed Endangered
	Finback whale *	*Balaenoptera physalus*	Endangered
	Humpback whale *	*Megaptera novaengliae* *	Endangered
	Right whale *	*Balaena glacialis* *	Endangered
	Sei whale *	*Balaenoptera borealis* *	Endangered
	Sperm whale *	*Physeter macrocephalus* *	Endangered
	West Indian Manatee	*Trichechus manatus*	Threatened

Plant	American chaffseed	*Schwalbea americana*	Endangered
	Canby's dropwort	*Oxypolis canbyi*	Endangered
	Pondberry	*Lindera melissifolia*	Endangered
Reptile	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, Critical Habitat

* Under the jurisdiction of the National Marine Fisheries Service (NMFS)
** The USFWS and 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 October 24, 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. It is also within the Coastal Zone of South Carolina and therefore subject to the South Carolina Coastal Zone Management Program. Land use in the PSA includes estuarine systems and high-density residential with maintained lawns and sparse vegetation. Natural communities observed within the PSA consists of salt marsh, salt flat, estuarine intertidal flat, and oyster reef. Residential areas and overhead powerlines extend along the north side of S-154 throughout the PSA.

Salt marsh are areas that are variously flooded and drained by tidal forces. Smooth cordgrass (*Spartina alterniflora* or *Sporobolus alterniflorus*) is the dominant plant. Interspersed throughout the salt marsh are areas of black needlerush (*Juncus roemerianus*). Tidal elevation influences the distribution of salt marsh plants. Smooth cordgrass tends to dominant near the creek and areas of lower micro-elevations throughout the salt marsh. The portions of the salt marsh at higher micro-elevations are dominated by black needlerush.

Salt flats were observed along the roadway shoulders in the PSA. Salt flats are sparsely vegetated, exposed flats of sand/mud with high salinity. Vegetation observed included glassworts (*Salicornia* spp.) and saltwort (*Batis maritima*).

Estuarine intertidal flats are mud and/or sand flats with little to no vegetation and often occur at the edges of salt marshes or along the edges of tidal creeks. The estuarine intertidal flats were adjacent to the tidal creeks observed in the PSA.

Oyster reefs include fringing oyster reefs and reef flats and are primarily composed of live Eastern oysters (*Crasostrea virginica*). Predominantly found within tidal creeks and bordering salt marshes. Oysters can

occur in small patchy groups on intertidal flats, seagrass beds, and the edges of salt marsh. Oysters were observed on the existing bridge end bents and were also interspersed along the banks of the tidal creeks in the PSA.

Results

Field reviews of the PSA found no suitable habitat for bald eagle, Red-cockaded woodpecker, Finback whale, Humpback whale, Right whale, Sei whale, Sperm whale, American chaffseed, Canby's dropwort, Pondberry Green sea turtle, Kemp's Ridley sea turtle, Leatherback sea turtle, or Loggerhead sea turtle,.

Furthermore, no suitable habitat for Atlantic sturgeon or shortnose sturgeon exists within the PSA, as the Tidal Swash does not provide adequate size and depth to support the species. Additionally, publicly available data from SCDNR does not indicate sturgeon in the Tidal Swash or Main Creek systems, which would exclude the Tidal Swash from the likelihood of sturgeon presence. Therefore, the proposed project will have no effect on Atlantic sturgeon, designated critical habitat for the species, or shortnose sturgeon.

Marginally suitable foraging habitat exists for piping plover and red knot. Each species would be able to utilize habitat outside of the PSA during construction activities. Impacts to marginal habitat may result from construction access and activities necessary to rehabilitate the existing bridge. Construction of the project is not expected to result in the mortality of any individuals of the species. Based on the ability of the species to utilize the surrounding areas during active construction, and the discountable loss of habitat in the context of the PSA and surrounding ecosystems, it has been determined the project is **not likely to adversely affect** the piping plover or red knot. Furthermore, the project does not overlap the designated Critical Habitat for piping plover.

The SCDNR South Carolina Natural Heritage Species Reviewer identified non-sensitive occurrence data for the West Indian manatee within the PSA. To minimize potential effects to manatees, the USFWS Manatee Protection Measures for South Carolina would be employed during construction (Attachment D). Precautionary measures would be implemented during construction in late spring, summer months, and early fall, as this is when the waterways would likely support manatees. Therefore, the project is not expected to result in the mortality of any individuals of the species. Furthermore, based on the ability of the species to utilize the surrounding areas during active construction, and the discountable loss of habitat in the context of the PSA and surrounding ecosystems, it has been determined the project is **not likely to adversely affect** the West Indian manatee.

Roosting habitat for bats exists under the existing bridge. A structure survey of the existing bridge found no evidence of bat roosting. Due to no observed presence and no tree clearing associated with the project, it has been determined the project would have **no effect** on the Northern long-eared bat (see attached consistency letter dated March 1, 2024). A Structures Survey Data Sheet is included in Attachment D.

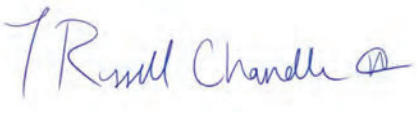
Conclusions

Based on the literature and field reviews, it is determined that the proposed project will have a biological conclusion of 'not likely to adversely affect' for piping plover, red knot, and the West Indian manatee.

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.

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

Respectfully Submitted



Russell Chandler
Robbins & DeWitt, LLC

Attachment D

Biological Evaluation Attachments

ROBBINS & DEWITT

Matt DeWitt

From: Charleston Regulatory, FW4 <charleston_regulatory@fws.gov>
Sent: Friday, April 19, 2024 4:29 PM
To: Beckham, Chris
Cc: Belcher, Jeffery - FHWA; Matt DeWitt; JohnsonHughes, Christy
Subject: Re: [EXTERNAL] S-154 bridge over Tidal Swash

Chris,

The U.S. Fish and Wildlife Service (Service) has reviewed the S-154 bridge of Tidal Swash, in Horry County, South Carolina. You have requested that the Service provide concurrence or comments regarding potential impacts to federally listed species in accordance with requirements set forth under section 7 of the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq. (ESA).

Your agency has made a determination of *may affect, but is not likely to adversely affect* for piping plover (*Charadrius melodus*), red knot (*Calidris canutus*) and West Indian manatee (*Trichechus manatus*). Based on the justification provided, the Service concurs with your determination. Please note that obligations under section 7 of the ESA should be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

The Service recommends that you contact the South Carolina Department of Natural Resources regarding potential impacts to State protected species. This email will serve as our official response. Please let me know if you have any questions.

Melanie

From: Beckham, Chris <BeckhamJC@scdot.org>
Sent: Thursday, April 11, 2024 7:51 AM
To: Charleston Regulatory, FW4 <charleston_regulatory@fws.gov>
Cc: Belcher, Jeffery - FHWA <Jeffrey.Belcher@dot.gov>; Matt DeWitt <matt.dewitt@robbins-dewitt.com>
Subject: [EXTERNAL] S-154 bridge over Tidal Swash

Good morning,

The South Carolina Department of Transportation, on behalf of the Federal Highway Administration, is requesting consultation with the US Fish and Wildlife Service for species pursuant to Section 7 of the Endangered Species Act. SCDOT proposes to replace the S-154 bridge over Tidal Swash in Horry County, South Carolina. Please find the attached biological assessment report for the project. A copy of the species list in IPaC and the appropriate

determination keys can be found in the appendices of the report. For reference, the USFWS project code is: 2024-0011201.

Respectfully,

Chris Beckham
SCDOT
Environmental Services Office
Office: (803) 737-1332
Mobile: (803) 609-9464

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: 2024-0011201
Project Name: S-154 over Swash Creek

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

- Marine Mammals

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: 2024-0011201
Project Name: S-154 over Swash Creek
Project Type: Bridge - Replacement
Project Description: SCDOT proposes improvements to the S-154 (Cypress Ave) bridge over Swash Creek.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.583405400000004,-78.99802173340314,14z

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[1], 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.

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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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469	Threatened

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red-cockaded Woodpecker *Picoides borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

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

INSECTS

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

FLOWERING PLANTS

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

MARINE MAMMALS

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

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1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. 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.

NAME

West Indian Manatee *Trichechus manatus*

Species profile: https://ecos.fws.gov/ecp/species/4469

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: 2024-0011201
Project Name: S-154 over Swash Creek

March 01, 2024

Subject: Consistency letter for the 'S-154 over Swash Creek' 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-154 over Swash Creek** (Proposed Action) may rely on 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 will have no effect on the endangered Indiana bat (*Myotis sodalis*) or the endangered northern long-eared bat (*Myotis septentrionalis*). If the Proposed Action is not modified, **no consultation is required for these two species.** 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 assessment failed to detect Indiana bats and/or NLEBs use or occupancy, yet 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
- West Indian Manatee *Trichechus manatus* Threatened

PROJECT DESCRIPTION

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

NAME

S-154 over Swash Creek

DESCRIPTION

SCDOT proposes improvements to the S-154 (Cypress Ave) bridge over Swash Creek.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.583405400000004,-78.99802173340314,14z

DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the endangered Indiana bat and/or the endangered northern long-eared bat. Therefore, no 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 for these two species.

QUALIFICATION INTERVIEW

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   No

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

   [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[1] 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[1]?

   [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[1]?

   [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[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (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.

   No

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

   No

10. Does the project include slash pile burning?

    No

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

    Yes

12. Is there *any* suitable habitat[1] 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.

    No

13. 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

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

    No

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

    No

16. 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

17. 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[1]?

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

    Yes

18. 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[1]?

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

    Yes

19. 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

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

    No

21. Is the location of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the project action area is not within suitable Indiana bat and/or NLEB summer habitat and is outside of 0.5 miles of a hibernaculum.

22. 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 is more than 1,000 feet from the nearest suitable habitat and is therefore considered unsuitable for use by bats

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

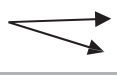
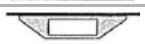
Agency: South Carolina Department of Transportation
Name: Amanda Chandler
Address: P.O. Box 536
City: Blythewood
State: SC
Zip: 29016
Email amanda.chandler@robbins-dewitt.com
Phone: 8032387089

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, R. CHANDLER	
Date: 2023-09-14, 2023-10-24	County: HORRY
Lat Long/w3w: 33.58345, -78.99815	
Project Name: S-154 (CYPRESS AVE) OVER SWASH CREEK	
SCDOT Structure ID: 09211	SCDOT Project No.: P041158

Structure Type:			Underdeck Material:
☐ Parallel Box Beam 	☐ Steel I-Beam 		☒ Concrete
☐ Pre-Stressed Girder 	☒ Flat Slab / Box 		☐ Corrugated Steel
☐ Cast in Place 	☐ Trapezoidal Box 		☐ Other:
	☐ Other:		
Note:			
☐ Culvert - Box			
☐ Culvert - Pipe/Round			

Road Type:			
☐ Interstate	☐ US Highway	☒ State Road	☐ County Road
		S-154	

Surrounding Habitat (check all that apply):				
☒ Residential	☐ Agricultural	☒ Commercial	☐ Pine Forest	☐ Grassland
☒ Riparian	☐ Wetland	☐ Mixed Forest	☐ Bottomland Hardwood	
☒ Other: Tidal Creek, Marsh				

Conditions Under Bridge (check all that apply):			
☐ Bare Ground/Sediment	☐ Concrete	☒ Rip Rap	☒ Flowing Water
☐ Standing Water	☐ Open Vegetation (not obstructing flight path)	☐ Closed Vegetation (may obstruct flight path)	☐ Two Lanes
☐ Four (+) Lanes	☐ Unpaved Road	☐ Railroad	☐ Other:

Bats Present:	
☐ YES	☒ NO

Bat Indicators (check all that apply):				
☐ Visual	☐ Smell	☐ Sound	☐ Staining	☐ Guano

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

Roost Description (if known, check all that apply):			
☐ Day Roost	☐ Nursery Roost	☐ Night Roost	☒ UNKNOWN
Number of Roosts:			

Roost Design (check all that apply):			
☐ Crack/Crevice/Expansion Joint: Under Bridge		☐ Crack/Crevice/Expansion Joint: Top of Bridge	
☐ Plugged Drain	☐ Under/Along Main Bridge Structure	☐ Rail	☐ Other:

Human Disturbance or Traffic Under Bridge or at Structure?		
☐ High	☒ Low	☐ None

Areas Inspected (check all that apply):			
☐ Vertical Surfaces on I-Beams	☒ Vertical Surfaces between Concrete End Walls and Bridge Deck		
☒ Expansion Joints	☒ Rough Surfaces	☒ Guardrails	☒ Cervices
☐ Other:			
Areas NOT Inspected because of Safety or Inaccessibility:			

Evidence of Migratory Birds Using the Structure?	
☐ YES	☒ NO

Additional Information:

Updated: March 2021

Manatee Protection Measures
for South Carolina

To reduce potential construction-related impacts to the manatee to discountable and insignificant levels, the Service recommends implementing the following *Standard Manatee Protection Measures* to all projects affecting the coastal waters of South Carolina.

The permittee will comply with the following construction conditions for manatee protection:

1. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel **must** monitor water-related activities for the presence of manatee(s).

2. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.

3. Barriers must not impede manatee movement and additionally any siltation barriers used during the project shall be made of material in which manatees cannot become entangled and must be properly secured, and regularly monitored to avoid manatee entrapment.

4. All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

5. If manatee(s) are seen within 100 yards of the active construction area all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet to a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition, or until 30 minutes has elapsed if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

6. The permittee understands and agrees that all in-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) must be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, must be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line is allowed in the water. Where appropriate in water wires, cables, should be fitted with PVC sleeve from the surface to the bottom to prevent any potential scraping of the passing manatees.

7. Any collision with and/or injury to a manatee shall be reported immediately to the U.S. Fish and Wildlife Service contacts: Melanie Olds, South Carolina Manatee Lead, Charleston Field Office, at 843-727-4707 ext. 40413; or Terri Calleson, Manatee Recovery Coordinator, North Florida Field Office, at 904-731-3286.

Attachment E

Essential Fish Habitat

ROBBINS
& DEWITT

From: McGoldrick, Will
To: Matt DeWitt; Shannon Meder
Cc: Pitts, Michael E.
Subject: FW: S-154 over Tidal Swash EFH
Date: Thursday, April 11, 2024 1:15:42 PM
Attachments: S-154 DraftPCE_WM_20240408.pdf

Matt and Shannon,
Apparently the email Pace provided is our concurrence with NMFS on EFH. Please add to appropriate appendix and consider complete. Also, in reviewing the NPCE for Swash I realized we can downgrade that to a PCE. I've prepped a PCE form for your use. Just need to get the commitments straight. Should simplify things for us. Let me know if you have any questions.

Based on Chris' email this morning the BA went to FWS today.

--WM

From: Jordan Wolfe - NOAA Federal <jordan.wolfe@noaa.gov>
Sent: Thursday, April 11, 2024 1:10 PM
To: McGoldrick, Will <McGoldriWR@scdot.org>
Subject: Fwd: S-154 over Tidal Swash EFH

See above in reference to your last email

Jordy Wolfe
Fish Biologist
Habitat Conservation Division, Atlantic Branch
NOAA Fisheries
331 Ft. Johnson Road
Charleston, SC 29412
O: (843) 560-9532
C: (843) 697-7317
jordan.wolfe@noaa.gov

---------- Forwarded message ---------
From: **Pace Wilber - NOAA Federal** <pace.wilber@noaa.gov>
Date: Thu, Apr 4, 2024 at 4:39 PM
Subject: Re: S-154 over Tidal Swash EFH
To: McGoldrick, Will <McGoldriWR@scdot.org>

Hi Will.

Thanks for sending the EFH Assessment. We have experiences with cathodic protection used to protect bridges in Florida. We have no EFH issues with what's proposed in your email and the EFH Assessment. Our tracking system asks us to identify how SCDOT expects the USACE to authorize the work. Do you know if a USACE authorization is needed and what form it may take?

