



# APPENDIX K: ESSENTIAL FISH HABITAT TECHNICAL MEMORANDUM

Prepared for:



Prepared by:





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Southeast Regional Office  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701-5505  
<https://www.fisheries.noaa.gov/region/southeast>

February 2, 2023

F/SER47:CC/pw

(Sent via Electronic Mail)

Will McGoldrick  
South Carolina Department of Transportation  
Environmental Services Office  
955 Park Street  
Columbia, SC 29201

Dear Mr. McGoldrick:

NOAA's National Marine Fisheries Service (NMFS) reviewed *Essential Fish Habitat Assessment 526 Long Point Road Interchange* dated December 2022 and submitted February 2, 2023, prepared on behalf of the Federal Highway Administration (FHWA). The South Carolina Department of Transportation (SCDOT) and FHWA propose improvements to the 526 Long Point Road Interchange in Charleston County. The FHWA and SCDOT have determined the proposed action may adversely affect essential fish habitat (EFH). As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the NMFS provides the following comments and recommendations pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

The proposed action is a design-build project. Adverse effects to EFH are not expected currently due to the best management practices and erosion control measures SCDOT commits to employ. Should the design build process propose adverse effects to EFH, SCDOT has identified potential on-site EFH mitigation, and FHWA and SCDOT have committed to continue to coordinate with the NMFS as project plans further develop.

The EFH Assessment describes the proposed action, documents existing EFH conditions within the project area, and provides an analysis of the potential impacts to EFH from the proposed action. The proposed action involves approximately two miles of improvements along I-526 one mile north and south of the Long Point Road interchange. The project area extends from the Wando River to Hobcaw Creek and their associated wetlands. The EFH Assessment commits to implementing SCDOT and U.S. Army Corps of Engineers best management practices and erosion control measures.

The EFH Assessment was comprehensive and complete. In addition to reviewing multiple versions of the document, NMFS participated in several meetings of the interagency coordination team. The high level of engagement on this project between the SCDOT, FHWA, and NMFS allowed the EFH Assessment to address fully concerns raised during initial meetings. While the proposed action will not currently result in adverse impacts to EFH, the NMFS looks forward to continued participation in development of the mitigation plan if conditions change. Therefore, based on the information provided and the commitments from FHWA and SCDOT to



seek to develop appropriate compensatory mitigation if needed, the NMFS has no EFH conservation recommendations at this time for the proposed improvements to the 526 Long Point Road Interchange.

The NMFS appreciates the opportunity to provide these comments and thanks the FHWA and SCDOT for their efforts in incorporating avoidance and minimization strategies and early engagement on the project. Please direct related correspondence to the attention of Cindy Cooksey at our Charleston Area Office. She may be reached at (843) 481-0496 or by e-mail at [Cynthia.Cooksey@noaa.gov](mailto:Cynthia.Cooksey@noaa.gov).

Sincerely,

/for

Virginia M. Fay  
Assistant Regional Administrator  
Habitat Conservation Division

cc: SCDOT, [McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)  
FHWA, [Jeffrey.Belcher@dot.gov](mailto:Jeffrey.Belcher@dot.gov)  
FHWA, [sandra.saintsurin@dot.gov](mailto:sandra.saintsurin@dot.gov)  
F/SER47, [Cynthia.Cooksey@noaa.gov](mailto:Cynthia.Cooksey@noaa.gov)

October 21, 2022

Ms. Cynthia Cooksey  
NOAA National Marine Fisheries Service  
Southeast Regional Office  
Habitat Conservation Division  
219 Fort Johnson Road  
Charleston, SC 29412

**RE Essential Fish Habitat Assessment and Consultation Request for I-526 at  
Long Point Road Interchange, Charleston County, South Carolina; SCDOT  
PIN P041314**

Dear Ms. Cooksey:

The South Carolina Department of Transportation (SCDOT) on behalf of the Federal Highway Administration (FHWA) is submitting an Essential Fish Habitat (EFH) Assessment for review and concurrence from your office.

The submittal contains pertinent project information describing the purpose and need, project scope, and estimated potential impacts to EFH. This information is being provided directly to you for your review and comment. Please contact me or Shane Belcher with any questions or comments.

Sincerely,



Will McGoldrick  
Design-Build Environmental Coordinator

WRM/wm

enclosures

EFH Assessment

ec: Shane Belcher, FHWA  
Pace Wilbur, NOAA Fisheries  
Chad Long, SCDOT  
Joy Riley, SCDOT  
Mark Lester, CDM Smith  
Russell Chandler, CDM Smith  
Wade Biltoft, Three Oaks

File: Env/Design-Build







# ESSENTIAL FISH HABITAT ASSESSMENT

Prepared for:



Prepared by:



February 2023

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## 1.0 INTRODUCTION

The South Carolina Department of Transportation (SCDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) and corresponding regulations and guidelines of FHWA (23 Code of Federal Regulations [CFR] Part 771 and 40 CFR Parts 1500–1508A). SCDOT is proposing improvements to the I-526/Long Point Road (S-97) interchange in the Town of Mount Pleasant, South Carolina. The purpose of the proposed project is to improve operations of the interchange and interstate and to reduce operational conflicts between port-related traffic and local traffic. The need for the project is demonstrated by the growing automobile and truck traffic on I-526 and Long Point Road, the existing interchange deficiencies, and the operational conflicts between cars and trucks on Long Point Road and I-526.

The project is subject to regulations protecting essential fish habitat (EFH) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976 (as amended 1996). 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). Waters designated as EFH by the South Atlantic Fisheries Management Council (SAFMC) and the Mid-Atlantic Fisheries Management Council (MAFMC) occur within the boundaries of the project. SCDOT is coordinating with the National Marine Fisheries Service (NOAA Fisheries) to ensure proper assessment of EFH and to communicate efforts to minimize and mitigate EFH impacts.

The project study area (PSA) extends along I-526 from Wando River to Hobcaw Creek, approximately 1 mile north and south of Long Point Road, and along Long Point Road from the Wando Welch Terminal to Egypt Road (Figures 1 and 2, Appendix A). The PSA occurs within the Cooper River Watershed [8-digit Hydrologic Unit Code (HUC) 03050201] and may impact EFH within wetlands and tributaries associated with the Wando River. This document describes the existing conditions of EFH within the PSA and the potential impacts to EFH by the proposed action.

## 2.0 ENVIRONMENTAL BASELINE

### 2.1 ESSENTIAL FISH HABITAT WITHIN THE PROJECT STUDY AREA

The areas of EFH were initially approximated using wetland delineations to determine the estuarine boundary and the most recent publicly available aerial imagery to determine habitat types. Field assessments were then conducted during low tide to allow for all potential habitat types to be further evaluated and verified. Additionally, maps of aquatic species that utilize these habitat types were generated using the National Oceanic and Atmospheric Association (NOAA) - National Marine Fisheries Service (NMFS) EFH mapper for the Habitat Areas of Particular Concern (HAPC), Atlantic Highly Migratory Species (HMS), and the South Atlantic EFH species (NOAA 2020a).

Each EFH type provides ecosystem services necessary for a variety of species. Differences between habitat types pertain to vegetative cover, flood regime, salinity, and sediment. Six different types of EFH were identified within the PSA: estuarine emergent wetlands, estuarine tidal creeks, intertidal non-vegetated flats, palustrine emergent wetlands, unconsolidated bottom, and oysters. Table 3-1 summarizes the types of EFH and the acreage of each within the PSA.

Table 2-1. Essential Fish Habitat within the Project Study Area

EFH Type	Acres within PSA
Estuarine Emergent Wetland	16.6
Estuarine Tidal Creek	1.23
Intertidal Non-vegetated Flat	1.0
Palustrine Emergent Wetland	0.71
Unconsolidated Bottom	0.24
Oysters	<0.01
<b>Total</b>	<b>19.78</b>

### 2.2 ESSENTIAL FISH HABITAT TYPES

**Estuarine Emergent Wetland:** Estuarine emergent wetlands are salt or brackish marshlands that are intertidal, or regularly inundated by the tide cycle. The vegetation of these wetlands is typically dominated by one or two plant species that remain standing at least until the beginning of the next growing season (USFWS 1979). This habitat serves as a nursery for many fish and other aquatic organisms and serves as nesting and foraging habitat for wading birds. The high primary productivity of estuarine emergent wetlands provides abundant food stores for prey species and larval fishes in the form of detritus or decaying plant material. The shallow water column of these wetlands during high tides provides both a low-energy environment away from wave action and currents, as well as a refuge for these organisms to avoid predation by larger fish. Other ecosystem services provided by estuarine emergent wetlands are the trapping of pollutants, storing of sediment, and the attenuation of floodwaters (SAFMC 2022d).

This habitat makes up the majority of EFH within the PSA, covering approximately 16.6 acres. These wetlands mostly consist of smooth cordgrass (*Sporobolus alterniflorus*) in the areas regularly inundated by the tide, lining the Wando River, Hobcaw Creek, and unnamed estuarine tidal creeks. In areas of slightly higher elevation that receive less saltwater during the tide cycle, the saltmarsh is dominated by black needlerush (*Juncus roemerianus*). Salt grass (*Distichlis spicata*) and sedges (*Carex* sp.) are commonly found in brackish areas that receive very little tidal exchange.

**Estuarine Tidal Creek:** Estuarine tidal creeks are typically sinuous drainage channels that are subject to the ebb and flow of each tide cycle. As the tide rises, tidal waters flow upstream filling the channel before spilling into the surrounding marshlands. The depths of tidal creeks vary depending on tide range and distance upstream from coastal inlet channels. Shallow depths of tidal creeks serve as nurseries for fish, crustaceans, and mollusks because they are inaccessible to larger predators (SAFMC 2022d). Tidal creeks also have soft-bottom substrate that provides habitats and resources like those provided by intertidal flats.

