Appendix D: Natural Resource Technical Memorandum

NATURAL RESOURCES TECHNICAL MEMORANDUM

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PROJECT P029263

PREPARED FOR

SCDOT
South Carolina Department of Transportation

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
COLUMBIA, SOUTH CAROLINA

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The South Carolina Department of Transportation (SCDOT) proposes to widen and improve Interstate 26 (I-26) beginning west of SC 27 (Exit 187) near Ridgeville, SC and terminating approximately 1.0 mile west of Jedburg Road/ S-8-16 (Exit 194) near Summerville, SC. Specifically, the project is located 2.5 aerial miles northeast of the Town of Ridgeville, in Berkeley County. A Project Study Area (PSA) has been established for this project that is approximately 492 acres and extends the length of the project corridor generally centered along the existing I-26 roadway. In addition, the PSA extends along SC 27 and Cypress Campground Road, approximately one (1) mile in each direction from I-26, and includes areas for potential interchange improvements. It is anticipated that the project would include the following elements: Roadway widening to the median to accommodate an additional travel lane in each direction of I-26; median clearing and cable guardrail installation; improvements to the Exit 187 interchange and ramps; replacement of the I-26 bridges over Cypress Swamp; replacement of Cypress Campground Road bridge over I-26; and drainage improvements.

At the request of SCDOT, an Environmental Assessment (EA) is being performed, which outlines potential alternatives to satisfy the purpose and need of the project. These alternatives are being assessed to determine the least damaging practicable alternative with respect to construction impacts on the human and natural environment, while maintaining appropriate design criteria. The project, as proposed, would result in certain modifications to the human and natural environment. However, the SCDOT has not identified any significant impacts that would occur based on the data collected, and therefore the project meets the criteria under 23 CFR 771.115(c) for processing as an Environmental Assessment.

In association with the EA, Mead & Hunt, Inc. (Mead & Hunt), along with subconsultants (Project Team), has been contracted to provide an environmental review of the proposed PSA, including documentation of existing natural resources. This Natural Resources Technical Memorandum (NRTM) summarizes the findings of the environmental review.

Mead & Hunt reviewed a PSA approximately 492 acres in size, extending the length of I-26 between MM 186 and MM 193, as well as approximately one (1) mile along both SC 27 and Cypress Campground Road on each side of I-26; please see **Appendix A, Figures 1 through 8** for the approximate location and extent of the reviewed area and **Appendix C** for representative photographs.

This report provides an overall description of the project vicinity and specifically describes natural resources within the PSA, including wetlands, water resources, plant communities, and

protected species. The qualifications of the personnel involved in the preparation of this report are located in **Appendix F.**

1.2 PURPOSE

The primary purpose of the proposed project is to improve traffic operations and accommodate projected increases in traffic volume. I-26 is a major thoroughfare for traffic within South Carolina and the Southeastern United States. I-26 runs east-west from Kingsport, Tennessee to Charleston, South Carolina. Within South Carolina, I-26 connects the cities of Charleston, Orangeburg, Columbia, and Spartanburg, transporting residents, commuters, travelers, and commerce. The project is located in Berkeley County, SC, which is one of the fastest growing counties in the state. In addition, recent economic investment in the area has necessitated infrastructure improvements to accommodate increased daily traffic. Due to these developments, traffic projections have indicated that I-26 would be operating beyond capacity and would experience congestion and operational difficulties by 2043 if no improvements are made.