Thanks,
Pace

On Mon, Apr 1, 2024 at 10:10 AM Jordan Wolfe - NOAA Federal <jordan.wolfe@noaa.gov> wrote:

> Jordy Wolfe
> Fish Biologist
> Habitat Conservation Division, Atlantic Branch
> NOAA Fisheries
> 331 Ft. Johnson Road
> Charleston, SC 29412
> O: (843) 560-9532
> C: (843) 697-7317
> jordan.wolfe@noaa.gov
>
> ---------- Forwarded message ---------
> From: **McGoldrick, Will** <McGoldriWR@scdot.org>
> Date: Mon, Apr 1, 2024 at 9:48 AM
> Subject: S-154 over Tidal Swash EFH
> To: Jordan Wolfe - NOAA Federal <jordan.wolfe@noaa.gov>
> Cc: matt.dewitt@robbins-dewitt.com <matt.dewitt@robbins-dewitt.com>, Shannon Meder <smeder@hntb.com>
>
> Jordy,
> Please see the attached EFH short form documentation for a proposed bridge rehabilitation project in Horry County. The proposed project consists in removing the deck structure and replacing it. All supporting structure will be left in place. Additionally, cathodic protection will be installation on supporting elements to reduce corrosion effects of the saltwater on metal bridge support components. Cathodic protection consists of installing sacrificial metal (anodes) around the bridge components which will be allowed to corrode rather than the actual bridge metal components thereby extending the life of the bridge. In this case, the bridge deck is too far gone and needs to be replaced but the in water structures are in good condition and their life can be extended through this protection work.
>
> If you'd like a little more information on cathodic protection, you can reference these links. One is an FHWA summary and the other is a Transportation Research Board report. Probably more detail than you'd like but they do show this is not a new technique to the

industry but is somewhat rare in SC.
https://www.fhwa.dot.gov/publications/focus/97sep/97cp.cfm
https://onlinepubs.trb.org/onlinepubs/shrp/SHRP-S-337.pdf

Feel free to reach out with questions or comments.

Respectfully,

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

--
Pace Wilber, Ph.D.
South Atlantic and Caribbean Branch Chief
Habitat Conservation Division
NOAA Fisheries Service
331 Ft Johnson Road
Charleston, SC 29412

843-592-3024 (NOAA Google Voice)
Pace.Wilber@noaa.gov

Essential Fish Habitat Screening Form

SCDOT is submitting this information to the National Marine Fisheries Service (NMFS) on behalf of the Federal Highway Administration (FHWA) in anticipation of a Department of the Army permit for work within jurisdicitonal waters of the United States. ☑ Yes ☐ No

If NO, please explain: _____

Project: S-154 (Cypress Ave) over Tidal Swash County: Horry

Anticipated Permit: Regional General Permit Permit Number, if applicable: _____ PCN: _____

+Projects authorized under individual permits (IPs) typically require more detailed analyses of the anticipated impacts of the proposed action and may require a full Essential Fish Habitat (EFH) Assessment.

Waterbody: Tidal Swash Latitude: 33.5834 Longitude: -78.9980 decimal degrees

Anticipated Construction Start Date: Est. Jan 2025 End Date: Est. Dec 2027

In-Water Work Windows, if applicable:
to
to

Proposed Action and Impacts

Include descriptions of the propsed action; quantity and type of total permanent and temporary impacts (not just EFH); existing condition of habitat(s) within the project area according to the USACE SOP determination of wetlands credits; existing quality and type of EFH present; effects of project to species, EFH, HAPC and other relevant impacts to NMFS-trust resources; construction access and staging areas; pile driving/jetting methodologies; include work schedule and work moratoria, etc.. Attach additional information (e.g., descriptions, maps, design plans, bridge profiles) and sheets if/when necessary. Maps, plans, designs and other figures can be used to satisfy information requirements described above.

EFH was delineated and mapped based on field reviews completed on October 24, 2023 and January 10, 2024. Habitats were noted and points of interest were logged with a handheld GPS unit (Trimble Geo7x). EFH types within the study area were delineated with a combination of field notes, photos, NOAA NGS Topobathy LiDAR DEM (2019-2020), and recent aerial imagery (SCDNR 2020). Please refer to the attached map figures for details.

The purpose of the project is to address the structural deficiencies of the existing Cypress Avenue bridge. A recent inspection determined the bridge deck and superstructure are in serious condition, while the substructure (piles and end bents) are in very good condition. The project proposes to replace the deck and superstructure, and to protect the remaining potions of the bridge from corrosion. Anticipated actions in EFH include:
1) Pile jacket installation: Temporary cofferdams would be utilized to dewater the area immediately surrounding the existing piles.
2) End bent protection: Existing riprap surrounding the end bents would be removed and sheet pile walls installed to access the end bents in dry conditions. Riprap would be reinstalled following the cathodic protection procedures.
3) Falsework support: Temporary piles or barges will be necessary to support falsework and concrete forms for the new bridge deck. The falsework and supports would be removed once the concrete has cured. Riprap would be reinstalled following completion.

Habitat and Impacts (based on the most recent design available; including pilings/columns) Amount of impacts (in acres):

	Habitat Present:	Impacts:	Habitat Quality (Include description above):	Permanent	Temporary	Total
Estuarine emergent wetlands:	YES ☑	YES ☑	Fully functional		0.04	0.04
Sub-/Intertidal non-vegetated flat:	YES ☑	YES ☑	Fully functional		0.05	0.05
Tidal creek:	YES ☑	YES ☑	Fully functional		0.02	0.02
Unconsolidated Bottom:	YES ☐	YES ☐	Please Select			
Oyster/shell*:	YES ☑	YES ☑	Fully functional	0.04	0.03	0.07
Coastal inlet*	YES ☐	YES ☐	Please Select			
Tidal palustrine wetlands:	YES ☐	YES ☐	Please Select			
Tidal palustrine forested areas:	YES ☐	YES ☐	Please Select			
Live/Hard bottom:	YES ☐	YES ☐	Please Select			

*These general habitat types are designated as Habitat Areas of Particular Concern (HAPCs). SCDOT must conduct further analyses on the presence of, and impacts to, these (and other relevant) HAPCs and complete the *Habitat Areas of Particular Concern* section (page 3) of this document.

Total Impacts:

Fill*	0.12
Clearing	0.04
Shading	
Dredging	
TOTAL	0.18

Other (i.e., sedimentation, hydrologic flow, scouring/sloughing, restrictions in creek, etc.):

0.02 - temporary placement of cofferdams

Note: Clearing impacts are non-fill related construction access activities that may result in the temporary removal of loss of estuarine emergent vegetation adjacent to the roadway approaches. These may include the use of timber mats for construction equipment traversing the area.

*All fill, including bridge and/or pedestrian walkway pilings should be included here.

Describe all avoidance and minimzation measures as well as conservation measures and best management practices (BMPs). Reference stormwater management, erosion control, sedimentation and turbidity control , and other pertinent documents/SOPs where appropriate.

During pile jacket installation, temporary cofferdams will be utilized to dewater the area immediately surrounding the existing piles.

Existing riprap surrounding the end bents will be removed and sheet pile walls installed to access the end bents in dry conditions. Riprap will be reinstalled following the cathodic protection procedures to provide oysters the opportunity to recolonize.

Temporary piles or barges will be utilized to support falsework and concrete forms for the new bridge deck. The falsework and supports will be removed once the concrete has cured. Riprap would be reinstalled following completion to provide oysters the opportunity to recolonize.

Raw or live concrete may not come in contact with wetlands or open water until the concrete has cured.

Notes: Describe any restoration work and/or mitigation measures/plans (e.g. on-site removal of exisiting fill) - including monitoring plans.

Not applicable for this project.

SCDOT concludes: Adverse Effect on EFH: ☐ Yes ☑ No

Prepared by: Will McGoldrick Signature: Will McGoldrick Date: 04/1/2024

Habitat Areas of Particular Concern

Habitat Areas of Particlar Concern (HAPCs) are subsets of EFH which are rare, particularly susceptible to human-induced degredation, especially ecologically important, or located in an environmentally stressed area. At the interface of NOAA trust resources and SCDOT projects, oyster reefs are the most common HAPC in South Carolina. Coastal inlets and other designated HAPCs are present in the state, but will rarely be encountered by SCDOT.

HAPC present: ☑ Oyster Reefs ☐ Coastal Inlets ☐ Other: _____

SCDOT/FHWA concludes HAPC Impacted: ☑ Yes ☐ No

HAPC Impacts (if applicable):	Amount of Impacts (in Acres):		
	Temporary	Permanent	Total
☑ Oyster Reefs	0.03	0.04	0.07
☐ Coastal Inlets			
☐ Other:			

For oyster reefs: Assess both qualitative and quantitative impacts. Check all that apply and quantify impacts into sub-categories.

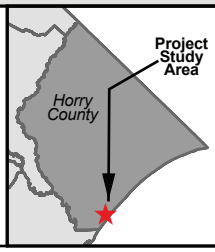
	☐ Shell (dead) accumulations ("shell hash")	☑ Aggregations (living and dead)	☐ Reefs (veneer of living and dead organisms)
Impact Area (Acres or %):		0.07	

Provide detailed descriptions of impacts to oyster reefs. Provide descriptions of impacts to other HAPCs, if applicable.

Oysters are present on existing riprap that provides end bent scour protection to the existing bridge (see attached Photograph 6 for a representative photograph of oysters present on riprap). Portions of the existing riprap would be removed for construction access and bridge rehabilitation efforts. Upon completion of the proposed rehabilitation, new riprap would be installed for scour protection of the end bents.

Provide detailed descriptions of mitigation plans for impacts to oyster reefs, and other HAPCs, if applicable.

The new riprap would be installed and stabilized. Oysters would have the ability to recolonize in a similar manner as the existing condition.



ROBBINS & DEWITT
www.Robbins-DeWitt.com

S-154 BRIDGE REPLACEMENT OVER TIDAL SWASH
PROJECT ID: P041158

HORRY COUNTY, SOUTH CAROLINA

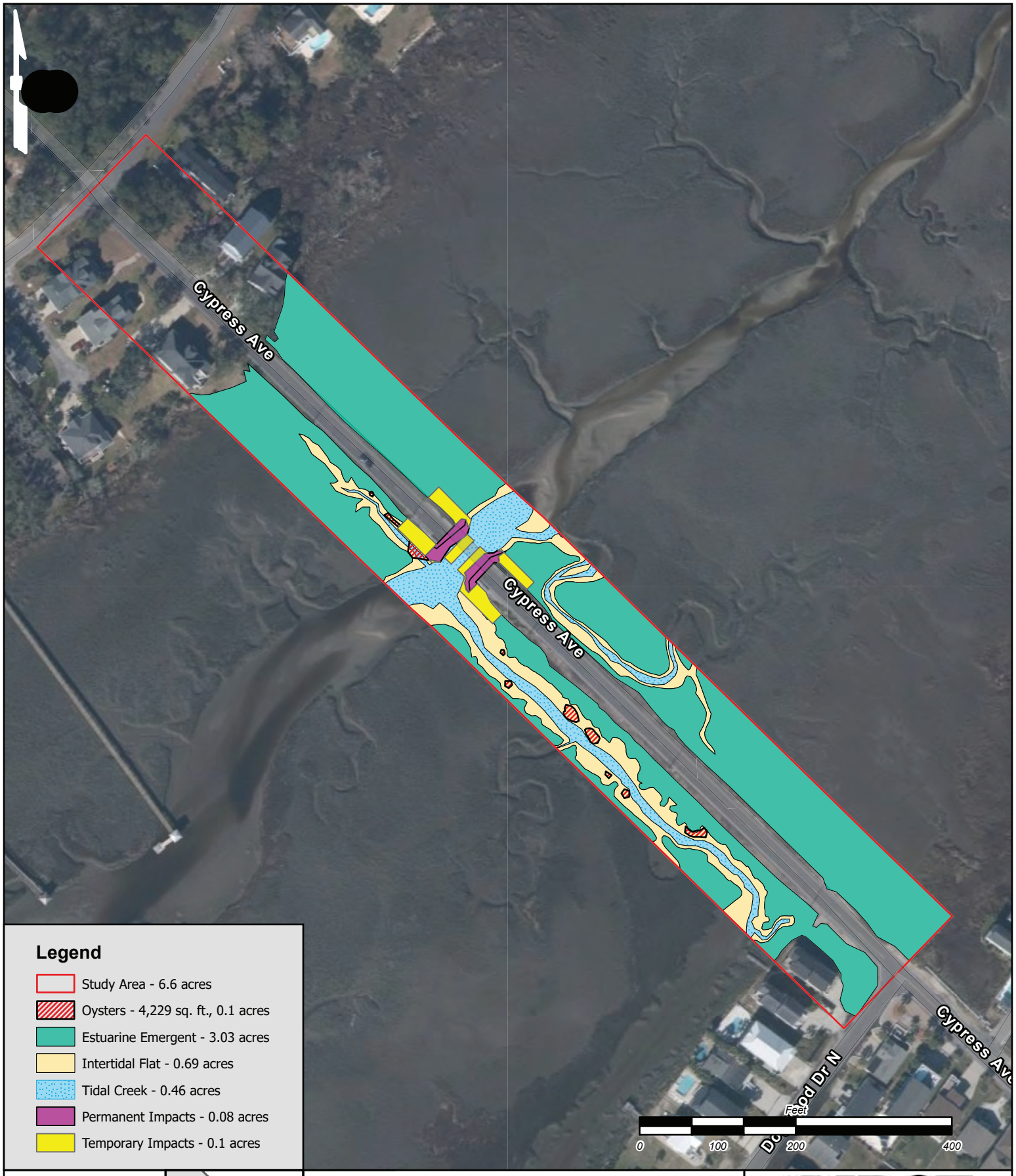
Source: Approximate boundaries of EFH were delineated during low tide on January 10, 2024; RGB Aerial Imagery [Statewide, South Carolina (2020)]

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC	DATE: 01/15/2024

APPROXIMATE BOUNDARIES OF EFH

FIGURE 5



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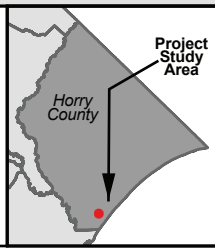
www.Robbins-DeWitt.com



S-154 BRIDGE REPLACEMENT OVER TIDAL SWASH
PROJECT ID: P041158

HORRY COUNTY, SOUTH CAROLINA

Source: Approximate boundaries of EFH were delineated during low tide on January 10, 2024; RGB Aerial Imagery [Statewide, South Carolina (2020)]

SCDOT
South Carolina Department of Transportation

DRAWN BY: TRC	DATE: 02/23/2024

ESTIMATED IMPACTS TO EFH

FIGURE 6

Photograph 1

Date: 01/10/2024

Taken By: R. Chandler

Estuarine emergent

Photo is taken along the south-bound lane of S-154 facing northwest towards Elizabeth Drive.

Photograph 2

Date: 10/26/2023

Taken By: R. Chandler

Emergent estuarine, intertidal flat, tidal creek

Photo is taken along the south-bound lane of S-154 facing northwest towards Elizabeth Drive.

Photograph 3

Date: 01/10/2024

Taken By: R. Chandler

Estuarine emergent, intertidal flat, tidal creek, oysters

Photo is taken along the NB lane of S-154 facing southeast towards N Waccamaw Drive.