Tidal creeks within the PSA are Hobcaw Creek and two unnamed tributaries (UT) to Rathall Creek. There is approximately 1.23 acres of estuarine tidal creek within the PSA.

**Intertidal Non-Vegetated Flat:** An intertidal area is a subsystem of an estuarine environment (USFWS 1979) that lies between the high and low tide lines. Intertidal non-vegetated flats are sediment deposits that occur across areas of gentle slope within the intertidal zone. The size and abundance of intertidal flats in each system is positively correlated with the tide range. These are dynamic habitats because of the drastic changes in salinity and temperature that occur each tide cycle (SAFMC 2022d). Despite being called “non-vegetated,” these flats can have extensive communities of microalgae that benefit macroinvertebrates and other benthic feeders. Along the South Atlantic coast, these flats typically have very fine sediments, which are inhabitable by benthic organisms such as nematodes, copepods, annelids, bivalves, etc. An important function of these systems is the rhythm that exists among animals and microalgae adapted to life in the intertidal zone. High tide brings food and predators onto the flat while low tide provides residents a temporal refuge from the mobile predators (SAFMC 2022d). Therefore, intertidal non-vegetated flats are important foraging habitats for many aquatic animal species when inundated, and terrestrial mammals and birds when they are exposed at low tides.

Intertidal non-vegetated flats in the PSA are located near the Wando River and tidal creeks. This habitat type covers approximately 1 acre within the PSA.

**Palustrine Emergent Wetlands:** Palustrine emergent wetlands are like estuarine emergent wetlands in that their vegetative community is dominated by one or more annual plant species. However, these freshwater marshlands have a salinity of less than 0.5 parts per thousand (ppt) (USFWS 1979). These wetlands, where present, occur upstream of the estuarine emergent wetlands and receive less tidal influence. Although the low salinity of these waters limits its use by several managed fish species, tidal freshwater plays an important role as the transition zone between freshwater habitats upstream and the tidal saltwater habitats downstream. Palustrine emergent wetlands provide nursery habitat for managed species as well as the prey of managed species (SAFMC 2022d). Like other wetland habitats, palustrine emergent wetlands provide important ecosystem services of absorbing pollutants, storing sediments, and attenuating floodwaters.

Palustrine emergent wetland within the PSA is located around the uppermost extent of tidal influence of a tributary to Hobcaw Creek, immediately south of the I-526 eastbound ramp from Long Point Road. The habitat includes non-woody species such as broadleaf cattail (*Typha latifolia*), sugarcane plumegrass (*Saccharum giganteum*), rattlebox (*Sesbania punicea*), soft rush (*Polygonum spp.*), climbing hempvine (*Mikania scandens*), bushy bluestem (*Andropogon glomeratus*), elderberry saplings (*Sambucus nigra ssp. canadensis*), black willow saplings (*Salix nigra*), and various sedges (*Carex spp.*). This area receives tidal flow from downstream of the tributary and regular freshwater flow from wetlands immediately adjacent to the north. These freshwater wetlands have a natural regime of flow and receive additional flow in the form of runoff from the surrounding area mostly consisting of the Belle Hall shopping center. There is approximately 0.71 acre of palustrine emergent wetland within the PSA.

**Unconsolidated Bottom:** Unconsolidated bottom includes all wetland and deep-water habitats with at least 25 percent cover of particles smaller than stones, less than 30 percent vegetative cover, and subtidal, permanently flooded, intermittently exposed, or semi-permanently flooded water regimes (USFWS 1979). This designation was chosen to describe the group of habitats that are permanently to semi-permanently inundated by tidal waters. A pond within the Tidal Walk residential development between River Oak Drive, Turnstone Street, and a UT to Rathall Creek has a direct connection to the salt marsh through a double culvert. In addition, estuarine species such as blue crab, Ladyfish, and saltwater mussels were observed within the pond during field investigations. Therefore, it is determined that this pond feature is considered EFH and classified as unconsolidated bottom habitat. There is approximately 0.24 acre of unconsolidated bottom within the PSA.

**Oysters:** The Eastern oyster (*Crassostrea virginica*) is harvested along the coast of South Carolina. Oysters primarily settle and develop in intertidal habitats creating beds, reefs, or banks. These reefs contain live oysters as well as remaining shells from previous generations (NOAA 2022b). The waters of the Wando River are classified as Shellfish Management Growing Areas (SMGA) by the South Carolina Department of Health and Environmental Control (SCDHEC) and are within SCDHEC Shellfish Management Growing Area 09B. In the northernmost extent of the PSA along I-526 on the upstream edge, the PSA contains a small area of South Carolina Department of Natural Resources (SCDNR) State Shellfish Management Area S238. In all other estuarine waters within the PSA, shellfish harvesting is prohibited by SCDHEC due to poor water quality. No commercial culture, grant, or mariculture permits, or recreational shellfish grounds are located within the PSA (SCDNR 2022a).

During field investigations, no oyster beds or shell deposits were observed but clusters of oysters were found occupying hard artificial structures (bridge piers) within the estuarine tidal creeks in the PSA. Spatial data of intertidal oyster reefs and shell deposits located by SCDNR did not depict any occurrences within the PSA. One oyster reef is located near the PSA along Hobcaw Creek, approximately 90 feet west of the I-526 bridge (SCDNR 2022b).

## 2.3 OTHER HABITATS

Non-tidal palustrine, or freshwater, wetlands that are immediately adjacent to tidal wetlands designated as EFH are present within the PSA. These wetlands do not receive tidal inundation but have a direct hydrologic and ecologic connection to EFH. These wetlands contribute flow down-slope into EFH, and therefore impacts to these areas could impact quality or function of EFH. Approximately 4.35 acres of freshwater non-tidal wetlands are immediately adjacent or abutting tidal wetlands designated as EFH within the PSA. Figures 3 through 8 in Appendix A depict these wetland areas.

## 2.4 WATER QUALITY

SCDHEC develops a priority list of waterbodies that do not currently meet state water quality standards pursuant to Section 303(d) of the Clean Water Act (CWA) and 40 CFR § 130.7. It is commonly referred to as the 303(d) List of Impaired Waters. According to the SCDHEC SC Watershed Atlas (SCDHEC 2022a), there are no 303(d) listed waters found within the PSA. SCDHEC also designates suitable Shellfish Harvesting Waters (SFH) and determines water quality classifications and standards for the State. Hobcaw Creek and its UT and the UT to Rathall Creek are classified by SCDHEC as SFH. The impoundment in the UT to Hobcaw Creek located under I-526 is designated as freshwater (FW). The entire PSA is in designated municipal separate storm sewer systems (MS4) and Total Maximum Daily Load (TMDL) watersheds.

SCDHEC monitors the water quality of the waters in South Carolina with ambient water quality monitoring stations. These stations are used for “determining long-term water quality trends, assessing attainment of water quality standards, identifying locations in need of additional attention, and providing background data for planning and evaluating stream classifications and standards” (SCDHEC 2020). According to the SC Watershed Atlas, one permanent water quality monitoring station (MD-264) is in the Wando River near the northern terminus of the PSA and five random stations are west of the PSA in Hobcaw Creek and the Wando River. Three shellfish monitoring stations are in the Wando River near the northern terminus of the PSA. Shellfish Harvest stations 09B-15, 09B-18, and 09B24 are the three closest stations to the PSA with 09B-15 located at the I-526 bridge over the river (SCDHEC 2021). Two monitoring stations in Hobcaw Creek (HC1 and HC2), with the closest approximately two miles downstream of the I-526 crossing, are listed on the 2018 303(d) list and are impaired due to E. coli. One oyster reef is located near the PSA along Hobcaw Creek, approximately 90 feet west of the I-526 bridge.

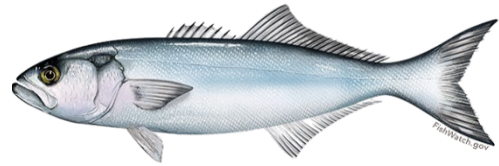
## 3.0 MANAGED FISHERIES AND SPECIES

As mandated by the Magnuson-Stevens Act, the eight regional councils are tasked with identifying, describing, mapping, and protecting EFH in their respective jurisdictions. The SAFMC is tasked with conserving and managing fisheries for the South Atlantic region, which includes the coast of South Carolina (SAFMC 2022a). Some fisheries managed by the MAFMC also have designated EFH along the coast of South Carolina. Species habitat descriptions provided by SAFMC and MAFMC and geospatial data from the NOAA EFH Mapper were used to assist in the identification of which managed fisheries may be affected by any potential impacts to either of the habitat types listed in the previous section as a result of the proposed project. The following species or groups of species have designated EFH present within the project area.



### 3.1 BLUEFISH

Bluefish (*Pomatomus saltatrix*) is a fish species managed the MAFMC (MAFMC, 1989). Bluefish live up to 12 years, reaching maturity at 2 years of age. Spawning occurs multiple times a year in the offshore waters of the South Atlantic and Mid-Atlantic Bights. Juvenile bluefish are known to occur in estuarine environments where they feed on smaller fish and avoid predation by larger fish in the offshore waters (MAFMC 2022). According to the EFH spatial data from NOAA, EFH for the juvenile life stage of bluefish includes estuarine tidal creeks and unconsolidated bottom (NOAA 2019).