1.3 METHODOLOGY

Prior to conducting fieldwork, Mead & Hunt reviewed the following reference material:

- S.C. Department of Natural Resources (SCDNR). Two-Foot Contours derived from Light Detection and Ranging (LiDAR) data; Berkeley County, South Carolina (2009).
- S.C. Department of Natural Resources (SCDNR). Rare, Threatened, and Endangered Species and Communities Known to Occur in Berkeley County (Reviewed: June 27, 2019).
- U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). Soil Survey Geographic (SSURGO) Database; South Carolina, Statewide (2015).
- USDA-NRCS Soil Data Access (SDA) Hydric Soils List; South Carolina. (Reviewed February 2019).
- USDA-NRCS National List of Hydric Soils Database; National List, All States. (Reviewed May 2019).
- USDA National Agriculture Imagery Program (NAIP) Aerial Photography; Berkeley County, South Carolina (2015).
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Seamless Wetlands Data for South Carolina (Last updated October 2017)
- USFWS. South Carolina Field Office. Endangered, Candidate, and At-Risk Species. County Listings. Berkeley County (Updated: June 21, 2019).
- U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle; Pringletown, South Carolina (1979) Ridgeville, South Carolina (1979), Summerville, South Carolina (1990), and Summerville NW, South Carolina (1990).
- USGS National Hydrography Dataset (NHD) Geodatabase; Subregion 0305.

Environmental scientists with the Project Team conducted field reviews of the PSA for the presence of wetlands and other "Waters of the U.S.", natural community types, and protected species habitats from June to September 2018. Additional surveys were conducted in April 2019 in areas added to the PSA. Wetlands were determined using the Routine On-Site Determination Method as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE, 2010). The boundaries of delineated waters within the PSA were flagged (delineated) in the field at that time. Wetlands were delineated with pink flagging and numbered sequentially. Tributaries, streams, and ponds were delineated with blue flagging, and potentially jurisdictional ditches were delineated at the start and end points with both pink and blue flagging. Delineated waters were subsequently located using a handheld Trimble GeoXH Global Positioning System (GPS) unit capable of sub-meter accuracy.

2.0 PHYSICAL RESOURCES

2.1 LAND USE

The proposed project is located in a rural portion of South Carolina near the Town of Ridgeville. Land use within the project vicinity, an area defined as extending one (1) mile on all sides of the proposed project, is comprised of predominantly undeveloped land including mixed pine forests, riverine forest systems, and pine plantations in various stages of development including clear-cuts, seedlings and mature stands. In addition, areas of development include US highway 76, SC 27, I-26 and associated interchanges, as well as a new development for automotive manufacturing.

Land use directly within the project limits is largely composed of low intensity development, undeveloped mixed pine forests, riverine forest systems, pine plantations, and development currently under construction.

2.2 PHYSIOGRAPHY AND TOPOGRAPHY

The PSA is located in the Atlantic and Gulf Coastal Plain physiographic province of South Carolina and is specifically situated within the Middle Atlantic Coastal Plain (63) Level III Ecoregion (Griffith, et al., 2002). The Middle Atlantic Coastal Plain is a transitional boundary area consisting of low elevation flat plains with many swamps, marshes, and estuaries. Poorly drained soils are common, and the region has a mix of coarse and fine textured soil. Pine plantations and cropland are typical as well as pine dominated mixed forests.
The PSA is further characterized by its location within the Carolina Flatwoods (63h) Level IV Ecoregion (Griffith, et al., 2002). The Carolina Flatwoods region is characterized by flat land with wide upland surfaces and large areas of poorly drained soils. The region consists mostly of

fine-loamy to coarse-loamy soils with periodically high-water tables. Other areas have clayey, sandy, or organic soils.

Based on USGS topographic mapping (**Appendix A, Figure 2**), the PSA is depicted as moderately sloping, primarily undeveloped land, approximately 30 to 75 feet above mean sea level (MSL). The highest elevations within the PSA are located in the southeastern portion of the PSA along I-26 just northwest of the crossing of Cypress Campground Road. The lowest elevations are also located in the southeastern portion of the PSA, at the crossing of Cypress Swamp. Hydrology within the PSA drains locally into several major drainage ways that flow through the PSA. Hydrology in the northern and central portion of the PSA drain to Timothy Creek, which flows southwest 4.5 river miles (3.7 aerial miles) to the Four Hole Swamp, which then drains an additional 11.25 river miles (8.5 aerial miles) and discharges to the Edisto River. Hydrology in the southern portion of the PSA drains to Cypress Swamp, which is labeled on many maps as the Ashley River. Cypress Swamp drains southwest from the PSA and accepts drainage from several tributaries in the area, including Dawson Branch and Stanley Branch, becoming the main channel of the Ashley River five (5) aerial miles west of the Town of Summerville, SC.