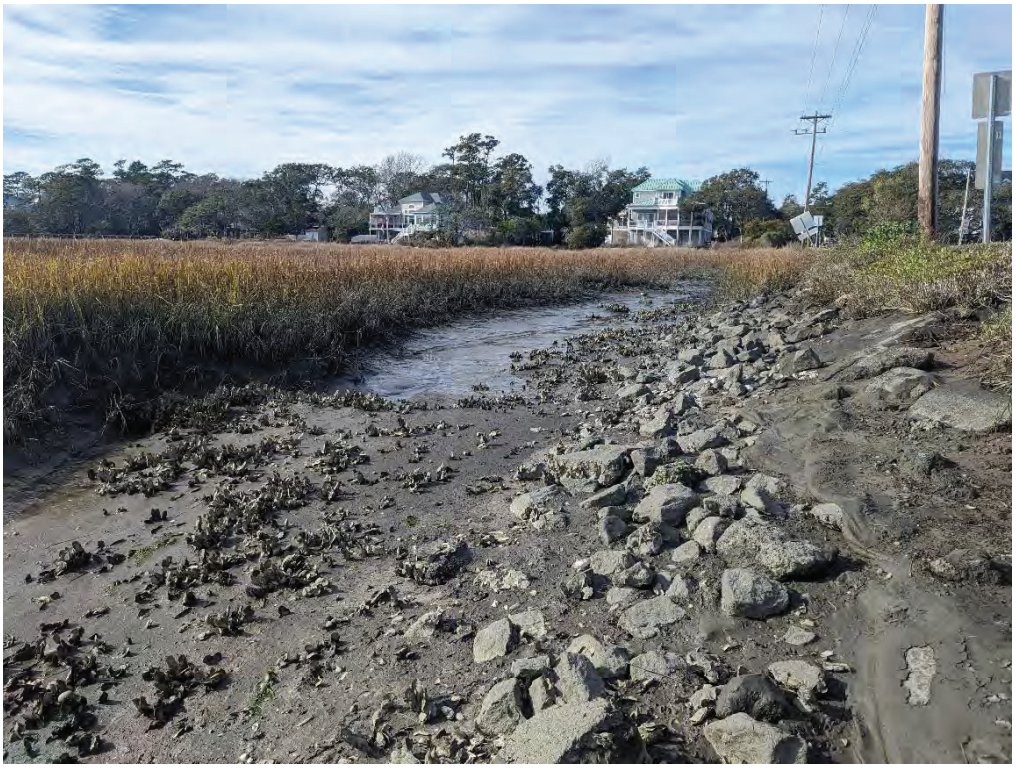
Photograph 4

Date: 01/10/2024

Taken By: R. Chandler

Estuarine emergent, intertidal flat, tidal creek, oysters

Photo was taken in the tidal creek along the NB lane of S-154 facing southeast towards N Waccamaw Drive.



Photograph 5

Date: 01/10/2024

Taken By: R. Chandler

Estuarine emergent, intertidal flat, tidal creek, oysters

Photo is taken along the NB lane of S-154 facing northwest towards Elizabeth Drive.

Photograph 6

Date: 01/10/2024

Taken By: R. Chandler

Oysters below existing bridge

Photo is taken on NB lane of S-154 under the existing bridge facing east.

Photograph 7

Date: 01/10/2024

Taken By: R. Chandler

Oysters below existing bridge

Photo is taken on NB lane of S-154 under the existing bridge facing east.

Photograph 8

Date: 01/10/2024

Taken By: R. Chandler

Tidal Creek

View of the main tidal creek during low tide. Photo is taken along the SB lane of S-154 facing west.

Photograph 9

Date: 01/10/2024

Taken By: R. Chandler

Oysters and Tidal Creek

View of oysters in rip-rap under the bridge and the main tidal creek. Photo facing northeast, towards the bridge.

Photograph 10

Date: 01/10/2024

Taken By: R. Chandler

Oysters, Tidal Creek, Intertidal Flat

View of oysters, main tidal creek, and intertidal flats adjacent to the bridge. Photo is facing west.

Photograph 11

Date: 01/10/2024

Taken By: R. Chandler

Oysters, Estuarine Emergent, Intertidal Flat, Tidal Creek

View of multiple habitats adjacent to S-154. Photo is taken along the SB lane of S-154 facing southwest.

Photograph 12

Date: 01/10/2024

Taken By: R. Chandler

Oysters, Estuarine Emergent Intertidal Flat, and Tidal Creek

View of multiple habitats along S-154. Photo is facing southwest.

Photograph 13

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent, Intertidal Flat, Tidal Creek

View of multiple habitats adjacent to S-154. Photo is taken along the SB lane of S-154 facing south.

Photograph 14

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent, Intertidal Flat, Tidal Creek

View of multiple habitats adjacent to S-154. Photo is taken along the SB lane of S-154 facing west.

Photograph 15

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent

View of estuarine emergent habitat along NB lane of S-154. Photo is facing north near the intersection of S-154 and Dogwood Drive N.

Photograph 16

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent, Tidal Creek

View of multiple habitats adjacent to S-154. Photo is taken along the NB lane of S-154 facing north.

Photograph 17

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent, Intertidal Flat, Tidal Creek

View of multiple habitats adjacent to S-154. Photo is taken along the NB lane of S-154 facing north.

Photograph 18

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent, Intertidal Flat, Tidal Creek

View of multiple habitats. Photo is taken along the NB lane of S-154 facing north towards the S-154 bridge.

Photograph 19

Date: 01/10/2024

Taken By: R. Chandler

Estuarine Emergent, Intertidal Flat, Tidal Creek

View of multiple habitats. Photo is taken along the NB lane of S-154 facing northeast.

Photograph 20

Date: 01/10/2024

Taken By: R. Chandler

Tidal Creek

View of the main tidal creek during low tide. Photo is taken along the SB lane of S-154 facing east.

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

Southeast Regional Office
Atlantic Highly Migratory Species Management Division

Query Results

Degrees, Minutes, Seconds: Latitude = 33º 35' 1" N, Longitude = 79º 0' 7" W
Decimal Degrees: Latitude = 33.584, Longitude = -78.998

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Sharpnose Shark (Atlantic Stock)	Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
		Clearnose Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Snapper Grouper	ALL	South Atlantic	Amendment 19 to the FMP for Snapper Grouper
		Windowpane Flounder	Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP

Pacific Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
South Atlantic Sargassum EFH, Sargassum, **South Atlantic HAPCs**, Coastal Migratory Pelagics, Golden Crab, Sargassum, **Secretarial EFH**, Bigeye Sand Tiger Shark, Bigeye Sixgill Shark, Caribbean Sharpnose Shark, Galapagos Shark, Narrowtooth Shark, Sevengill Shark, Sixgill Shark, Smooth Hammerhead Shark, Smalltail Shark

S-154 (Cypress Ave) over Tidal Swash Screening Report

Area of Interest (AOI) Information

Area : 0.66 km²

Dec 18 2023 15:34:59 Eastern Standard Time

Summary

Name	Count	Area(km²)	Length(km)
Coastal Migratory Pelagics EFH	0	0	N/A
Coastal Migratory Pelagics EFH-HAPC	0	0	N/A
Coral EFH	1	0.29	N/A
Coral EFH-HAPC	0	0	N/A
Dolphin-Wahoo EFH	0	0	N/A
Dolphin-Wahoo EFH-HAPC	0	0	N/A
Golden Crab EFH	0	0	N/A
Shrimp EFH	1	0.14	N/A
Shrimp EFH-HAPC	0	0	N/A
Snapper Grouper EFH	0	0	N/A
Snapper Grouper EFH-HAPC	0	0	N/A
Spiny Lobster EFH	1	0.01	N/A
Spiny Lobster EFH-HAPC	0	0	N/A
Tilefish EFH-HAPC	0	0	N/A

Coral EFH

#	type	Area(km²)
1	HardBottom-Shllw Wtr	0.29

Shrimp EFH

#	type	Area(km²)
1	Estuarine Emergent Wtlnd	0.14

Spiny Lobster EFH

#	type	Area(km²)
1	Cont Margin Sedmt -Sand	0.01

Appendix D- Coast Guard Permit Exclusion

U.S.Department of Transportation
Federal Highway Administration

Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

INSTRUCTIONS FOR USE

This form provides the process for FHWA's preliminary determination to make an exception under 23 U.S.C. § 144(c)(2) to Coast Guard bridge permitting authorities. It is recommended that State DOT and/or FHWA division offices complete this form.

Section V of the 2014 USCG-FHWA Memorandum of Agreement (MOA) provides that FHWA makes the preliminary exception determination, followed by Coast Guard review to identify issues or concerns with FHWA's preliminary determination. The preliminary determination shall be made at an early stage of project development (as soon as the information is available to the applicant) so that coordination with the local Coast Guard District Bridge Office (DBO) can be accomplished before or during environmental processing (23 CFR Part 650.805(a)).

If the DBO identifies issues or concerns with the determination of the FHWA Division Office, he/she will identify the area of concern by marking the appropriate answer in the **"DBO Concerns"** areas included in this checklist. The DBO will also include written comments **"DBO Comments"** and supporting documentation with this form and return it to the FHWA Division Office. Any disputes resulting from this exception determination process will be resolved in accordance with the Dispute Resolution Section of the 2014 USCG-FHWA MOA.

When both the DBO and FHWA Division Office agree that a 23 U.S.C. 144(c)(2) exception applies to a project, the DBO will provide written concurrence to the FHWA division office. In addition, the DBO will identify if the proposed bridge will require the establishment, maintenance, and operation of lights and signals as required by 14 U.S.C. § 85 and 33 CFR Part 118 at that time.

The use of 23 U.S.C. § 144(c)(2) exceptions cannot be delegated to state transportation agencies as part of a NEPA assignment agreement.

1. Name of waterway:

   Main Creek

2. Has the waterway at the project location determined to be navigable waters of the United States per 33 CFR Part 2.36?

   x☐ Yes ☐ No ☐ Do Not Know

   (If "**No**", then no USCG jurisdiction. If you do not know, contact DBO for confirmation of waterway status.)

3. At proposed site, mileage along waterway measured from mouth or confluence:

   4.8

4. Waterway is a tributary of Murrells Inlet at mile 4.5 (if applicable).

Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

Geographical location (city, state, county): Garden City, SC Horry County

5. Lat-Long coordinates (if known, as precise as possible):
   a. Latitude: 33 35 00.13 (N) (Example: 40° 48' 3.49" N)
   b. Longitude: -78 58 52.84 (W) (Example: -73° 47' 16.19" W)
6. Is there an existing bridge at, or near the above location?

   x☐ Yes ☐ No (if **"Yes"** please answer questions 7a-7b)
   a. Does this bridge have a USCG or Army Corps of Engineers permit?

      ☐ Yes ☐ No x☐ Do Not Know
   b. Please provide vertical and horizontal clearances at:

      ☐ Normal Pool ☐ Mean High Water x☐ Ordinary High Water

      Vertical: 2.5 (feet)

      Horizontal: 23 (feet) Datum: NAVD88
7. Is the waterway tidal (As defined by the process outlined on pages 7-8)?

   x☐ Yes ☐ No **DBO Concerns** ☐ **Yes** ☒ **No**

   DBO Comments:
8. Is the waterway used by recreational, fishing or other vessels greater than 21 feet in length?

   ☐ Yes x☐ No **DBO Concerns** ☐ **Yes** ☒ **No**

   DBO Comments:
9. Is the waterway used to transport interstate or foreign commerce? (If **Yes**, permit might be required)

   ☐ Yes x☐ No ☐ Do Not Know **DBO Concerns** ☒ **Yes** ☐ **No**

   DBO Comments:
10. Is the waterway susceptible for use in its natural condition or by reasonable improvement as a means to transport interstate or foreign commerce? (If **Yes,** permit might be required)

    ☐ Yes x☐ No **DBO Concerns** ☐ **Yes** ☒ **No**

    DBO Comments:
11. Are there any Army Corps of Engineers permitted structures (piers, docks, dams,

powerlines) on the waterway? [1] (contact USCG and/or Army Corps of Engineers to verify] (if **yes**, please attach document with names + locations (mile #))

☐ Yes ☐ No x☐ Do Not Know **DBO Concerns** ☐ **Yes** ☒ **No**

DBO Comments:

Waterway information at proposed bridge site (if available/applicable)

12. Water depth at high tide (ft):

    5.33

13. Water depth at normal pool (ft):

    4.256

14. Water depth at MLW or MLLW (ft):

    -2.96

15. Tidal range MHW to MLW or MHHW to MLLW (ft):

    4.74

16. Datum used for depths:

    NAVD88

[1] This question seeks to determine whether the Army Corps of Engineers has asserted jurisdiction over the waterway or reach thereof by the issuance of a Jurisdictional Determination, or the issuance of permits of any type including those for structures under Section 10 of the Rivers and Harbors Act (33 U.S.C. § 403), or through any other USACE permitting authority including the Clean Water Act § 404.

Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

Additional Documentation

Please include the following information when submitting to the DBO:

x☐ Location Map (8 ½" x 11")

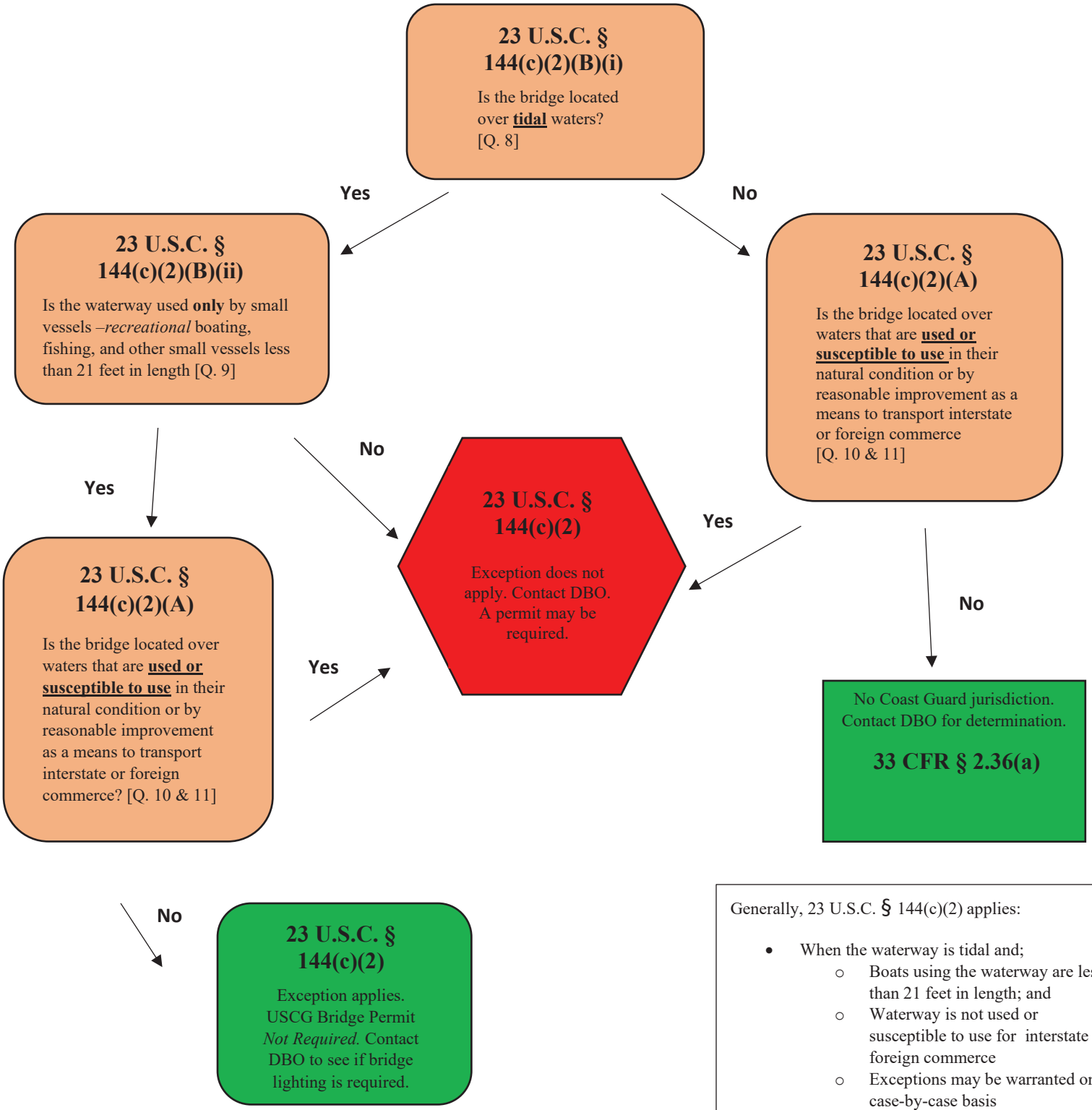
☐ Photo of existing bridge (if any) or proposed bridge location taken from the prospective of the waterway

NEXT STEP:

When both the DBO and FHWA Division Office agree that the 144(c)(2) exception applies to a project, the DBO will write a letter to that effect to the FHWA Division Office, attaching the completed checklist. In addition, in that letter the DBO will identify if the proposed bridge will require the establishment, maintenance, and operation of lights and signals as required by 14 U.S.C. § 85 and 33 CFR Part 118.