Bluefish (NOAA Fisheries)

### 3.2 SHRIMP

Essential habitat for white shrimp (*Litopenaeus setiferus*) and brown shrimp (*Farfantepenaeus aztecus*) is present within the project area. These penaeid shrimp species are managed by the SAFMC because of their economic and ecological significance (SAFMC 2022b). These shrimp species, like all penaeid shrimp, have an annual life cycle. Penaeid shrimp spawn year-round in deepwater habitats offshore, larval shrimp move to estuarine areas, and new adults return to offshore areas to spawn. White shrimp begin to migrate to estuarine waters in April and May, whereas brown shrimp migrate to estuarine waters from February to April (NOAA 2020b). Juvenile shrimp forage and mature in tidally influenced nursery areas where the mud-silt substrate and salinity range provide a suitable feeding environment. Once maturity is reached, Brown shrimp egress to offshore areas between May and August (SCDNR 2013). White shrimp egress from August to December (NOAA 2020b). Some smaller adult individuals may remain in the estuary over the winter (SAFMC 2022b). Inshore nursery areas include tidal freshwater (palustrine), estuarine, and marine emergent wetlands (e.g., intertidal marshes); tidal palustrine forested areas; mangroves; tidal freshwater, estuarine, and marine submerged aquatic vegetation (e.g., seagrass); and subtidal and intertidal non-vegetated flats (SCDNR 2013). HAPC for these shrimp species is identified as all coastal inlets, which includes the Wando River (SAFMC 2022d).



Shrimp (NOAA Fisheries)

### 3.3 SNAPPER-GROUPER COMPLEX

The snapper-grouper complex managed by the SAFMC is made up of 55 species across ten families: sea basses and groupers (*Serranidae*), wreckfish (*Polyprionidae*), snappers (*Lutjanidae*), porgies (*Sparidae*) grunts (*Haemulidae*), jacks (*Carangidae*), tilefishes (*Malacanthidae*), triggerfishes (*Balistidae*), wrasses, (*Labridae*), and spadefishes (*Eppiphidae*) (SAFMC 2022c). Species in the complex spawn offshore in hard-bottom areas (SAFMC 2016d). Snapper-grouper larvae are transported to estuarine areas by tides and currents where they grow to maturity. The nursery areas of estuarine waters and wetlands



Red snapper (NOAA Fisheries)

provide shelter from predation as well as an abundance of food. Snapper-grouper species are predatory, feeding on smaller fish and invertebrates. Adult snapper-groupers can be found feeding in estuarine environments (SAFMC 2022c). Several species within the complex, such as the gray snapper (*Lutjanus griseus*), are known to use tidal freshwaters as well. According to the FMP for the snapper-grouper complex, For specific life stages of estuarine-dependent and near shore snapper grouper species, EFH includes areas inshore of the 30 meter (100-ft) contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom habitats (NOAA 2020b). HAPC for the snapper-grouper complex is identified as all coastal inlets and oyster beds (SAFMC 2022c). All oysters present within the project area are considered HAPC for the snapper-grouper complex.

### 3.4 SUMMER FLOUNDER

Summer flounder (*Paralichthys dentatus*) is a fish species managed by the MAFMC as part of the Summer Flounder, Scup, and Black Seabass FMP. Summer flounder live up to 14 years, reaching maturity between 2 and 3 years of age. Spawning occurs several times during the fall and early winter in offshore waters of the continental shelf (NOAA 2020a). Larval summer flounder are transported by tides and currents from offshore areas to estuarine areas where they grow to maturity. Summer flounder stay along the bottom of the water column where they hide against the substrate to hunt and ambush their prey. Larval summer flounder feed on zooplankton and small invertebrates while juveniles and adults feed on invertebrates and fish. Larvae, juvenile, and adult summer flounder are known to commonly occur in estuarine environments, venturing into offshore waters during spawning season. According to the FMP for summer flounder, intertidal non-vegetated flats, tidal creeks, and unconsolidated bottom are designated as EFH for the larval, juvenile, and adult life stages of summer flounder. HAPC for summer flounder includes submerged aquatic vegetation, which is not present within the project area (MAFMC 1987).



Summer flounder (NOAA Fisheries)

### 3.5 OTHER FISHES

EFH within the PSA also serve as nursery and forage habitat for other species, including red drum (*Sciaenops ocellatus*). Red drum, also known as spottail bass, is an important state-managed fishery, and estuarine environments within the project area provide habitat necessary for the development and survival of several life stages of red drum.



Red drum (SCDNR)

Highly migratory pelagic species such as Atlantic blacktip shark and tiger shark are also managed by NMFS. Spatial data from the EFH mapper indicates the presence of EFH for highly migratory pelagic species within the PSA (NOAA 2020a). Estuarine environments within the PSA may also be of importance to Atlantic blacktip shark and tiger shark.

## 3.6 HABITAT AREAS OF PARTICULAR CONCERN

HAPCs are discreet subsets of EFH that are considered high priority areas for conservation, management, or research. HAPCs receive such designation because they are rare, sensitive, stressed by development, or important to overall ecosystem function (NOAA 2020b). HAPC for a given fishery can include intertidal habitats, estuarine habitats, and deep-water habitats used for migration, spawning, and rearing of fish or other managed organisms. Oysters, both live and shell deposits, are also HAPC. HAPCs present within the project area include all oysters found occupying the existing bridge piers in estuarine tidal creeks. According to the EFH Mapper, the Wando River is considered HAPC for shrimp as a coastal inlet. However, the Wando River proper is immediately outside of the PSA.

## 4.0 PROPOSED ACTION

The project would include modification of the I-526/Long Point Road interchange, including entrance and exit ramps, and potentially constructing new interchange ramps that would provide new access to Long Point Road for port-related traffic. Several alternatives were developed and evaluated for the project, and a recommended preferred alternative was selected based on ability to fulfill the purpose and need for the project. An impact footprint of the recommended preferred alternative was developed using preliminary designs plus a 50-foot buffer, except at the I-526 bridge over the Wando River where the existing right of way was used because no work is expected on the bridge. This footprint, depicted in Appendix A Figures 9-13, was used to evaluate potential impacts to EFH. Ultimately, the design and methods of construction will be determined by the contractor. All EFH within the footprint is subject to potential impacts, although the recommended preferred alternative design proposed at this time is not anticipated to adversely affect EFH. The following construction activities are typical of interchange/roadway construction and may impact EFH.

### 4.1 CONSTRUCTION ACTIVITIES AND POTENTIAL EFH IMPACTS

#### 4.1.1 Site Preparation

To prepare the general project area for construction and establish staging areas, the contractor may need to clear vegetation and remove stumps, roots, or debris. Clearing may occur in uplands, estuarine emergent, palustrine emergent, and adjacent freshwater wetlands in the project area. The contractor may also grade portions of the project area to establish a suitable work environment and safe travel areas meeting current design requirements. Staging areas will be selected by the contractor to establish a construction site office and will also include materials, equipment, and fuel storage. Staging areas will be established in uplands.

**The contractor will develop a stormwater pollution prevention plan (SWPPP) and obtain a National Pollutant Discharge Elimination System (NPDES) permit from SCDHEC before construction can commence. The contractor will be required to properly install the required erosion, turbidity, and sediment control devices prior to all other construction activities.** The contractor will be required to install these measures around the perimeter of the active construction site, including any off-site staging areas. After the installation of erosion, turbidity and sediment control measures, the contractor will begin the project staging area preparation and general site preparation.

Impacts associated with construction site preparation may be temporary in nature. Clearing of vegetation and maintenance of erosion and sediment control devices may temporarily impact EFH. Construction site preparation and maintenance will continue during the different phases of construction and may result in temporary and permanent impacts to EFH. **The contractor will be required to utilize SCDOT best management practices (BMP) for soil and erosion control during construction.**

**The clearing, grading, or placement of fill in wetlands will require authorization from USACE and SCDHEC. The limits of any clearing, grading, or fill in wetlands will be delineated and shown on approved permitted plans by USACE and SCDHEC. SCDOT and the contractor will comply with all applicable permits and permit conditions for the placement of fill in wetlands.**

### 4.1.2 Roadway Construction

Once the project area has been prepared, the contractor would begin construction of bridge approaches, new roadway access to existing facilities, intersection improvements, and new ramps at the I-526/Long Point Road interchange. Roadway construction will consist of placing clean fill materials at various locations throughout the PSA. The fill will then be compacted and formed into the roadway prism and shoulder slopes.

Permanent impacts to multiple EFH types in the PSA, including estuarine emergent wetland and palustrine emergent wetlands, are possible. The potential impacts from the placement of fill represents a very small percentage of available habitat in the action area and will ultimately be discountable in the context of the entire ecosystem.

**The placement of roadway fill material in wetlands will require authorization from USACE and SCDHEC. The limits of any clearing, grading, and fill in wetlands will be delineated and shown on approved permitted plans by USACE. SCDOT and the contractor will comply with all applicable permits and permit conditions for the placement of fill in wetlands.**

### 4.1.3 Bridge Construction Access

Temporary access for the construction of the bridge supports and superstructure will be required. Bridge construction access may be required throughout the life of the project (approximately 3 years). There are many ways the contractor could establish temporary access such as floating barges, timber mats, or temporary work trestles. It is possible the contractor may elect to use a different method for bridge construction access, but **any method selected will be required to comply with all applicable permits and/or environmental commitments for the project.**

Once the contractor has completed construction of bridge support structures, all temporary bridge access will be removed. Any temporary fill materials in wetlands for bridge construction access will also be removed once the contractor has completed work in those locations. **SCDOT and the contractor will comply with all applicable permits and permit conditions for the placement of fill in wetlands.** Temporary bridge construction access areas will be allowed to return to their natural state when construction is completed.

### 4.1.4 Bridge Construction

Existing bridges within the I-526/Long Point Road interchange may require replacement to meet the purpose and need of the project. Based on preliminary design the I-526 eastbound (EB) on ramp and the I-526 westbound (WB) off ramp to Long Point Road, which include bridges over the tributary to Hobcaw Creek, may be expanded or replaced. The existing bridges are supported by pre-stressed concrete piles, in palustrine emergent wetlands. It is anticipated that bridge expansion or replacement on these ramps would be supported by pre-stress concrete piles in the adjacent freshwater wetlands.

Details regarding the two bridges over the unnamed tributary to Rathall Creek have not been finalized at this time. These structures are not anticipated to be replaced, but construction activities involved with widening the shoulders and bridge structures are possible. **It is anticipated that no temporary or permanent piles will be placed in the unnamed tributary to Rathall Creek, avoiding impacts to tidal creek habitat.**

It is anticipated that the Wando River bridges will not require replacement or reconstruction, but these structures will be re-striped to accommodate additional travel lanes. EFH present in the Wando River will not be impacted.

### 4.1.5 Bridge Demolition

Final demolition plans are the responsibility of the contractor and therefore are not available for this analysis. The contractor is required to submit a bridge demolition plan prepared by a licensed engineer to SCDOT for review and approval prior to beginning any demolition work. The demolition of substructure and bridge supports may be removed by direct pull, vibratory hammer, or cutting concrete pile off with saws or other cutting tools at the mudline. No current bridges within EFH are anticipated to be demolished. However, bridge demolition is anticipated to occur within freshwater wetlands immediately adjacent to EFH southeast of the Long Point Road interchange. Demolition debris would be hauled off site and disposed of in accordance SCDOT policy (Subsection 202.4.2 of the Standard Specifications) and SCDHEC regulations.

## 4.2 STORMWATER RUNOFF

The current bridges within the PSA discharge directly into the waters they cross. The SCDOT Stormwater Quality Design Manual (2014) requires the treatment of stormwater runoff to avoid or minimize potential impacts to maintain the high water quality levels required for Shellfish Harvesting Waters. **A National Pollution Discharge Elimination System (NPDES) permit that includes a Stormwater Pollution Prevention Plan (SWPPP) will be required prior to the start of construction.**

SCDOT does not propose to pretreat postconstruction stormwater runoff from the proposed new entrance/exit ramps southeast of Long Point Road, prior to discharge into waters below. However, all stormwater discharge would meet the requirements for TMDL watersheds and SCDOT's MS4 permit.

## 5.0 CONSERVATION MEASURES

As coordination with resource and regulatory agencies progresses, standard environmental commitments would be honored, and project specific commitments would be developed. **The contractor will be required to honor/implement SCDOT standard environmental commitments and BMPs, in addition to those project specific commitments developed through agency coordination and the permitting process.** A list of recommended environmental commitments specific to the federally protected species that may be affected by the project can be found at the end of this section.

### 5.1 EROSION, SEDIMENT, AND TURBIDITY CONTROL

**The contractor will develop a SWPPP and obtain an NPDES permit from SCDHEC before construction can commence. Temporary silt/turbidity curtains will be installed prior to commencement of in-water work, where practicable. The contractor will be required to utilize SCDOT best management practices for soil and erosion control during construction.**

Additionally, the limits of clearing, grading, or placement of fill in wetlands will be delineated and shown on approved permitted plans by USACE and SCDHEC. The contractor will comply with all applicable permits and permit conditions for the placement of fill in wetlands.

### 5.2 POST CONSTRUCTION STORMWATER TREATMENT

**The final project design will incorporate the conditions of SCDOT's General MS4 permit and TMDL watershed guidance contained in the Stormwater Quality Design Manual.**

SCDOT is not proposing to pretreat postconstruction stormwater runoff from the proposed new I-526/Long Point Road ramps and roadway improvements because it will not be discharged within 1,000 feet of a shellfish bed.

### 5.3 UNDERWATER NOISE REDUCTION

New bridge construction would not occur in waters that protected species inhabit.

### 5.4 PERMITTING REQUIREMENTS

**The contractor will be required to adhere to all Special and Regional Conditions associated with all federal, state, and local permits that are required to construct the project.** The expected permits and authorizations required prior to beginning construction include a USACE Section 404 permit, SCDHEC Section 401 Water Quality Certification, OCRM Critical Area Permit, and OCRM Coastal Zone Consistency Certification.

### 5.5 POTENTIAL ON-SITE EFH MITIGATION

SCDOT and NMFS have identified the potential for on-site improvements to EFH if an existing earthen berm were to be removed. The earthen berm is south of the Long Point Road interchange between I-526



and Chimney Bluff Drive inside the Hobcaw Creek Plantation neighborhood. The partially breached berm impairs the unnamed tributary to Hobcaw Creek, altering connectivity and the extent of saline waters within the wetland system. The removal of the berm would improve connectivity and potentially restore estuarine EFH habitat that was impacted by its installation. SCDOT is investigating the possibility of incorporating the removal as an action item in the project. In the event this action is feasible, SCDOT and the Contractor would coordinate with NMFS to evaluate the potential mitigation value as part of the mitigation plan for the project. If any additional mitigation measures are required, these will be evaluated and proposed within the revised mitigation proposal by SCDOT during the permitting process.

## 6.0 CONCLUSIONS

The proposed action may impact EFH within the PSA, although impacts are not anticipated to be adverse. If changes in the proposed design or any unforeseen circumstances occur that would adversely impact EFH, this EFH Assessment and the proposed mitigation would be re-evaluated by SCDOT in coordination with NMFS. Based on best currently available data and conservative approaches to generally accepted construction techniques, areas of EFH and other habitats that may be subjected to impacts were evaluated utilizing a buffer of 50 feet around the limits of the recommended preferred alternative. **Tables 6-1 and 6-2** provide a summary of all EFH and other pertinent habitats found within the PSA and the recommended preferred alternative footprint.

**Table 6-1: Summary of EFH**

EFH Type	Area within PSA	Area subject to impact
Estuarine Emergent Wetland	16.6 acres	2.08 acres
Estuarine Tidal Creek	1.23 acres	0 acres
Intertidal Non-Vegetated Flat	1.0 acre	0 acres
Palustrine Emergent Wetland	0.71 acre	0.71 acre
Unconsolidated Bottom	0.24 acre	0 acres
Oysters*	<0.01 acre	0 acres
<b>Total</b>	<b>19.78 acres</b>	<b>2.79 acres</b>

\*: HAPC

**Table 6-2: Summary of Adjacent Non-EFH**

Adjacent Habitat (Non-EFH)	Area within PSA	Area subject to impact
Adjacent Freshwater Wetland	4.35 acres	2.92 acres
<b>Total</b>	<b>4.35 acres</b>	<b>2.92 acres</b>

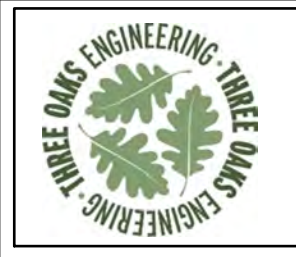
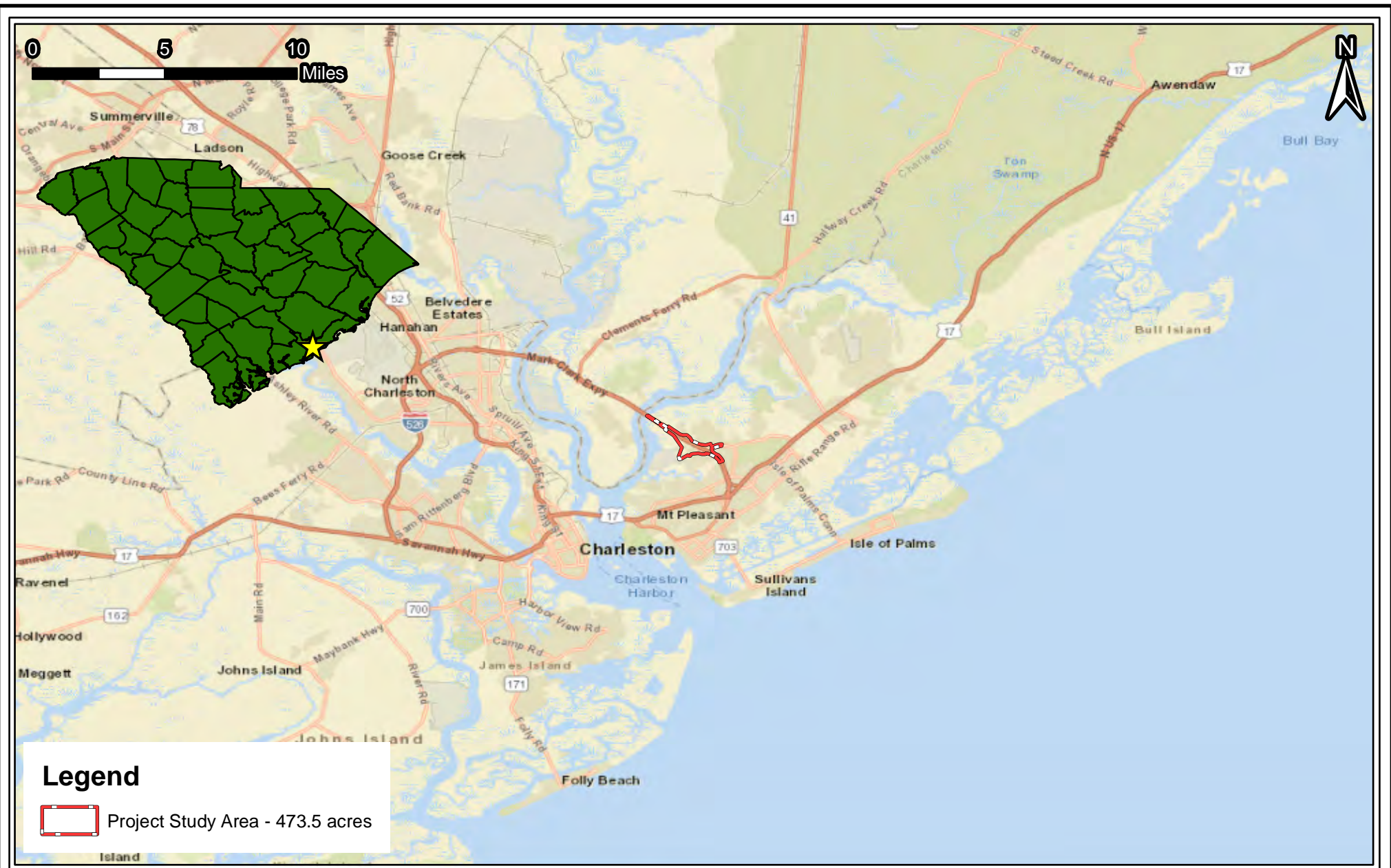
## 7.0 REFERENCES CITED