U.S.Department of Transportation
Federal Highway Administration

Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits



Generally, 23 U.S.C. § 144(c)(2) applies:

- When the waterway is tidal and;
  - Boats using the waterway are less than 21 feet in length; and
  - Waterway is not used or susceptible to use for interstate or foreign commerce
  - Exceptions may be warranted on case-by-case basis

Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

Navigable waters of the U.S. for Coast Guard Jurisdiction

When Coast Guard navigability determinations are made in accordance with 33 CFR 2.36, they will be maintained at each Coast Guard District office and available for public review. These determinations may be modified or reversed by Congress or a federal court with jurisdiction over the waterway at issue.

33 CFR 2.36(a)

(a) Except as provided in paragraph (b) of this section, *navigable waters of the United States, navigable waters,* and *territorial waters* mean, except where Congress has designated them not to be navigable waters of the United States:

(1) Territorial seas of the United States;

(2) Internal waters of the United States that are subject to tidal influence; and

(3) Internal waters of the United States not subject to tidal influence that:

(i) Are or have been used, or are or have been susceptible for use, by themselves or in connection with other waters, as highways for substantial interstate or foreign commerce, notwithstanding natural or man-made obstructions that require portage, or

(ii) A governmental or non-governmental body, having expertise in waterway improvement, determines to be capable of improvement at a reasonable cost (a favorable balance between cost and need) to provide, by themselves or in connection with other waters, as highways for substantial interstate or foreign commerce.

Assessment and Response Checklist and Flowchart for Applying 23 U.S.C. § 144(c)(2) exceptions to Coast Guard Bridge Permits

Process for Determining "Tidal Waters" for 144(c)(2) Exceptions

1. 23 U.S.C. § 144(c)(2) provides that a Coast Guard bridge permit is not required for projects that are over waters which are:

   a) **Not used and are not susceptible to** use in the natural condition of the bridge or by reasonable improvement as a means to transport interstate or foreign commerce; **and** are
   b) Not tidal; or
   c) If tidal, used by only recreational boating, fishing, and other small vessels that are less than 21 feet in length.

2. If 23 U.S.C. § 144(c)(2)(a) criteria are not met, the exception does not apply. As such, the tidal status of a waterway has no impact on a 23 U.S.C. § 144(c)(2) exception determination.
3. To determine whether a waterway is "tidal" for the purposes of the above statute, the coast Guard District Bridge Office with jurisdiction over the project will accept any of the below sources of information as sufficient to establish the tidal status of the reach of waterway in question. These determinations may be done as part of a 23 U.S.C. § 144(c)(2)(b) or (c) determination in consultation and concurrence with the applicant and Federal Highway Administration Office:
   a. Data from a NOAA Tidal Datum/Buoy, U.S. Army Corps of Engineers Tide Gauge, or other Federally-maintained data collection system showing such data that quantitatively evinces tidal influence in the project area as defined in 33 CFR § 2.34, or,
   b. A report from an official "state hydrologist" or other analogous official employed by the state government wherein the project lies, or,
   c. Physically-observable and recordable visual evidence of a "high tide line" including, but limited to:
      i. A line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying in a hurricane or other intense storm. (33 CFR § 328.3)

4. Any disputes resulting from or related to the above determination process shall be resolved per the Dispute Resolution section of the 2014 USCG-FHWA Memorandum of Agreement

U.S. Department of Homeland Security
United States Coast Guard

Commander
Seventh Coast Guard District

909 SE 1ST Ave. Ste 432
Miami, FL 33131-3028
Staff Symbol: (dpb)
Fax: (305)415-6763
Email:
Lisia.j.kowalczyk2@uscg.mil

16591
January 23, 2024

Federal Highway Administration
Attn: Mr. Jeffrey Belcher
1835 Assembly Street, Suite 1270
Columbia, SC 29201

Delivered via email: Jeffrey.Belcher@dot.gov

Dear Mr. Belcher:

In response to the 144c checklist received on January 18, 2024 regarding Coast Guard bridge permitting on the S-154 over Main Creek, we have evaluated the proposed bridge project for the factors specified in 23 U.S.C. 144(c)(2) and concur with the finding that a Coast Guard permit is not required.

Although this project will not require a bridge permit, we do require certain information to ensure we have accurate records for all bridges across this waterway. Please submit photographs and as-built drawings of both plan and elevation views of the bridge upon completion of the project. Plans should be in the standard 8 ½ x 11 inch format. The drawings, along with the enclosed Completion Report Form, must indicate the vertical clearance from ordinary high water to the lowest portion of the bridge and horizontal clearance, pier face to pier face, or bank to bank, in the main navigation span.

In addition, the requirement to display navigational lighting at the aforementioned bridge is hereby waived as per Title 33 Code of Federal Regulations, Part 118.40(b). This waiver may be rescinded at anytime in the future should nighttime navigation through the proposed bridge be increased to a level determined by the District Commander to warrant lighting.

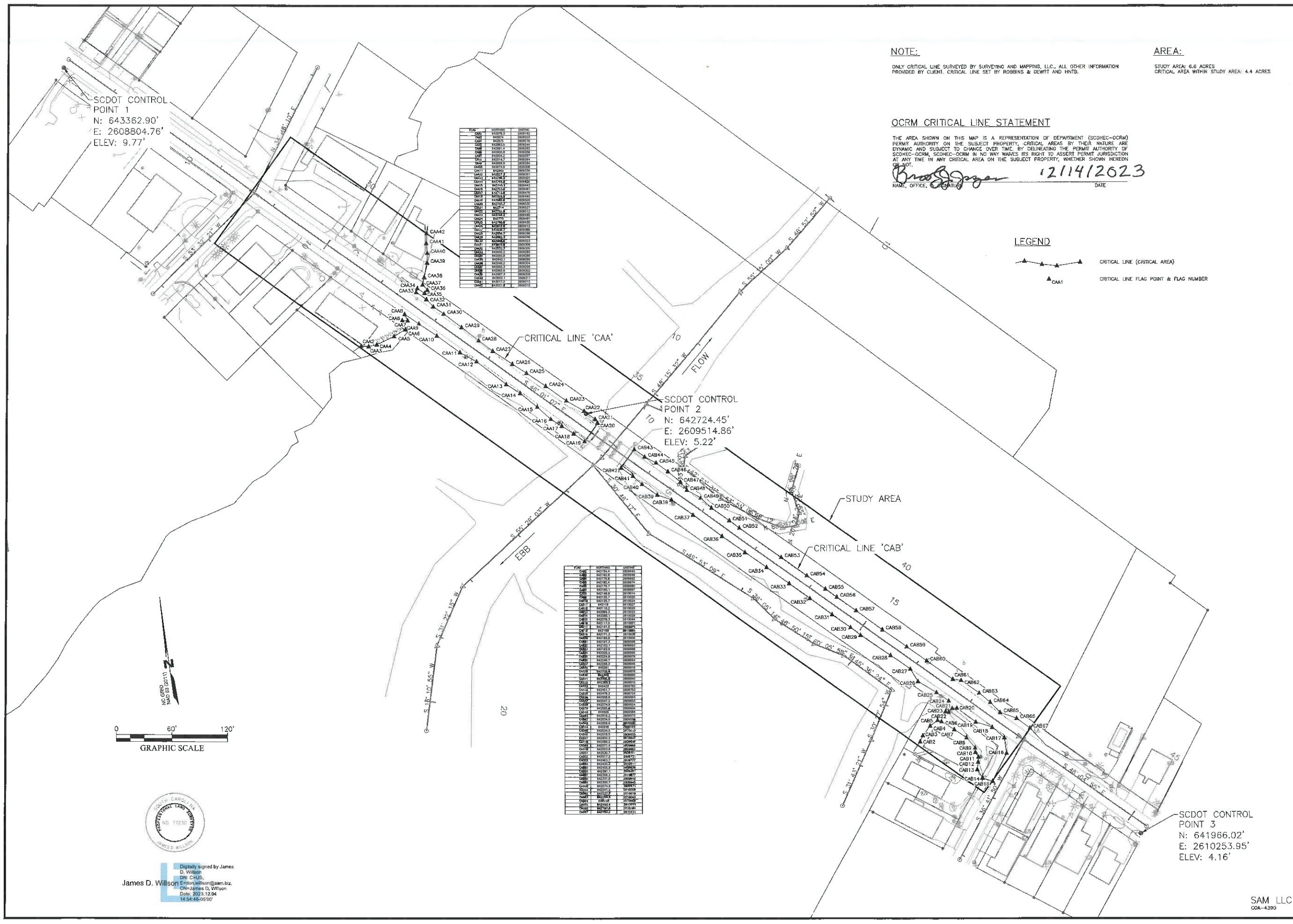
If you have any further questions concerning this determination, please contact my representative Ms. Lisia J. Kowalczyk by email at lisia.j.kowalczyk2@uscg.mil

Sincerely,

Bridge Management Specialist
District 7 US Coast Guard

Encl: Completion Form

Appendix E- Critical Area Plat



NOTE:

ONLY CRITICAL LINE SURVEYED BY SURVEYING AND MAPPING, LLC., ALL OTHER INFORMATION PROVIDED BY CLIENT. CRITICAL LINE SET BY ROBBINS & DEWITT AND HNTB.

AREA:

STUDY AREA: 6.6 ACRES
CRITICAL AREA WITHIN STUDY AREA: 4.4 ACRES

OCRM CRITICAL LINE STATEMENT

THE AREA SHOWN ON THIS MAP IS A REPRESENTATION OF DEPARTMENT (SCDHEC-OCRM) PERMIT AUTHORITY ON THE SUBJECT PROPERTY. CRITICAL AREAS BY THEIR NATURE ARE DYNAMIC AND SUBJECT TO CHANGE OVER TIME. BY DELINEATING THE PERMIT AUTHORITY OF SCDHEC-OCRM, SCDHEC-OCRM IN NO WAY WAIVES ITS RIGHT TO ASSERT PERMIT JURISDICTION AT ANY TIME IN ANY CRITICAL AREA ON THE SUBJECT PROPERTY, WHETHER SHOWN HEREON OR NOT.

[signature] 12/14/2023
NAME, OFFICE, & SIGNATURE — DATE

LEGEND

CRITICAL LINE (CRITICAL AREA)
CAA1 — CRITICAL LINE FLAG POINT & FLAG NUMBER

AN OCRM CRITICAL LINE MAP
OF CRITICAL AREAS LYING WITHIN, ALONG, & CROSSING THROUGH SCDOT 'S-24-154'
SURVEYED FOR SCDOT, AND LOCATED IN THE TOWN OF MURRELLS INLET, HORRY COUNTY, SOUTH CAROLINA

SHEET 1 OF 1

PROJECT: HNTB CORPORATION — SCDOT - CRITICAL AREAS

JOB NUMBER:	1022075105
DATE:	10/24/2023
SCALE:	1" = 60'
SURVEYOR:	JAMES D. WILLSON
TECHNICIAN:	VICTORIA REYNOLDS
DRAWING:	CRITICAL AREA FLAGS.DWG
TRACT ID:	
PARTYCHIEF:	
FIELDBOOKS:	

REVISION NO: DATE:

SAM
2641-116 Sumner Blvd.
Raleigh, NC 27616
Ofc: 919.878.7466
email: info@sam.biz

Appendix F- Bridge Replacement Scoping Risk Assessment Form

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

COUNTY: Horry DATE: 02/14/2024

ROAD #: S-154 STREAM CROSSING: Murrells Inlet Creek

Purpose & Need for the Project:

This project's purpose 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 1997. According to the SCOOT Structure Inventory and Appraisal Report from July 2020, the bridge has a sufficiency rating of 32.40 out of a possible 100. The bridge is currently open to traffic. The proposed 1.8 mile detour would direct traffic around the project site down the adjacent road, Atlantic Avenue.

I. FEMA Acknowledgement

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

Panel Number: 45051C0803K 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: The bridge is located in a FEMA flood zone AE with BFE = 14. Preliminary analysis indicates the proposed bridge will satisfy all SCDOT criteria for determining a finding of "No Impact."

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

Justification:

IV. Preliminary Bridge Assessment

A. Locate Existing Plans

a. Bridge Plans ☑ Yes ☐ No File No. 26.918 Sheet No. 6 (See Attached)

b. Road Plans ☑ Yes ☐ No File No. 26.918 Sheet No. 7-8 (See Attached)

B. Historical Highwater Data

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

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

c. Existing Plans ☑ Yes ☐ No See Above

V. Field Review

A. Existing Bridge

Length: 69 ft. Width: 30.4 ft. Max. span Length: 23 ft.

Alignment: ☑ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☑ No Angle: _____

End Abutment Type: Spill Through

Riprap on End Fills: ☑ Yes ☐ No Condition: Good

Superstructure Type: Concrete Deck

Substructure Type: RC Caps with Prestressed Concrete Piles

Utilities Present: ☑ Yes ☐ No

Describe: One 8" water line and one 12" pipe on TT post not attached to bridge.

Debris Accumulation on Bridge: Percent Blocked Horizontally: <5% %

Percent Blocked Vertically: <5% %

Hydraulic Problems: ☐ Yes ☑ No

Describe:

V. Field Review (cont.)

B. Hydraulic Features

a. Scour Present: ☐ Yes ☑ No Location: _____

b. Distance from F.G. to Normal Water Elevation: 8.3 ft.
c. Distance from Low Steel to Normal Water Elev.: 4.6 ft.
d. Distance from F.G. to High Water Elevation: 2.7 ft.
e. Distance from Low Steel to High Water Elev.: 0.0 ft.

f. Channel Banks Stable: ☑ Yes ☐ No
Describe:

g. Soil Type: Silty Clay Loam

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.

Bridge lies in a marshy area several hundred feet away from the nearest structure. No impact to surrounding structures or properties.

C. Existing Roadway Geometry

a. Can the existing roadway be closed for an On-Alignment Bridge Replacement
☑ Yes ☐ No
Describe:

A suitable detour was identified.