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## APPENDIX A – FIGURES



Prepared For:



South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Project Location Map

Charleston County, South Carolina

Date: October 17, 2022	
Scale: 1 in = 5 miles	
Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB


Figure

**1**





**Legend**

 Project Study Area - 473.5 acres



Prepared For:

**SCDOT**  
South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Project Vicinity Map

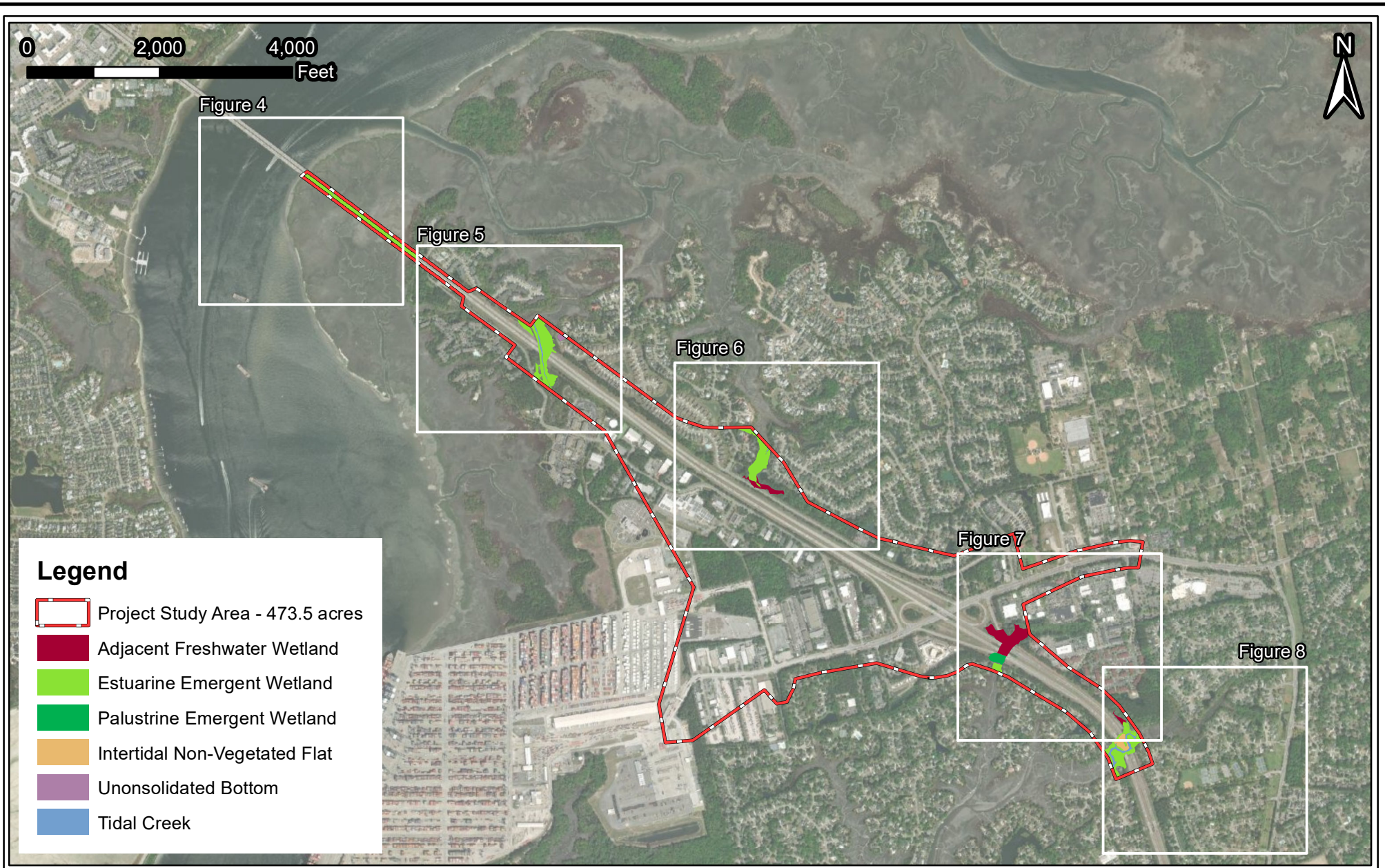
Charleston County, South Carolina

Date: October 17, 2022	
Scale: 1 in = 1 miles	
Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB








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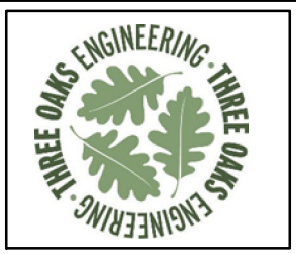
**2**





**Legend**

-  Project Study Area - 473.5 acres
-  Adjacent Freshwater Wetland
-  Estuarine Emergent Wetland
-  Palustrine Emergent Wetland
-  Intertidal Non-Vegetated Flat
-  Unconsolidated Bottom
-  Tidal Creek



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022

Scale: 1 in = 2,000 ft

Job No.: 17-615

Drawn By: ZCB      Checked By: WCB

Figure

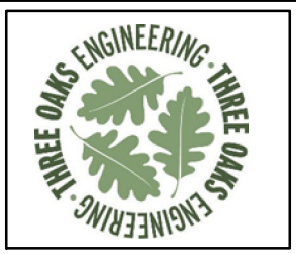
**3**





**Legend**

- Project Study Area - 473.5 acres
- Estuarine Emergent Wetland
- Intertidal Non-Vegetated Flat
- Tidal Creek



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

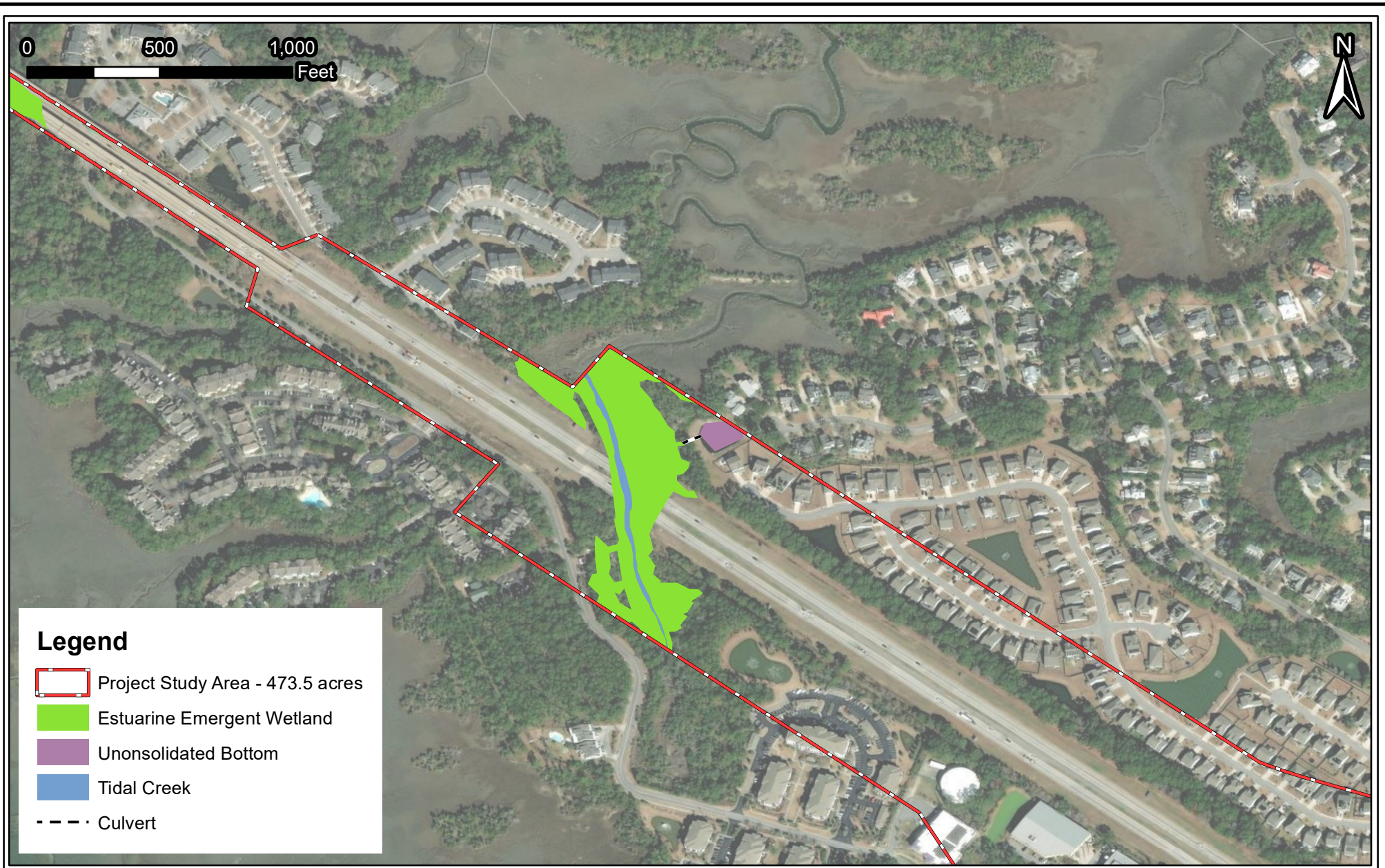
Charleston County, South Carolina

Date: October 17, 2022	
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Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB






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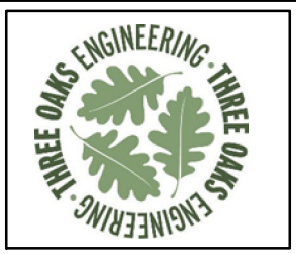
**4**





**Legend**

-  Project Study Area - 473.5 acres
-  Estuarine Emergent Wetland
-  Unconsolidated Bottom
-  Tidal Creek
-  Culvert



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022

Scale: 1 in = 500 ft

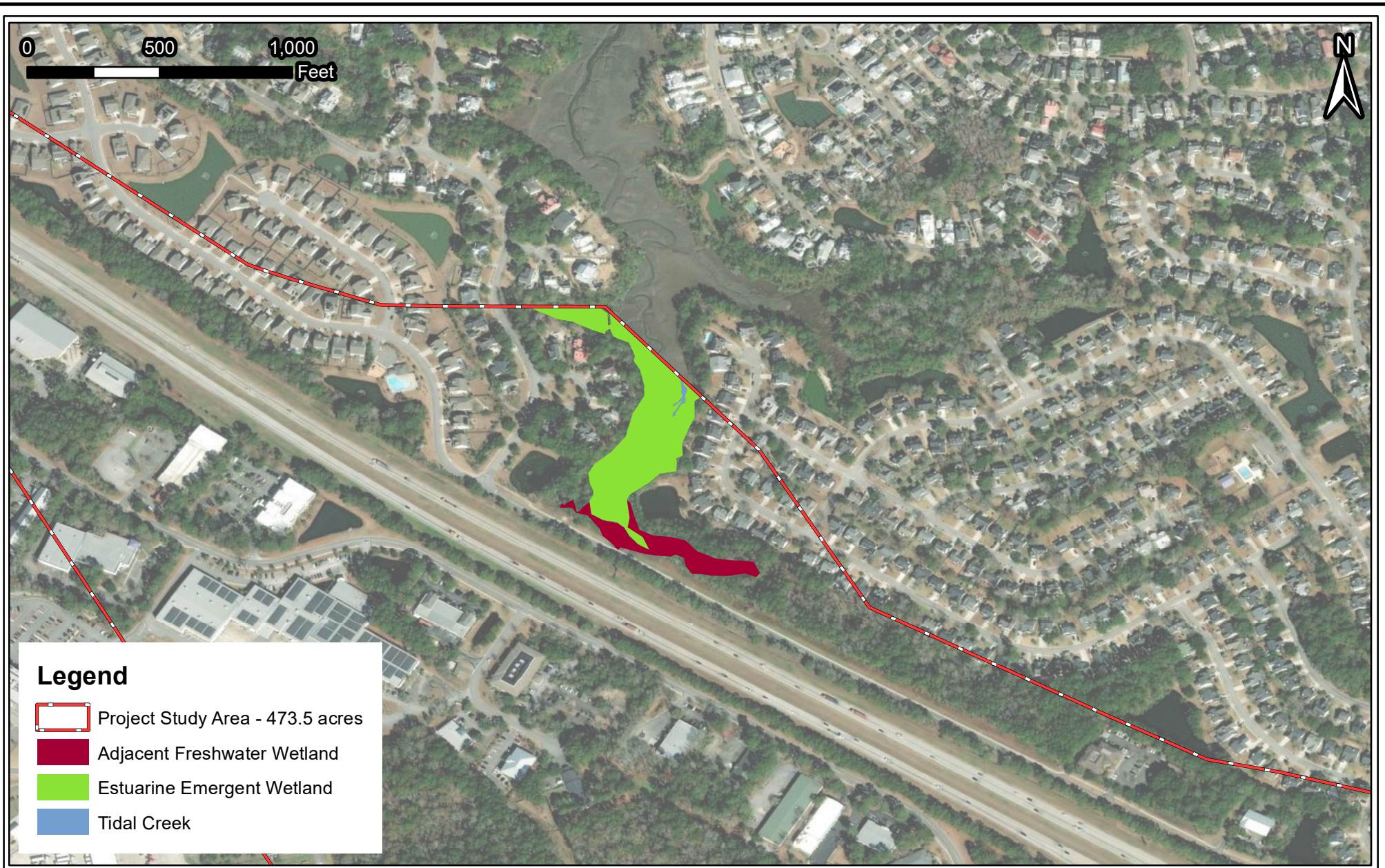
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



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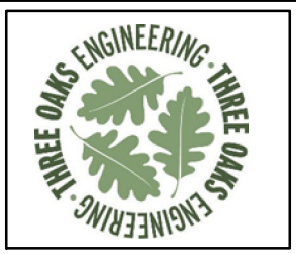
**5**





**Legend**

-  Project Study Area - 473.5 acres
-  Adjacent Freshwater Wetland
-  Estuarine Emergent Wetland
-  Tidal Creek



Prepared For:  
  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

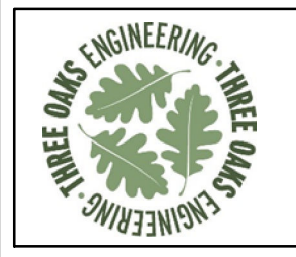
Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022	
Scale: 1 in = 500 ft	
Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB

Figure  
6





Prepared For:

**SCDOT**  
South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022	
Scale: 1 in = 500 ft	
Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB







Figure

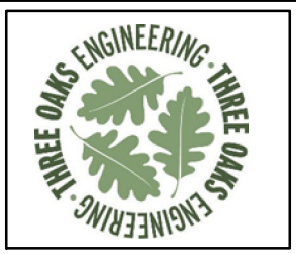
**7**





**Legend**

-  Project Study Area - 473.5 acres
-  Adjacent Freshwater Wetland
-  Estuarine Emergent Wetland
-  Palustrine Emergent Wetland
-  Intertidal Non-Vegetated Flat
-  Tidal Creek



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 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

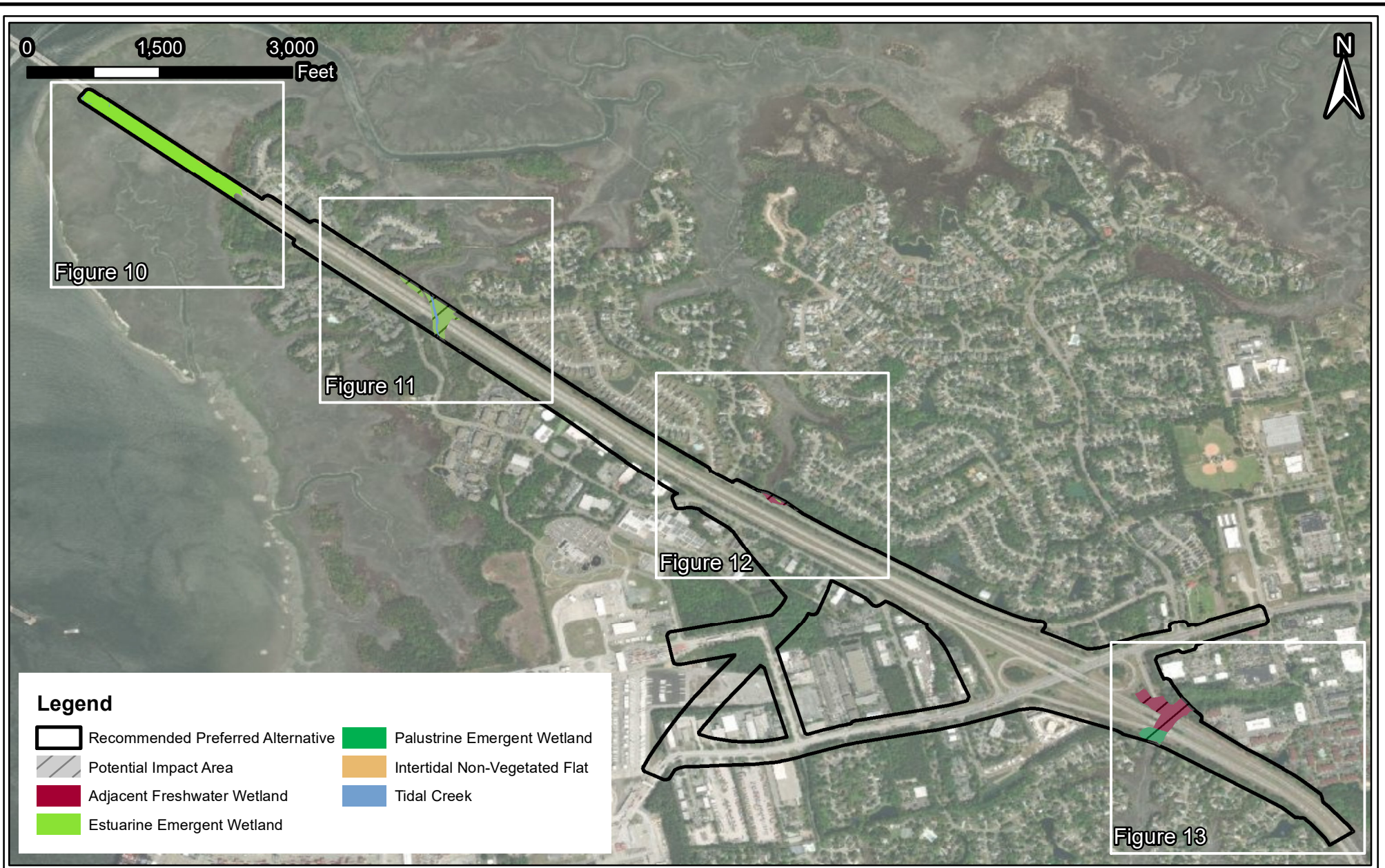
Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022	
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Job No.: 17-615	
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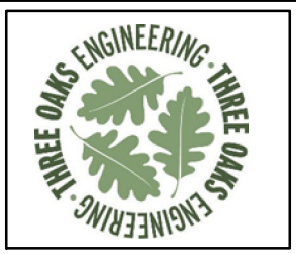
Figure  
8





**Legend**

- Recommended Preferred Alternative
- Potential Impact Area
- Adjacent Freshwater Wetland
- Estuarine Emergent Wetland
- Palustrine Emergent Wetland
- Intertidal Non-Vegetated Flat
- Tidal Creek