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

yes

If "No", will the proposed bridge be:
☐ Staged Constructed
☐ Replaced on New Alignment

VI. Field Review (cont.)

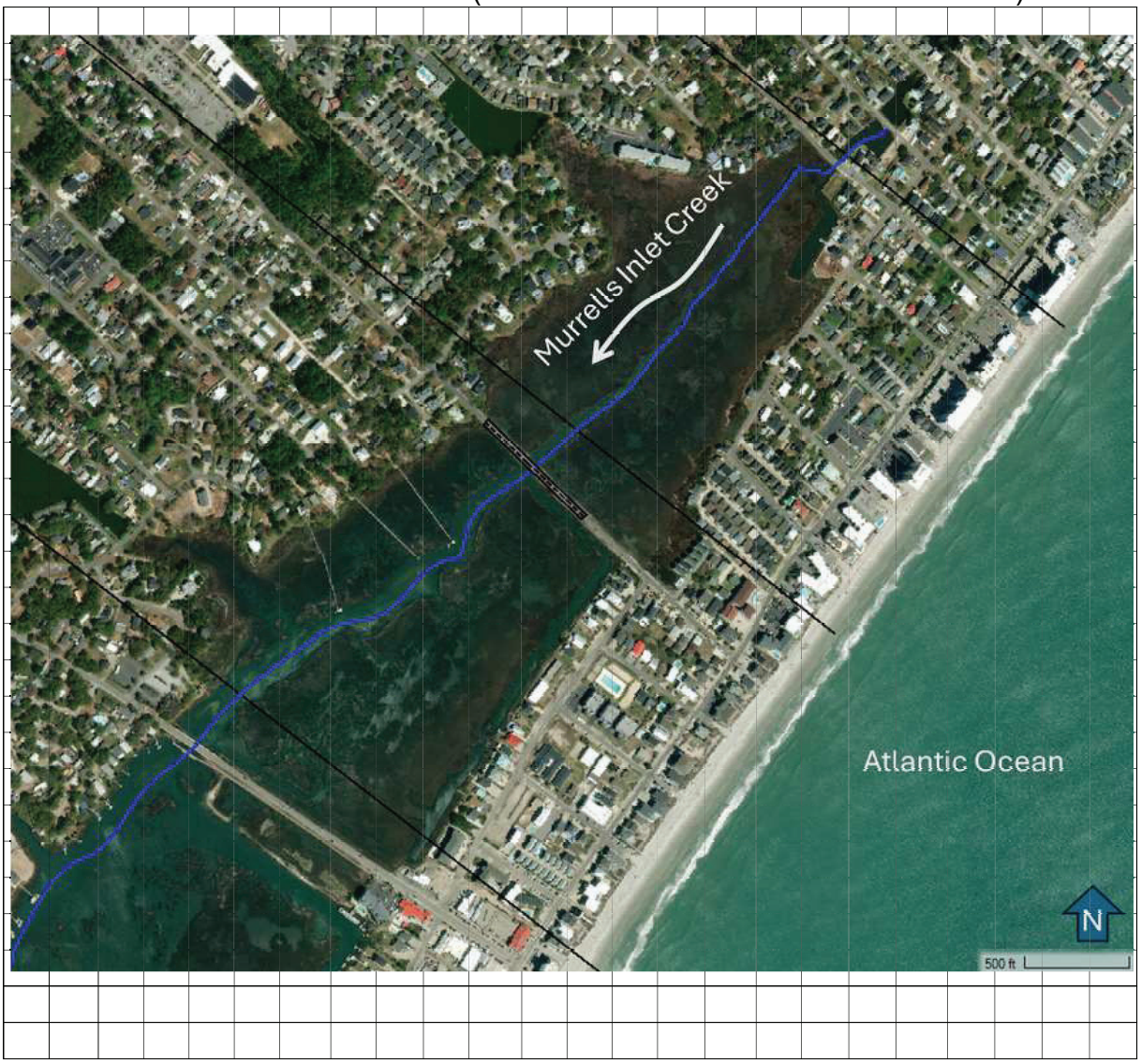
A. Proposed Bridge Recommendation:

Length: 69 ft. Width: 30.4 ft. Elevation: 5.89 ft.

Span Arangement: 23' - 23' - 23'

Notes: This bridge is not being proposed for replacement. The existing structure will be repaired. The finished grade is being raised by 1" (one inch) to accommodate a deeper superstructure. The existing bridge substructure will be retained and rehabilitated.

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



Performed By: [signature]

Title: Project Manager

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

The Zone AE category has been divided by a **Limit of Moderate Wave Action** (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the Zone VE and the LiMWA (or between the shoreline and the LiMWA for areas where the Zone VE is not identified) will be similar to, but less severe than, those in the Zone VE.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Lambert Conformal Conic State Plane South Carolina FIPS 3900. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by Horry County, South Carolina.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

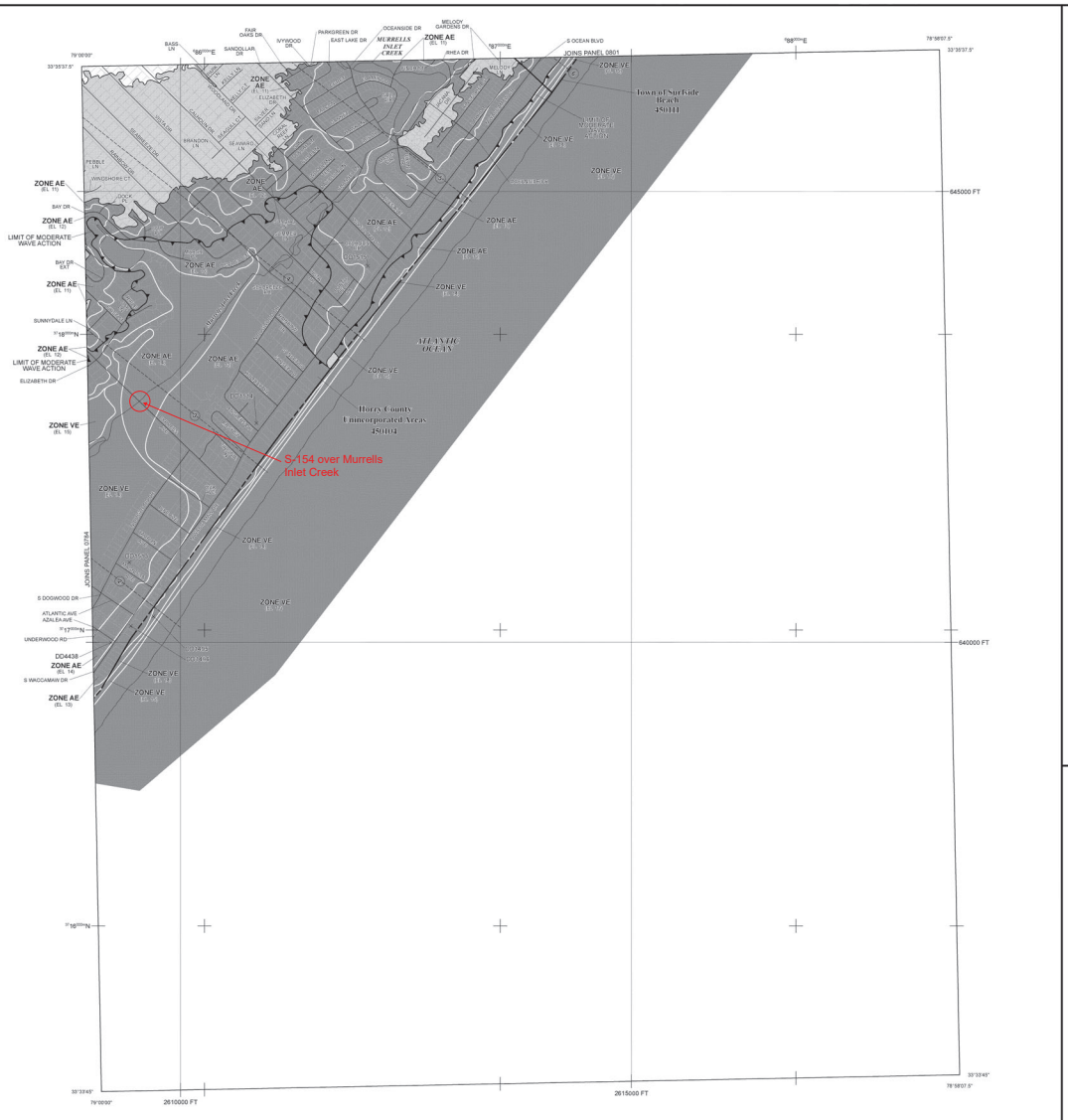
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the **FEMA Mapping and Insurance eXchange** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service website at https://www.msc.fema.gov/. Available products may include previously issued Letters of Map Change, a Flood Insurance Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Mapping and Insurance eXchange.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

DNR

This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of South Carolina and the Federal Emergency Management Agency (FEMA). The State of South Carolina has implemented a long term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map floodplain areas at the local level. As a part of this effort, the state of South Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

http://www.dnr.state.sc.us/



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

Floodplain boundary
Floodway boundary
Zone D boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
Limit of Moderate Wave Action
513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A — Cross section line
23 — 23 — Transect line
97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4275000mE — 1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT — 5000-foot grid values: South Carolina State Plane coordinate system (FIPSZONE = 3900), Lambert projection
DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
SEPTEMBER 30, 1992

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
April 2, 1997 - to change zone designations and base flood elevations
September 5, 1995 - to change zone designations and base flood elevations in unnamed unincorporated areas
June 15, 1994 - to increase base flood elevations, to change special flood hazard areas, to reflect updated topographic information and to add Coastal Barrier Resources System units
August 23, 1993 - to change zone designations and base flood elevations in special flood hazard areas, to update map format, to add roads and road names, to incorporate previously issued letters of map revision and to modify Coastal Barrier Resources System units
December 16, 2021 - to update corporate limits, to change zone designations, to add Base Flood Elevations, to change Special Flood Hazard Areas, to change zone designations, to add roads and road names, to incorporate previously issued Letters of Map Revision, and to reflect updated topographic information

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

200 0 200 400 600 800 1,000 FEET
100 0 100 200 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0803K

FIRM

FLOOD INSURANCE RATE MAP

HORRY COUNTY, SOUTH CAROLINA AND INCORPORATED AREAS

PANEL 803 OF 803

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HORRY COUNTY	450104	0803	K
SURFSIDE BEACH, TOWN OF	450111	0803	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
45051C0803K

MAP REVISED
DECEMBER 16, 2021

Federal Emergency Management Agency

Appendix G- 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

This project's purpose 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 1997. According to the SCOOT Structure Inventory and Appraisal Report from July 2020, the bridge has a sufficiency rating of 32.40 out of a possible 100. The bridge is currently open to traffic. The proposed 1.8 mile detour would direct traffic around the project site down the adjacent road, Atlantic Avenue.

A. Narrative Describing Purpose and Need for Project
   a. Relevant Project History:
   b. General Project Description and Nature of Work (attach Location and Project Map):
   c. Major Issues and Concerns:

The primary purpose of the project is to restore all components to good conditions. Roadway improvements are limited to those associated with accommodating repairs. The project crosses Swash Creek which is shown on the Flood Insurance Rate Map (FIRM) Panel 45051C0803K. Swash Creek is within a designated Special Flood Hazard Area Zone AE in the vicinity of the Project. The project is not expected to be a significant or longitudinal encroachment as defined under 23 CFR 650A, nor is it expected to have an appreciable environmental impact on the base flood elevation. In addition, the project would be developed to comply with all appropriate floodplain regulations and guidelines.

B. Are there any floodplain(s) regulated by FEMA located in the project area?
   Yes☒ No☐

C. Will the placing of fill occur within a 100-year floodplain?
   Yes☒ No☐

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

The roadway finished grade will be raised by 1 inch to accommodate a 1" deeper superstructure. The existing substructure will be retained and rehabilitated.

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

Not Applicable.

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 only repair the existing bridge.

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

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

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

The existing bridge will only undergo repairs to fix damaged structural components; minimal to no impact to surrounding floodplain.

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

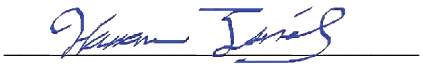
Not Applicable

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

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

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

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



SCDOT Hydraulic Engineer

_____14 February 2024___

Date

Appendix H- Public Involvement and Comments

Bridge Package 18

Design-Build Project

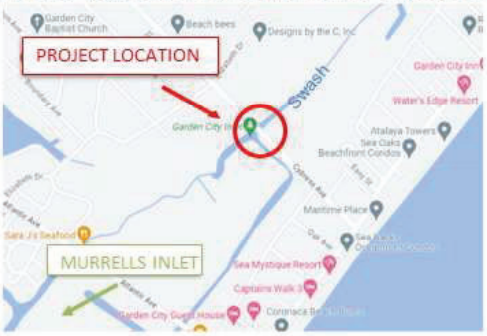
Horry County

Share Your Feedback

Project Description

SCDOT proposes to reconstruct two existing bridge structures and construct the roadway to meet current design and safety standards in Horry county. This card is to let you know about the bridge reconstruction near your residence or business. Please provide comments by phone, email, or by visiting the website. You can scan the QR code below or enter the address found on the reverse side of this postcard to access the website.

S-26-154 (Cypress Ave) Swash Creek Project Area



Scan QR code to visit project web page.

Estimated Project Schedule

- Construction start: 2025
- Construction duration: ~24 Months

Project Manager

Michael Pitts, PE
Phone: 803-737-2566
Email: pittsME@scdot.org

Comments for S-26-154 proposed bridge rehabilitation will be accepted until February 29, 2024.

SCDOT
South Carolina Department of Transportation

SCDOT
South Carolina Department of Transportation

TARGET ZERO Traffic Deaths

SCDOT Environmental Services Offices
PO Box 191
Columbia, SC 29202

PRSRT STD
ECRWSS
U.S.POSTAGE
PAID
EDDM Retail

LOCAL POSTAL CUSTOMER

SCDOT is hosting a website with online project information for Design-Build bridge rehabilitation projects (Replacement Package 18).

Visit the Project Website to comment on S-26-154 (Cypress Ave) over Swash Creek

Comment Period: 1/30/24 – 2/29/24

Contact Us!

803-737-2566
PittsME@scdot.org
https://scdotgis.online/CLRB-Package18

Figure 1. S-154 Project Postcard

Figure 2. S-154 Project Comment Period Yard Sign

Design-Build Project

Bridge Rehabilitation over Swash Creek

Project ID: P041158 | Horry County

SCDOT proposes to rehabilitate the S-26-154 (Cypress Avenue) Bridge over Swash Creek in Horry County to correct the load restriction as well as restore all bridge components to good condition.

Open Comment Period

We encourage you to review all informational displays that have been published online and share your input!

The comment period is from January 30 – February 29, 2024.

Share Your Feedback!

PittsME@scdot.org

803-737-2566

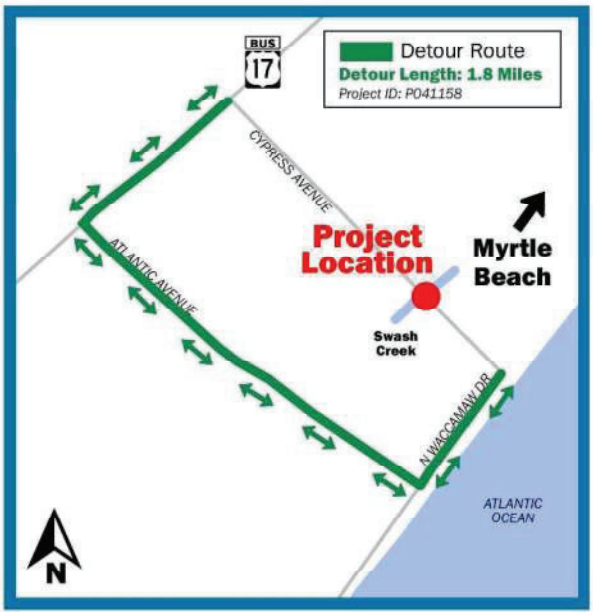
SCDOT Environmental Services
PO Box 191, Columbia, SC 29202

https://scdotgis.online/CLRB-Package18

Scan QR code to visit project web page.

Comments will be accepted until February 29, 2024!

Potential Detour



An off-site detour may be utilized during construction. The bridge is currently open to traffic.