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022

Scale: 1 in = 1,500 ft

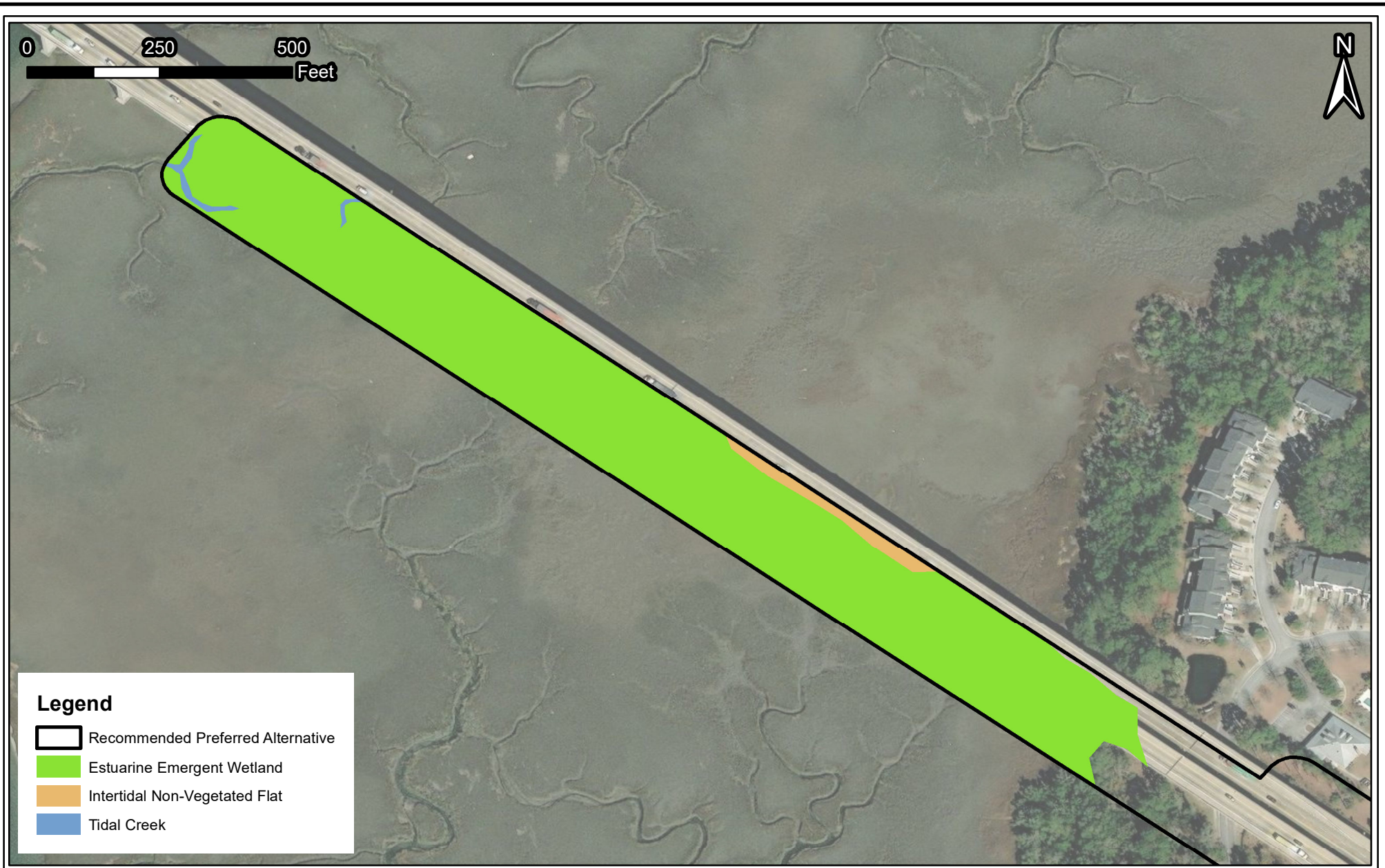
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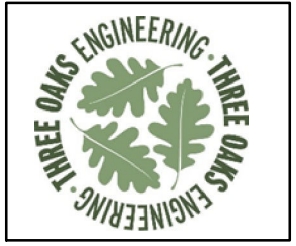
**9**





**Legend**

- Recommended Preferred Alternative
- Estuarine Emergent Wetland
- Intertidal Non-Vegetated Flat
- Tidal Creek



Prepared For:

**SCDOT**  
South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

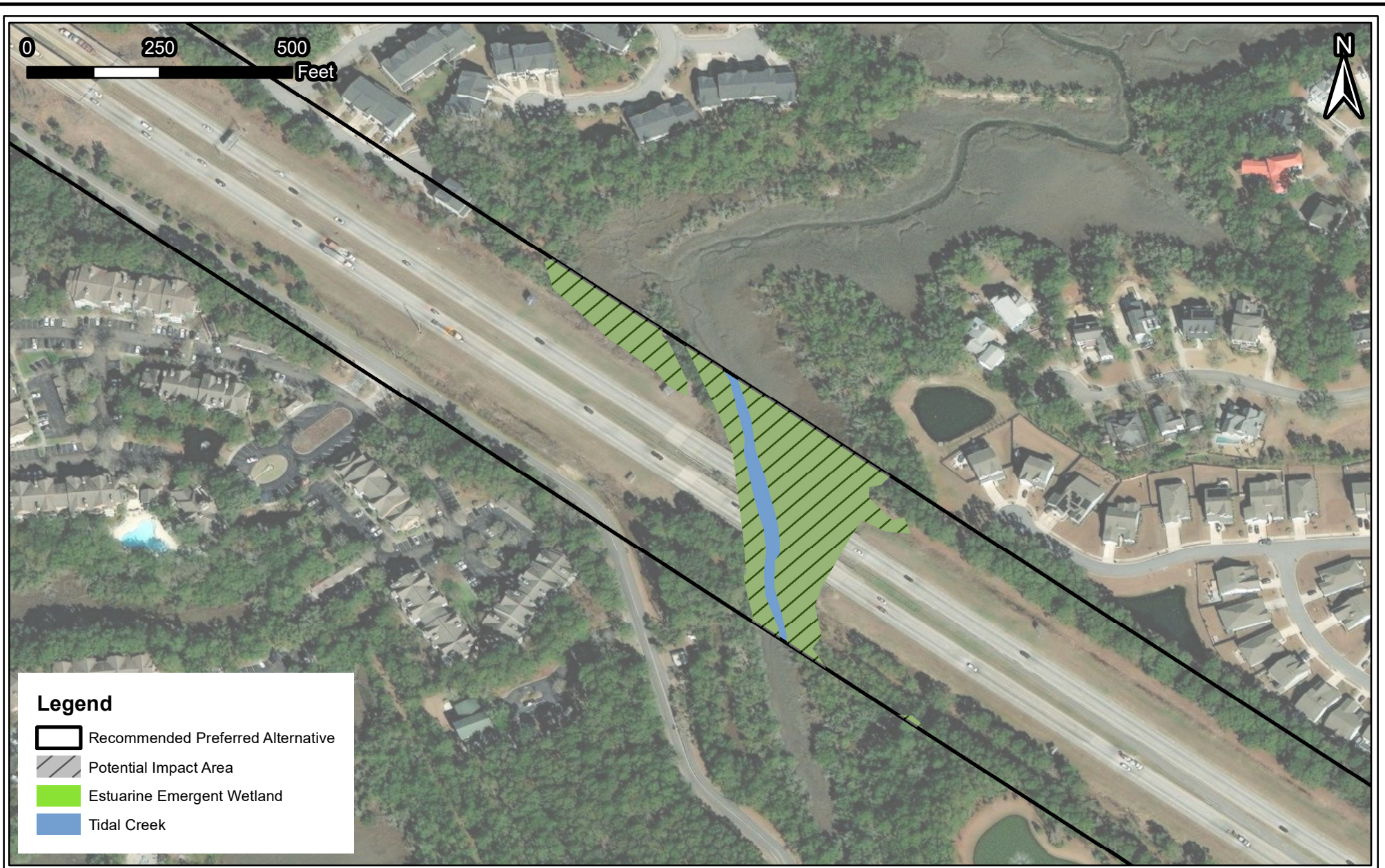
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Job No.: 17-615	
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Figure

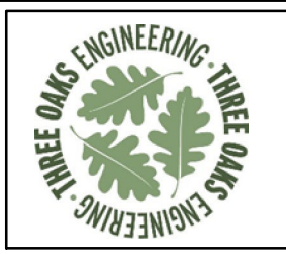
**10**





**Legend**

-  Recommended Preferred Alternative
-  Potential Impact Area
-  Estuarine Emergent Wetland
-  Tidal Creek