SCDOT
South Carolina Department of Transportation

Figure 3. S-154 Project Comment Period Flyer

Table 1. Public Comments and SCDOT Responses

Full Name	Email	Zip Code	Receive Response?	Comment	Draft Comment Response
Joe Troy	Relicsjoe@aol.com	29576	Yes	Hello Mr. Pitts, I reside in the South Marsh Community only a short distance from the proposed bridge reconstruction referenced by S-26-154. I would like to comment on an existing problem which is a known danger to residents in this area who walk, bike and jog across the existing bridge on Cypress. The problem is the lack of space between the bridge wall and the road. I myself have had a vehicle come within inches of me as I walked across the bridge and I can cite numerous cases from neighbors etc. with similar experiences. My suggestion is to provide a walkway/ bike path to be installed which would go around the outside wall of the new bridge in an effort to avoid a serious accident and of course possible subsequent legal issues. The walkway could even be a simple wooden bypass to keep costs minimal assuming the new bridge would be concrete and would only need to be slightly longer than the length of the new bridge. I appreciate your consideration in this matter.	Mr. Troy, Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include the addition of dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. We appreciate your interest and feedback on the proposed project.
Sanford Graves	sanfordgravespa@gma	29576	Yes	Mr. Pitts - I received a mailer for this project from SCDOT which included your information as the Project Manager. Please know that I scanned the QR code, and was offered the opportunity to offer input, but I don't precisely know the project scope or goals. I concluded that an email to you would be better for me. Please know that I am a descendant of Sanford D. Cox, Sr. who historically owned much of the area between Highway 17 and the marsh from Boundary Avenue across Cypress, and other property on the beach side across the marsh including land served by Waccamaw Drive and Dogwood (including the land currently occupied by the Garden City Chapel). At the end of Pine Avenue, the Horry County government established a public park in his honor. [I'm told by older family members that this land acquisition was a part of a land swap with the US Department of War who wanted land owned by Mr. Cox in what is now Carolina Forest for their bombing range]. Mr. Cox was a land surveyor and a great citizen. He felt very strongly that the street ends along Waccamaw Drive should be reserved for public access and the beach accesses currently enjoyed along our south strand are the product of his original land mapping and donations to the public. He also loved his family, and in addition to naming Elizabeth Drive after his youngest daughter, he managed to, over time, pass-on small land interests to his numerous descendants. I can remember when the current bridge over the marsh on Cypress was constructed around 1978 to replace the original bridge. I can remember my school bus having to go around "the long way" to get between my bus stop on Elizabeth Drive to my bus-mate's stop at Atlantic Avenue and Dogwood. To the business at hand concerning the replacement of the bridge, please mark me in favor. I have seen the rusted rebar hanging beneath the existing structure and the potential health and safety issues that accompany decaying infrastructure. I do, however, have some opinions I would like to share with the likely scope of the bridge-only project itself, and the potential need for upgrades on the causeway leading to the bridge. 1) Any replacement bridge should allow for public access to the creek from the bridge structure. Currently, there are signs which indicate "no fishing from bridge". For safety and other reasons this is appropriate (although regularly ignored) based	Mr. Graves, Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include dedicated bicycle and pedestrian features at this time. Further, SCDOT conducted an extensive environmental review that examined impacts to the local environment and community when evaluating the design alternatives. Based on the findings of this environmental review, which examined potential impacts to wetlands, waterways, and other resources, SCDOT does not anticipate adverse impacts to the local wetlands and waterways in the area as a result of the project. However, SCDOT will coordinate with agencies like the US Army Corps of Engineers and SC Department of Health and Environmental Control on permitting and project coordination to monitor and minimize any impacts that may occur. Your feedback on been reviewed and logged in the project record. We appreciate your interest and feedback on the proposed project.
Sandra Barber	retsof806@aol.com	29576	Yes	Is there a plan to provide a walk way , like on Atlantic with the new bridge update? Or sidewalks?	Ms. Foster, Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include the addition of dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. We appreciate your interest and feedback on the proposed project.

Full Name	Email	Receive Response?	Comment	Draft Comment Response
Cindy Mader	incnzing@comcast.net	No	Please be sure to provide adequate walkways along Cypress Ave bridge. Currently it is not safe for residences to walk to and from the beach.	Ms. Mader, Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include the addition of dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. We appreciate your interest and feedback on the proposed project.
Michael C Mixon	sftail1998@yahoo.com	Yes	I support this project because it is a vital road during the King Tide which closes the Atlantic Ave Bridge. I am a Crane Operator that has extensive bridge building/ rehabilitation experience. It's less than a mile from my residence and would love the be a part of it once a contractor is selected. Please let me know who the contractor is at that time so I may inquire about employment on this project. Have a Blessed day!	Mr. Mixon, Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Your comment has been reviewed and logged by the project team. We appreciate your interest and feedback on the proposed project.
Elizabeth Haskins	elizabeth.kade@gmail.co	Yes	The bridge needs protected pedestrian passage. It's a very dangerous narrowing spot for the cars headed towards the beach and the large number of pedestrians on this road. At a minimum the bridge needs to be wider to allow cars and pedestrians at the same time.	Ms. Haskins, Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. We appreciate your interest and feedback on the proposed project.

Nicole Weirich

From: Pitts, Michael E. <PittsME@scdot.org>
Sent: Monday, March 25, 2024 1:44 PM
To: Relicsjoe@aol.com
Cc: McGoldrick, Will; Nicole Weirich
Subject: SCDOT Public Comment Response - S-26-154

Mr. Troy,

Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include the addition of dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. We appreciate your interest and feedback on the proposed project.

Thank you,

LEAD 2024 Facilitating SUCCESS

Michael E. Pitts, P.E., Assoc. DBIA
Alternative Delivery Program Manager
O 803.737.2566 **M** 803.413.9316 **E** pittsme@scdot.org
955 Park Street, P.O. Box 191, Columbia, SC 29202-0191

From:	Sanford Graves
To:	Pitts, Michael E.
Cc:	Sanford Graves
Subject:	S-26-154 (Cypress Ave) Swash Creek Project [Bridge Package 18]
Date:	Saturday, January 27, 2024 11:31:05 AM

Mr. Pitts -

I received a mailer for this project from SCDOT which included your information as the Project Manager. Please know that I scanned the QR code, and was offered the opportunity to offer input, but I don't precisely know the project scope or goals. I concluded that an email to you would be better for me.

Please know that I am a descendant of Sanford D. Cox, Sr. who historically owned much of the area between Highway 17 and the marsh from Boundary Avenue across Cypress, and other property on the beach side across the marsh including land served by Waccamaw Drive and Dogwood (including the land currently occupied by the Garden City Chapel). At the end of Pine Avenue, the Horry County government established a public park in his honor. [I'm told by older family members that this land acquisition was a part of a land swap with the US Department of War who wanted land owned by Mr. Cox in what is now Carolina Forest for their bombing range]. Mr. Cox was a land surveyor and a great citizen. He felt very strongly that the street ends along Waccamaw Drive should be reserved for public access and the beach accesses currently enjoyed along our south strand are the product of his original land mapping and donations to the public. He also loved his family, and in addition to naming Elizabeth Drive after his youngest daughter, he managed to, over time, pass-on small land interests to his numerous descendants.

I can remember when the current bridge over the marsh on Cypress was constructed around 1978 to replace the original bridge. I can remember my school bus having to go around "the long way" to get between my bus stop on Elizabeth Drive to my bus-mate's stop at Atlantic Avenue and Dogwood.

To the business at hand concerning the replacement of the bridge, please mark me in favor. I have seen the rusted rebar hanging beneath the existing structure and the potential health and safety issues that accompany decaying infrastructure. I do, however, have some opinions I would like to share with the likely scope of the bridge-only project itself, and the potential need for upgrades on the causeway leading to the bridge.

1) Any replacement bridge should allow for public access to the creek from the bridge structure. Currently, there are signs which indicate "no fishing from bridge". For safety and other reasons this is appropriate (although regularly ignored) based on the minimal amount of space between the side of the bridge and the fog line. I would like for the replacement bridge design to include enough of a skirt over the water to allow for people to sit/stand/fish/crab/cast net. I recognize the existence of the SCDOT bridges at the Pawleys Island and Litchfield Beach accesses which offer some additional space, although I would want to see an even

larger shoulder/skirt area as a part of this project.

2. Any alteration of the marsh causeway from Elizabeth Drive to Dogwood should ALLOW for the free flow of tide water over and across the improved roadway during king tides and other high-water events. The current, but irregular, overflow condition has become a part of the culture and history of the local community. It is enjoyable to predict and it is fun to watch. No commerce is materially impeded, and easy detours are convenient and available. Since my house was built in 1976, I have never seen any vehicle go into the creek, nor seen anyone injured or placed in extreme danger by such events. The absolute worst I have seen is a stalled vehicle. Recent public safety efforts to warn or block travelers are appropriate, and the investment in additional warning systems would be much more cost effective than the expense of raising the road surface. Additionally, and perhaps most importantly, any raising of the road surface which impedes the flow of water during storms or extreme high tide events will create primary and secondary issues of its own which will not be considered as improvements. Your engineers and hydrologists know that the water only crosses the roadway now when it needs relief from over pressure and flow capacity limits. If the roadway is raised in a damming manner, all the incoming water seeking the free space in the adjoining natural creek area will be forced into the relatively small opening under the bridge: Restricting significant incoming flows will block a material amount of water from an area of marshland that could naturally accept and accommodate such flows for the short time frames typically associated with a tide-cycle or tropical weather event. The water that is not allowed to dissipate will back-up and rise. I would anticipate increased flooding on Atlantic Avenue (and on the marshfront properties along (and across) Dogwood and Elizabeth) as a result. This would increase the number of people, businesses, and property that could be negatively impacted, and in my opinion, would not be considered "improvement" or a wise investment.

3. Lots of people walk/bike along the causeway. It would be a good investment to recognize the foot traffic and to provide infrastructure for access and safety of these travelers.

4. People park on the causeway. While I personally like to see it free, clear, and open from my home and yard, I also recognize the utility of providing safe parking where people are going to park anyway.

5. Cypress Avenue, as well as the State-managed portions of Elizabeth Drive and Pine Avenue, can be a virtual race track at times. It would be appropriate to study the traffic patterns on these roads to determine whether the legal speed levels and anticipated vehicle counts are being exceeded, and to take the proper steps to calm traffic through reduced speed limits, increased enforcement, or passive calming measures on the road surfaces. The local community has developed enough for DOT to recognize that the former sparsely populated and rustic environment is gone. Standards which recognize the increased population and investments call for more restrictive travel regulations. I would favor 25 mph limits on Cypress, and 15 mph limits on Elizabeth and Pine (with traffic calming installed on these more residential areas).

I am very pleased that the SC General Assembly, the local DOT officials, and other governmental bodies and agents are willing to invest tax-payer funds in upgrading our area and community. Thank you.

Thank you for your time and consideration.

Very Respectfully -

Sanford Cox Graves
520 Elizabeth Drive
Garden City Beach, SC 29576
(843) 465-9619

Nicole Weirich

From: Pitts, Michael E. <PittsME@scdot.org>
Sent: Monday, March 25, 2024 1:46 PM
To: sanfordgravespa@gmail.com
Cc: McGoldrick, Will; Nicole Weirich
Subject: S-26-154 (Cypress Ave) Swash Creek Project [Bridge Package 18]

Mr. Graves,

Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include dedicated bicycle and pedestrian features at this time. Further, SCDOT conducted an extensive environmental review that examined impacts to the local environment and community when evaluating the design alternatives. Based on the findings of this environmental review, which examined potential impacts to wetlands, waterways, and other resources, SCDOT does not anticipate adverse impacts to the local wetlands and waterways in the area as a result of the project. However, SCDOT will coordinate with agencies like the US Army Corps of Engineers and SC Department of Health and Environmental Control on permitting and project coordination to monitor and minimize any impacts that may occur.

Your feedback on been reviewed and logged in the project record. 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
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 1:47 PM
To: retsof806@aol.com
Cc: McGoldrick, Will; Nicole Weirich
Subject: SCDOT CLRB Package 18 Public Comment

Ms. Foster,

Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include the addition of dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. 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
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 1:48 PM
To: incnzing@comcast.net
Cc: McGoldrick, Will; Nicole Weirich
Subject: SCDOT CLRB Package 18 - Public Comment

Ms. Mader,

Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include the addition of dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. 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
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 1:49 PM
To: sftail1998@yahoo.com
Cc: McGoldrick, Will; Nicole Weirich
Subject: SCDOT CLRB Package 18 - Public Comment

Mr. Mixon,

Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Your comment has been reviewed and logged by the project team. 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
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 1:56 PM
To: elizabeth.kade@gmail.com
Cc: McGoldrick, Will; Nicole Weirich
Subject: SCDOT CLRB Package 18 - Public Comment

Ms. Haskins,

Thank you for your comment on the proposed rehabilitation of the Cypress Avenue Bridge over Swash Creek in Horry County, South Carolina. Safety and accessibility are important factors in all South Carolina Department of Transportation (SCDOT) projects and will be considered as the project progresses. At this time, SCDOT is proposing a rehabilitation of the existing bridge structure to meet current structural requirements. SCDOT reviewed three alternative designs for this project and determined rehabilitating the existing bridge would have minimal impacts to the environment and be cost-effective while extending service life of the bridge up to 25 years. However, the proposed rehabilitation of the existing bridge does not include dedicated bicycle and pedestrian features at this time. Your feedback on bicycle and pedestrian safety has been reviewed and logged in the project record. 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
955 Park Street, P.O. Box 191, Columbia, SC 29202-0191

Appendix I- Asbestos and Lead Paint Survey Inspection Report

Asbestos & Lead Paint Inspection Report

S-26-154 Bridge over Swash Creek

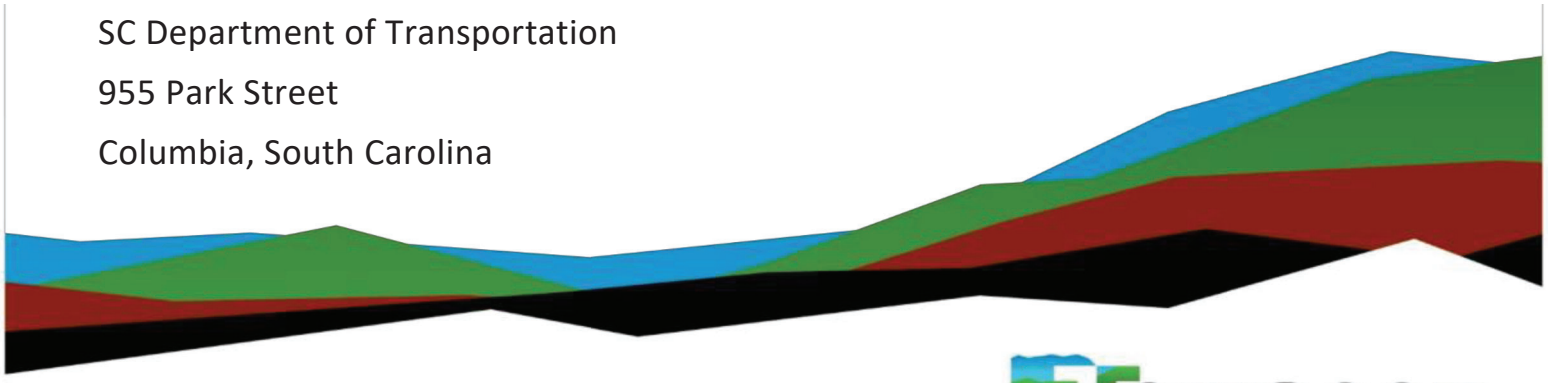
January 29, 2024 | Report Number: 7323P202

ASBESTOS DETECTED: **NO**

LEAD PAINT DETECTED: **YES**

Prepared for:

SC Department of Transportation
955 Park Street
Columbia, South Carolina



521 Clemson Road
Columbia, SC 29229
P (803) 741-9000
F (803) 741-9900
Terracon.com

January 29, 2024

SCDOT
955 Park Street
Columbia, SC 29202

Attn: Mr. Trapp Harris, P.E.

Re: Asbestos & Lead Paint Inspection Report
Bridge Package 18
S-26-154 over Swash Creek
Asset No. 09211
Horry County, South Carolina
Terracon Project No. 7323P202
SCDOT Project No. P041158
Survey Conducted: January 18, 2024

Dear Mr. Harris:

Terracon Consultants, Inc. (Terracon) is pleased to present the results of the asbestos and lead paint inspection performed on the above referenced site. We understand that this survey was requested due to the planned repair and rehabilitation of the structure.

Terracon appreciates the opportunity to provide environmental consulting services for the SCDOT. If you should have any questions regarding this report, or if you need assistance with bid documents or project oversight, please contact the undersigned at (803) 741-9000.

Sincerely,

Terracon Consultants, Inc.

Adam Chapiesky
Certified Operator

Norman E. (Gene) Partin, Jr., CHMM
Department Manager

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. The report should be reviewed in its entirety prior to making any decisions regarding this site.

Terracon Consultants Inc. (Terracon) conducted an asbestos and lead paint inspection of building materials at the S-26-154 Bridge (No. 0267015400100) over Swash Creek located in Horry County, South Carolina. The purpose of this survey was to sample and identify suspect asbestos-containing materials (ACM) and provide information regarding the identity, location, condition and approximate quantities of ACM in building components. The objective of the lead paint evaluation was to identify lead containing paint systems on building components that may require special handling and disposal considerations upon demolition of the structure.

The survey was performed on January 18, 2024 by a South Carolina Department of Health and Environmental Control (SCDHEC) licensed asbestos inspector in general accordance with our proposal and the sampling protocols established in EPA 40 CFR 763 (Asbestos Hazard Emergency Response Act, AHERA) and the SCDHEC Regulation 61-86.1 Standards of Performance for Asbestos Projects. Paint samples were collected from visible and accessible building components and paint systems and submitted to an Environmental Laboratory Accreditation Program (ELAP) approved laboratory for analysis of lead.

Three (3) bulk samples were collected from homogeneous areas of suspect ACM. Three (3) paint-chip samples were collected from the components of the structure on the site.

Findings

Laboratory analysis did not identify asbestos in any of the samples collected from the structure.

Laboratory analysis detected lead concentrations greater than 0.06% by weight in LP-3 grey paint (0.28%) associated with the paint covering up bridge graffiti on the guard rails.

Recommendations

Based on the scope of services, limitations, and findings of this assessment, Terracon recommends the following:

- A copy of this report must be submitted to SCDHEC at least ten (10) working days prior to demolition when applying for a demolition permit.

- **Dispose of lead painted debris in a Class II Landfill. -** SCDHEC regulations require that lead-painted demolition debris be disposed in a permitted Class II landfill. Landfills should be contacted to determine their specific disposal requirements. Metal components painted with lead-based paint may be recycled however the recycler should be contacted to determine their specific requirements.

- **Inform contractors and workers of presence of lead in paints -** Occupational Safety and Health Administration Lead Regulations apply to actions initiated on lead containing materials. This regulation applies to lead concentrations greater than the analytical limit of detection. This regulation provides exposure levels on airborne lead and does not reference the concentration of lead in paint or other lead-containing materials. Workers performing work on surfaces which have any lead concentration should be notified to comply with OSHA requirements. The full OSHA lead standard should be referenced for compliance.

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted an asbestos and lead paint inspection of building materials at the S-26-154 Bridge (No. 267015400100) over Swash Creek located in Horry County, South Carolina. The asbestos survey was conducted on January 18, 2024, by a South Carolina Department of Health and Environmental Control (SCDHEC) licensed building inspector.

We understand the asbestos and lead paint inspection was requested due to the planned repair and rehabilitation of the bridge.

2.0 BUILDING DESCRIPTION

The bridge deck of the structure consists of steel and concrete spans. The bridge structure has a combination of concrete and metal guardrails. The bridge deck is supported by concrete pier caps, which are located on concrete piers. The bridge structure is approximately 70 feet long and 29 feet wide.

3.0 ASBESTOS INPSECTION

The asbestos survey was conducted by SCDHEC licensed Asbestos Building Inspector Mr. Adam Chapiesky (License No. BI-001971, exp. 1/04/25). Copies of asbestos licenses are included in Appendix C. The survey was conducted on January 18, 2024, in general accordance with the sampling protocols established by EPA Regulation 40 CFR 763 Subpart E 763.86, AHERA and SCDHEC R61-86.1. A summary of survey activities is provided below.

3.1 Regulatory Overview

Environmental Protection Agency (EPA) regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation/demolition activities. NESHAP requires that potentially regulated asbestos-containing building materials be identified, classified and quantified prior to planned disturbances or demolition activities. An ACM is defined as any material containing asbestos of any type in an amount greater than one percent (1%). The asbestos NESHAP regulates asbestos fiber emissions and asbestos waste disposal practices. Under NESHAP, asbestos-containing building materials are classified as either friable, Category I non-friable or Category II non-friable ACM. Friable materials are those that, when dry, may

be crumbled, pulverized or reduced to powder by hand pressure. Non-friable materials contain asbestos fibers which have been "locked in" by a bonding agent, coating, binder or other materials so that the asbestos is bound and will not readily release fibers during normal handling or use. Category I non friable ACM includes packing materials, gaskets, resilient floor coverings and asphalt roofing products containing more than 1 percent (%) asbestos. Category II non-friable ACM are non-friable materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, Category I and Category II non-friable ACM which is in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation/demolition activities are considered regulated ACM (RACM). RACM must be removed prior to renovation or demolition activities.

In the state of South Carolina, asbestos activities are regulated by the SCDHEC under the SCDHEC Regulation 61-86.1 Standards of Performance for Asbestos Projects. The SCDHEC require that any asbestos-related activity conducted in a public building be performed by personnel licensed by the SCDHEC. The owner or operator must provide the SCDHEC with written notification of planned abatement and removal activities prior to the commencement of those activities. The SCDHEC requires 4 day notification for non-friable projects and 10 day notification for RACM projects. Asbestos abatement must be performed by SCDHEC-licensed asbestos abatement contractors. A SCDHEC-licensed Project Designer shall prepare a written abatement design for each abatement renovation project involving the removal of greater than 3,000 square, 1,500 linear, or 656 cubic feet of RACM. Third-party air monitoring must be conducted during the abatement of friable (regulated) ACM.

The SCDHEC defines a renovation as, "altering a facility or one or more facility components in any way, including the stripping or removal of RACM from any facility component." A demolition is defined as, "Wrecking or taking out any load-supporting structural member of a facility together with any related handling operations, the burning of any facility, or moving of a structure."

The Occupational Safety and Health Administration (OSHA) Asbestos Standard for Construction Industry (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers per cubic centimeter of air (0.1 f/cc). The OSHA standard classifies construction and maintenance activities, which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work. A full copy of the OSHA asbestos standard for general industry may be found at OSHA's website (www.osha.gov) and should be referenced for specific information.

3.2 Visual Assessment

Our survey activities began with visual observation of the structure to identify apparent homogeneous areas of suspect ACM. A homogeneous area consists of building materials, which appear similar throughout in terms of color, texture and date of application. Building materials which were not identified as concrete, glass, wood, masonry, metal or rubber were considered suspect ACM. Although

reasonable effort was made to survey accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids or in other concealed areas.

3.3 Physical Assessment

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the EPA as a material, which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Non-friable materials contain asbestos fibers which have been "locked in" by a bonding agent, coating, binder or other materials so that the asbestos is bound and will not readily release fibers during normal handling or use. Friability was assessed by physically touching suspect materials.

3.4 Sample Collection

Based on the results of the visual sampling, bulk samples of suspect ACM were collected in general accordance with the sampling protocols outlined in EPA Regulation 40 CFR 763 Subpart E763.86 (Asbestos Hazard Emergency Response Act, AHERA) and SCDHEC sample collection protocols. Random samples of suspect materials were collected in each homogeneous area. Bulk samples were collected using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

Three (3) bulk samples were collected from one (1) homogeneous areas of suspect ACM in the buildings. A summary of the suspect ACM samples collected during the survey is presented in Table 1. Sample locations are depicted on a Site Diagram.

3.5 Sample Analysis

Bulk samples were submitted under chain of custody to EMSL Analytical Inc. (EMSL) of Charlotte, North Carolina for analysis by Polarized Light Microscopy (PLM) with dispersion staining techniques per EPA EPA/600/R-93/116. The percentage of asbestos, where applicable, was determined by microscopical visual estimation. EMSL is accredited under the National Voluntary Laboratory Accreditation Program NVLAP (#200841-0).

Per the SCDHEC Regulation 61-86.1 Standards of Performance for Asbestos Projects, negative results for non-friable organically bound (NOB) materials such as mastics and roofing materials shall be verified with at least one TEM analysis. The additional analysis was performed by TEM in accordance with EPA/600/R-93/116 Section 2.5.5.1. No NOB materials were sampled and therefor no TEM analyses were required.

3.6 Findings

Based on the results of laboratory analyses, asbestos was not detected in any of the samples collected.

Table 1 summarizes the results of the visual inspection, assumptions, estimated quantities, and laboratory analyses. Asbestos laboratory analytical reports are included in Appendix B.

3.7 Recommendations

Based on the scope of services, limitations, and findings of this assessment, Terracon recommends the following:

- A copy of this report must be submitted to SCDHEC at least ten (10) working days prior to demolition when applying for a demolition permit.

In accordance with OSHA's Asbestos Standard, the employer shall notify affected employees and contractors of the presence and location of asbestos-containing materials and test results. A full copy of the OSHA asbestos standard for general industry may be found at OSHA's website (www.osha.gov) and should be referenced for specific information.

4.0 LEAD PAINT SAMPLING

The objective of the lead paint sampling was to identify lead containing paint systems on structural components that may require special handling and disposal considerations upon demolition of the structure. SCDHEC regulates solid waste disposal under Regulation 61-107.19 as noted below. Testing was performed to meet specific State disposal requirements and does not comply with all parts of the Occupational Health and Safety Administrations (OSHA) lead regulations. Testing to comply with OSHA regulations are not covered in our scope of work since it is the responsibility of the contractor to protect its employees.

4.1 Regulatory Overview

Lead is regulated by the EPA, SCDHEC and OSHA. The EPA and SCDHEC regulate lead use, removal, and disposal, and OSHA regulates lead exposure to workers. The EPA defines LBP as paint, varnish, stain, or other applied coating that contains lead equal to or greater than 1.0 mg/cm^2, 5,000 mg/kg, or 0.5% by dry weight as determined by laboratory analysis. The SCDHEC regulations 61-107.19 require that painted demolition debris with a lead concentration greater than 0.06% by weight be disposed in a permitted Class II landfill. For the purpose of the OSHA lead standard, lead includes

metallic lead, all inorganic lead compounds, and organic lead soaps. The complete OSHA standard for compliance can be found on OSHA's website (www.osha.gov). A synopsis of the OSHA regulations (29 CFR 1926.62) and the applicability are as follows:

The OSHA *Lead Standard for Construction* (29 CFR 1926.62) applies to all construction work where an employee may be occupationally exposed to lead. All work related to construction, alteration, or repair (including painting and decorating) is included. The lead-in-construction standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon on the method of removal and other workplace conditions. Under this standard, construction includes, but is not limited to, the following:

- Demolition or salvage of structures where lead or materials containing lead are present
- Removal or encapsulation of materials containing lead
- New construction, alteration, repair, or renovation of structures, substrates, or portions containing lead, or materials containing lead
- Installation of products containing lead
- Lead contamination/emergency clean-up
- Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed
- Maintenance operations associated with construction activities described above

4.2 Sampling and Analytical Protocol

Mr. Adam Chapiesky of Terracon conducted the lead paint (LP) sampling on January 18, 2024. The LP sampling was conducted by collecting paint chip samples. The paint chip samples were collected from painted or lacquered surfaces of structural components likely to contain LP, based on apparent date of application. The paint samples were collected down to the surface substrate so as to include any underlying paint systems in the analysis. The random paint chip samples were selected based on current paint schemes and may not be inclusive of old paint systems covered with paneling, or existing painted systems. The paint chip samples were submitted to an ELAP approved laboratory for analysis of lead by NIOSH Method 7082M (atomic absorption).

4.3 Sample Collection

Three (3) paint samples were collected from painted surfaces on the structure. Paint sampled included yellow and white stripe paint and grey paint on guard rails.

4.4 Findings

Lead was detected above the SCDHEC 0.06% regulatory limit in grey paint located on the guardrails of the bridge. Lead concentrations were determined to be 0.28% by weight in the sample.

A summary of the lead paint laboratory results is presented in Table 2. The analytical report is included in Appendix B.

4.5 Recommendations

Based on the scope of services, limitations, and findings of this assessment, Terracon recommends the following:

- **Dispose of lead painted debris in a Class II Landfill. -** SCDHEC regulations require that lead-painted demolition debris be disposed in a permitted Class II landfill. Landfills should be contacted to determine their specific disposal requirements. Metal components painted with lead-based paint may be recycled however the recycler should be contacted to determine their specific requirements.

- **Inform contractors and workers of presence of lead in paints -** Occupational Safety and Health Administration Lead Regulations apply to actions initiated on lead containing materials. This regulation applies to lead concentrations greater than the analytical limit of detection. This regulation provides exposure levels on airborne lead and does not reference the concentration of lead in paint or other lead-containing materials. Workers performing work on surfaces which have any lead concentration should be notified to comply with OSHA requirements. The full OSHA lead standard should be referenced for compliance.

5.0 LIMITATIONS / GENERAL COMMENTS

This survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the structure. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date.

This report has been prepared on behalf of and exclusively for use by SCDOT for specific application to their project as discussed. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information, which may have been used in the preparation of this report. No warranty, express or implied is made.

This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary.

TABLES

TABLE 1 - Asbestos Sample Summary
S-26-154 Bridge over Swash Creek
Horry County, South Carolina
Project No. 7323P202

HA	Approx. Quantity* (ft^2)	Samples Collected	Description	Material Location	Lab Result	Category	Condition
1	200	3	Skim coat/Grey paint	Bridge guardrails	NAD	SM	NF, Good

Notes

Due to planned demolition all materials have a high potential for disturbance

* **Quantities should not be used for bidding purposes.**
Contractors are encouraged to collect their own measurements prior to submitting bids to verify quantities provided above.