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

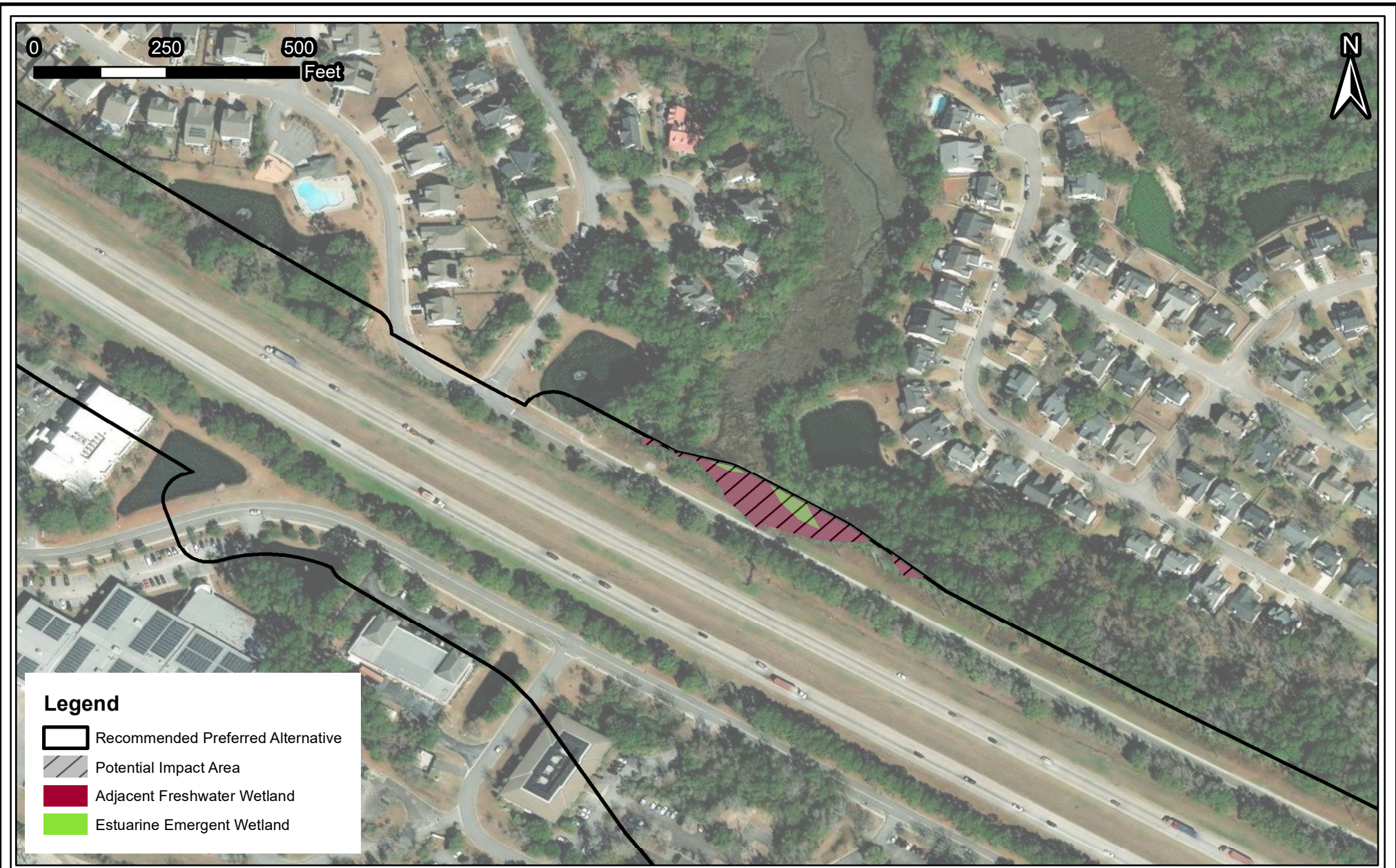
Charleston County, South Carolina

Date: October 17, 2022	
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Job No.: 17-615	
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Figure

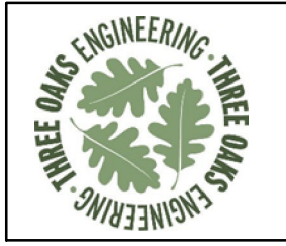
**11**





**Legend**

-  Recommended Preferred Alternative
-  Potential Impact Area
-  Adjacent Freshwater Wetland
-  Estuarine Emergent Wetland



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022	
Scale: 1 in = 250 ft	
Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB

Figure

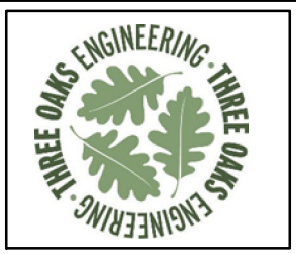
12





**Legend**

- Recommended Preferred Alternative
- Potential Impact Area
- Adjacent Freshwater Wetland
- Palustrine Emergent Wetland
- Estuarine Emergent Wetland



Prepared For:

**SCDOT**  
 South Carolina Department of Transportation

**I-526/Long Point Road Interchange**

Essential Fish Habitat

Charleston County, South Carolina

Date: October 17, 2022	
Scale: 1 in = 300 ft	
Job No.: 17-615	
Drawn By: ZCB	Checked By: WCB

Figure

**13**

## APPENDIX B – EFH Coordination



**From:** [McGoldrick, Will](#)  
**To:** [Cynthia Cooksey - NOAA Federal](#)  
**Subject:** EFH LPR  
**Attachments:** [LPR NMFS EFH Assessment 2022-2-2 WM.pdf](#)

---

See attached per disucssion

Respectfully,

Will McGoldrick, Assoc. DBIA | Program Manager  
Environmental Services Office  
SCDOT  
955 Park St Rm 506  
Columbia SC 29202-0191  
(o) 803-737-1326

## Chandler, Russell

---

**From:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Sent:** Monday, December 19, 2022 8:46 AM  
**To:** Chandler, Russell; Wade Biltoft  
**Subject:** FW: EFH Assessment Review for Long Point Rd

RC and Wade,  
See below. Let's talk about how to address.

-WM

---

**From:** Cynthia Cooksey - NOAA Federal <cynthia.cooksey@noaa.gov>  
**Sent:** Thursday, December 15, 2022 10:51 AM  
**To:** McGoldrick, Will <McGoldriWR@scdot.org>  
**Cc:** pace.wilber@noaa.gov; Belcher, Jeffery - FHWA <Jeffrey.Belcher@dot.gov>; Saint-Surin, Sandra (FHWA) <sandra.saintsurin@dot.gov>  
**Subject:** Re: EFH Assessment Review for Long Point Rd

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

Good Morning Will,  
Overall, the EFH Assessment looked really good. I appreciated the inclusion of section 5.5 and continue to believe that this would be an ideal component of a mitigation plan for the project. Section 6.0 summarized maximum potential impacts from the project although, as noted in section 4.0, the recommended preferred alternative is not anticipated to have any EFH impacts. My only concern with the assessment is the lack of a mitigation plan. Given that you are investigating removal of the berm and the preferred alternative would not have EFH impacts, your intent is obvious, but there is not a written commitment to mitigate adverse impacts to EFH if they were to occur. A sentence or two committing to mitigate for any adverse impacts, if they were to occur, should be adequate given the other information already provided in the assessment.  
Cindy

Cindy Cooksey (she/her/hers)  
Fishery Biologist

NOAA  
National Marine Fisheries Service  
Southeast Regional Office - Habitat Conservation Division  
331 Fort Johnson Road  
Charleston, SC 29412  
Google Voice: (843) 481-0496  
E-Mail: [cynthia.cooksey@noaa.gov](mailto:cynthia.cooksey@noaa.gov)

On Thu, Dec 8, 2022 at 9:31 AM McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)> wrote:

Cindy,

We are closing in on our document production and review for FHWA. I wanted to follow up with you and/or Pace about the EFH review that was submitted on 10/21/22. Just wanted to see if comments would be forthcoming. Thanks.

Respectfully,

Will McGoldrick, Assoc. DBIA | Program Manager

Environmental Services Office

SCDOT

955 Park St Rm 506

Columbia SC 29202-0191

(o) 803-737-1326

## Chandler, Russell

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**From:** Pace Wilber - NOAA Federal <pace.wilber@noaa.gov>  
**Sent:** Monday, October 24, 2022 11:02 AM  
**To:** McGoldrick, Will  
**Cc:** Cynthia Cooksey - NOAA Federal  
**Subject:** Re: I-526 Long Point Road Interchange EFH Assessment

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

Thanks Will. We will review.

On Fri, Oct 21, 2022 at 12:09 PM McGoldrick, Will <[McGoldriWR@scdot.org](mailto:McGoldriWR@scdot.org)> wrote:

Cindy,

Please find attached an EFH assessment for review and approval as per Magnuson-Stevens. We appreciate your early coordination efforts and hope this meets criteria for completeness. If you'd like to meet to discuss comments, we are more than willing to do so. Let me or Shane know if you have any questions.

Respectfully,

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**Will McGoldrick, Assoc. DBIA**

Design Build Environmental Coordinator

SCDOT

955 Park St Rm 506

Columbia SC 29202

(o) 803-737-1326

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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](mailto:Pace.Wilber@noaa.gov)

# AGENDA

## Essential Fish Habitat – I-526/Long Point Road Interchange Improvements

**Date:** August 15, 2022

**Time:** 1pm – 2pm

**Location/Call in Details:** Microsoft Teams Conference Call

**Attendees:** Will McGoldrick (SCDOT), Cynthia Cooksey (NOAA Fisheries), Russell Chandler (CDM Smith), Wade Biltoft (Three Oaks Engineering)

### Discussion Topics and Meeting Notes:

1. Overview of August ACE Meeting materials
2. SCDOT EFH short form vs. full EFH Assessment
  - a. Safer bet to go with an assessment document rather than the short form due to incomplete design and uncertainty
    - i. The EFH Assessment document only needs to be ‘as complicated as the project itself.’
    - ii. A simplified EFH assessment report (approximately 10-15 pages) would be most appropriate for this project
3. Cindy will be out for a temporary assignment for 2-3 months
  - a. Uncertain about total duration and when she will return
  - b. May need to have FHWA coordinate with Pace Wilbur (NOAA Fisheries) to ensure assessment is reviewed within required timelines and to meet project schedule
4. Freshwater wetlands adjacent to EFH
  - a. Not regulated officially and do not require mitigation but have influence on adjacent EFH quality
  - b. Include discussion about any freshwater wetlands immediately adjacent to EFH in assessment as areas of secondary impacts
  - c. Connectivity improvements to EFH-adjacent palustrine emergent wetland habitat could be proposed as mitigation for EFH impacts
    - i. No guarantee this would be adequate but would warrant serious consideration
5. SCDOT is investigating removal or partial removal of dam/berm between existing I-526 EB ramp and Chimney Bluff Drive

- a. Hydraulic analysis to be completed
- b. Potential limitations because berm/dam is outside existing and proposed SCDOT ROW
- c. SCDOT will continue to investigate viability of this potential mitigation opportunity