See Exhibit 2 for sample locations

HA Homogeneous Area
NAD No asbestos detected
SM Surfacing Material
NF Non-Friable
LF Linear Feet

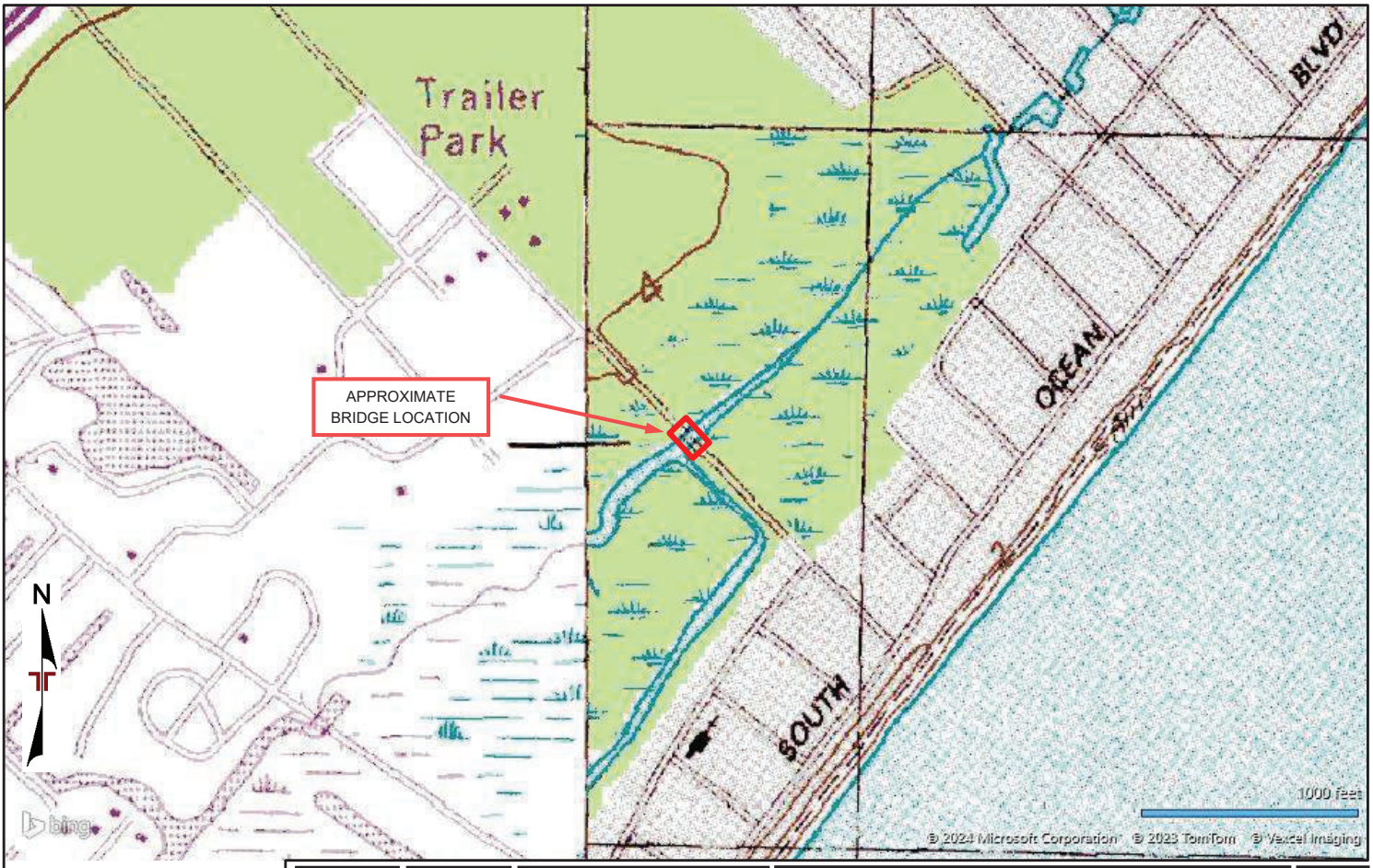
TABLE 2 - Lead Paint Sample Summary
S-26-154 Bridge over Swash Creek
Horry County, South Carolina
Project No. 7323P202

Sample Number	Description	Location	Lab Result
LP-1	Yellow	Line paint	<0.008%
LP-2	White	Line paint	<0.008%
LP-3	**Grey**	**Guardrails**	**0.28%**

Note:

Results in boldface indicate concentration above the SCDHEC regulatory limit (0.06%)

FIGURES



TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY QUADRANGLES INCLUDE: BROOKGREEN, SC (1/1/1973) and SURFSIDE BEACH, SC (1/1/1984).

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager:	ADC
Drawn by:	PTK
Checked by:	ADC
Approved by:	NEP

Project No.	7323P202
Scale:	AS SHOWN
File Name:	Exh 1
Date:	Jan 2024

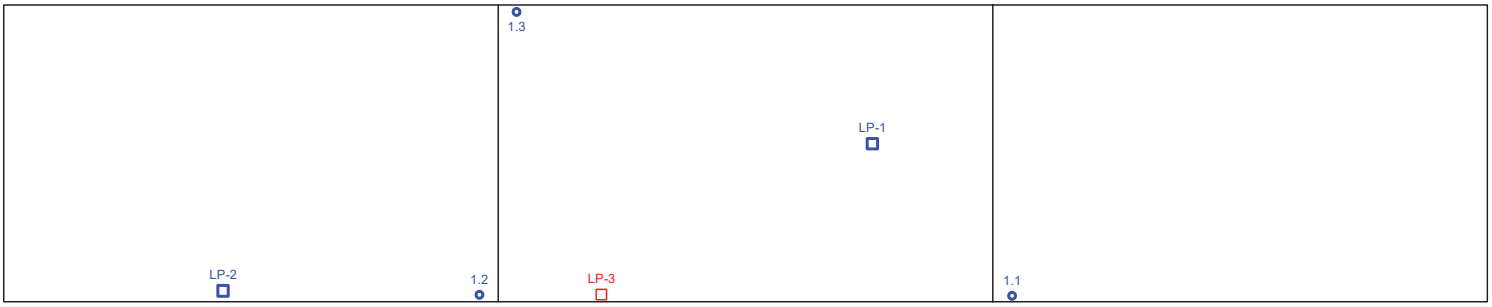
Terracon
521 Clemson Rd
Columbia, SC 29229-4307

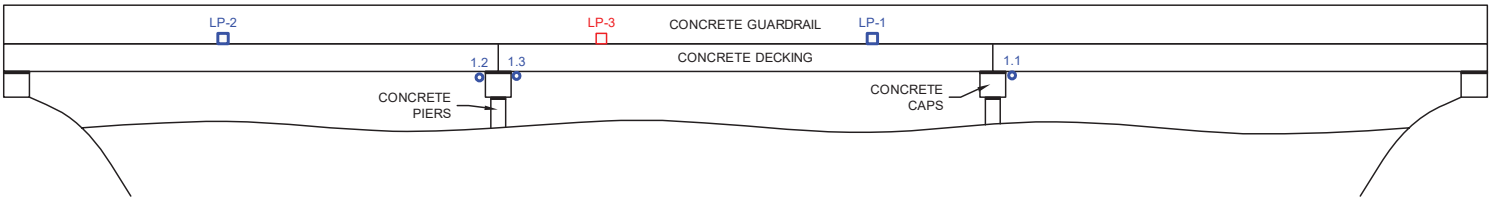
TOPOGRAPHIC MAP

S-26-154 over Swash Creek
Cypress Avenue
Horry County, South Carolina
Bridge #267015400100

Exhibit
1

PLAN VIEW





PROFILE VIEW

EXPLANATION

- POSITIVE ACM SAMPLE LOCATION
- NEGATIVE ACM SAMPLE LOCATION
- POSITIVE LEAD PAINT SAMPLE LOCATION
- NEGATIVE LEAD PAINT SAMPLE LOCATION

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Mngr:	ADC
Drawn By:	PTK
Checked By:	ADC
Approved By:	NEP

Project No.	7323P202
Scale:	NOT TO SCALE
File No.	S-26-154
Date:	JANUARY 2024

Terracon
Consulting Engineers and Scientists
521 CLEMSON ROAD COLUMBIA, SOUTH CAROLINA
PH. (803) 741-9000 FAX. (803) 741-9900

SAMPLE LOCATION PLAN

S-26-154 OVER SWASH CREEK
CYPRESS AVENUE
HORRY COUNTY, SOUTH CAROLINA
BRIDGE #267015400100

Exhibit 2

APPENDIX A

Photo Documentation

PHOTO # 1 View of the bridge facing northwest.

PHOTO # 2 View of the side of the bridge facing west.

PHOTO # 3 View of the bridge number.

PHOTO # 4 View of the bridge asset number.

PHOTO # 5 View of rubber vibration dampener between pier cap and decking, not suspect.

PHOTO # 6 View in between pier and pier cap, no material was able to be recovered from the joint.

PHOTO # 7 View of HA #1 and LP-3, material was sampled for both lead and asbestos.

PHOTO # 8 View of LP-1 yellow line paint.

PHOTO # 9 View of LP-2 white line paint.

PHOTO #

APPENDIX B

Laboratory Reports

EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

http://www.EMSL.com / charlottelab@emsl.com

EMSL Order:	412400679
Customer ID:	GAGE62
Customer PO:	7323P099
Project ID:	

Attention:	Adam Chapiesky	**Phone:**	(803) 741-9000
	Terracon Consultants, Inc.	**Fax:**	(803) 741-9900
	521 Clemson Road	**Received Date:**	01/19/2024 10:30 AM
	Columbia, SC 29229	**Analysis Date:**	01/19/2024
		Collected Date:	01/18/2024

Project: S-26-154 over Garden City Inlet/ 7323P099

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1.1-Skim Coat/Paint *412400679-0001*	Skim Coat - Gray Paint	Gray/White Non-Fibrous Heterogeneous	<1% Cellulose	10% Quartz 10% Ca Carbonate 5% Perlite 75% Non-fibrous (Other)	None Detected
1.2-Skim Coat/Paint *412400679-0002*	Skim Coat - Gray Paint	Gray/White Non-Fibrous Heterogeneous	<1% Cellulose	10% Quartz 10% Ca Carbonate 80% Non-fibrous (Other)	None Detected
1.3-Skim Coat/Paint *412400679-0003*	Skim Coat - Gray Paint	Gray/White Non-Fibrous Heterogeneous		5% Ca Carbonate 95% Non-fibrous (Other)	None Detected

Analyst(s)

Jessica Glover (1)

Sara Bernardo (2)

Lee Plumley, Laboratory Manager
or Other Approved Signatory

Initial report from: 01/22/2024 07:57:32

OrderID: 412400679

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 412400679

10801 Southern Loop Blvd
Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

Company Name: Terracon Consultants, Inc.		**EMSL Customer ID:**	
Street: 521 Clemson Road		**City:** Columbia	**State/Province:** SC
Zip/Postal Code: 29229	**Country:** US	**Telephone #:** 803-212-0064	**Fax #:** 803-741-9900
Report To (Name): Adam Chapinsky		**Please Provide Results:** ☐ Fax ☑ Email	
Email Address: Adam.Chapinsky@Terracon.com		**Purchase Order:** 73238099	
Project Name/Number: S-26-154 Dver Gordon City ind/73238099		**EMSL Project ID** *(Internal Use Only)*:	
U.S. State Samples Taken: SC		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

EMSL-Bill to: ☑ Same ☐ Different - If Bill to is Different note instructions in Comments**
Third Party Billing requires written authorization from third party

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour | ☐ 6 Hour | ☐ 24 Hour | ☐ 48 Hour | ☒ 72 Hour | ☐ 96 Hour | ☐ 1 Week | ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☑ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NYS 198.8 SOF-V
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☑ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM EPA 600/R-93/116 with milling prep (<1%)
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep
- ☐ Cincinnati Method EPA 600/R-04/004 – PLM/TEM (BC

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Filter Pore Size (Air Samples): ☐ 0.8µm ☐ 0.45µm

Samplers Name: Adam Chapinsky **Samplers Signature:**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1.1	Slim Coat/Grey paint		1/18/24
1.2	↓		
1.3			

Client Sample # (s): 1.1 - 1.3 **Total # of Samples:** 3

Relinquished (Client): Adam Chapinsky **Date:** 1/18/24 **Time:** 1700

Received (Lab): [illegible] **Date:** 1/19/24 **Time:** @ 1030 Am ES

Comments/Special Instructions:

7967 8036 7423

EMSL Analytical, Inc.
10801 Southern Loop Blvd, Pineville, NC 28134
Phone/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	412400680
CustomerID:	GAGE62
CustomerPO:	7323P099
ProjectID:	

Attn: **Adam Chapiesky**
Terracon Consultants, Inc.
521 Clemson Road
Columbia, SC 29229

Phone:	(803) 741-9000
Fax:	(803) 741-9900
Received:	1/19/2024 10:30 AM
Collected:	

Project: **S-26-154 over Garden City Inlet/ 7323P099**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
LP-1	*412400680-0001*		1/19/2024	0.2858 g	<0.0080 % wt
	Site: Yellow Stripe				
LP-2	*412400680-0002*		1/19/2024	0.301 g	<0.0080 % wt
	Site: White Stripe				
LP-3	*412400680-0003*		1/19/2024	0.2704 g	0.28 % wt
	Site: Gray Paint				

Aaron Hartley, Lead Technical Manager
or other approved signatory

Initial report from 01/22/2024 07:58:05

OrderID: 412400680

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING
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EMSL Analytical, Inc.
10801 Southern Loop Blvd

Pineville, NC 28134
PHONE: (704) 525-2205
FAX: (704) 525-2382

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only)*: 412400680

Company: Terracon Consultants, Inc.	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 521 Clemson Road	
City: Columbia **State/Province:** SC	**Zip/Postal Code:** 29229 **Country:** US
Report To (Name): Adam Chapiesky	**Telephone #:** 803-741-9000
Email Address: Adam.Chapinsky@Terracon.com	**Fax #:** 803-741-9900 **Purchase Order:** T3238000
Project Name/Number: S-26-151 over Garden City inlet/T3238000	**Please Provide Results:** ☐ Fax ☑ Email
U.S. State Samples Taken: SC	**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☒ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☑ % by wt. ☐ mg/cm² ☐ ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%	☑
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter	☐
Wipe* ASTM ☐ non ASTM ☐ *If no box checked, non-ASTM Wipe assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-OES	1.0 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
TTLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	☐
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐

Name of Sampler: Adam Chapiesky **Signature of Sampler:** Adam Chapiesky

Sample #	Location	Volume/Area	Date/Time Sampled
LP-1	Yellow Stripe		
LP-2	White Stripe		

Client Sample #s LP-1 - LP-3 **Total # of Samples:** 3

Relinquished (Client):	Adam Chapiesky	**Date:**	1/18/24	**Time:**	1700
Received (Lab):	[illegible]	**Date:**	1/19/24	**Time:**	1030AM EST

Comments: 796 7 8036 7423

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Pineville, NC 28134

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LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID *(Lab Use Only):* 680

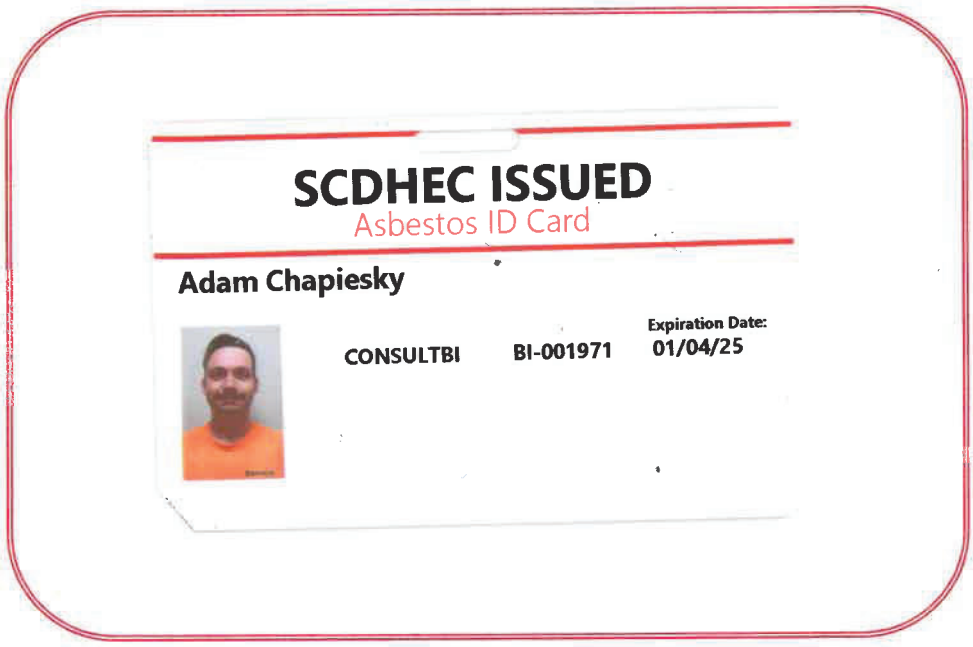
Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
LP-3	Grey Paint		

Comments/Special Instructions:

APPENDIX C

Inspector Credentials



Adam Chapiesky

Asbestos Building Inspector BI-001971