2.3 GEOLOGY AND SOILS

The PSA is located on the southwestern border of Berkeley County. The origins of soil parent material in Berkeley County can be traced to marine or fluvial deposits with a highly variable amount of sand, silt, and clay. These soils have continued to develop far from their place of origin. During the marine period of development, terraces of differing soil types were created across the landscape (NRCS, 1980).

The Farmland Protection Policy (FPPA) Act of 1981 requires evaluation of farmland conversions to nonagricultural uses. Farmland can be classified as prime farmland, unique farmland, or farmland of statewide importance. The proposed project would likely require the conversion of farmland soils; therefore, the project will be assessed under the provisions of the FPPA during the development of the EA.

According to the USDA NRCS Soil Survey Geographic (SSURGO) Database (USDA, 2019), twenty-three (23) Soil Map Units (SMUs) are mapped within the PSA. The SMUs mapped within the PSA are depicted in **Appendix A, Figure 3**. Farmland Classification and Hydric Rating for each SMU is located in Table 1.

TABLE 1
SOIL MAP UNITS WITHIN THE PROJECT STUDY AREA

Symbol	Soil Unit Name	Farmland Classification*	Hydric Rating*
Bp	Borrow pits	Not prime farmland	Hydric (100%)
Cu	Coxville fine sandy loam	Farmland of statewide importance	Predominantly Hydric (97%)
CvA	Craven loam, 0 to 2 percent slopes	All areas are prime farmland	Predominantly Non-hydric (2%)
Da	Daleville silt loam	Farmland of statewide importance	Predominantly Hydric (97%)
DuA	Duplin fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland	Predominantly Non-hydric (2%)
DuB	Duplin fine sandy loam, 2 to 6 percent slopes	All areas are prime farmland	Predominantly Non-hydric (1%)
EpB	Emporia loamy fine sand, 2 to 6 percent slopes	All areas are prime farmland	Predominantly Non-hydric (3%)
FoA	Foreston loamy fine sand, 0 to 2 percent slopes	All areas are prime farmland	Predominantly Non-hydric (6%)
GoA	Goldsboro loamy sand, 0 to 2 percent slopes	All areas are prime farmland	Predominantly Non-hydric (2%)
IzA	Izagora silt loam, 0 to 2 percent slopes	All areas are prime farmland	Predominantly Non-hydric (2%)
Jd	Jedburg loam	Prime farmland if drained	Predominantly Non-hydric (2%)
Le	Lenoir fine sandy loam	Farmland of statewide importance	Predominantly Non-hydric (2%)
Lo	Leon fine sand, 0 to 2 percent slopes	Not prime farmland	Predominantly Hydric (97%)
LuB	Lucy loamy sand, 0 to 6 percent slopes	Farmland of statewide importance	Non-hydric (0%)
Ly	Lynchburg fine sandy loam, 0 to 2 percent slopes	Prime farmland if drained	Predominantly Non-hydric (3%)
Mg	Meggett loam	Farmland of statewide importance	Hydric (100%)
Mo	Mouzon fine sandy loam, occasionally flooded	Farmland of statewide importance	Predominantly Hydric (98%)
NoA	Norfolk loamy sand, 0 to 2 percent slopes	All areas are prime farmland	Non-hydric (0%)

Symbol	Soil Unit Name	Farmland Classification*	Hydric Rating*
NoB	Norfolk loamy sand, 2 to 6 percent slopes	All areas are prime farmland	Non-hydric (0%)
Pe	Pelham sand	Farmland of statewide importance	Predominantly Hydric (97%)
Ra	Rains fine sandy loam, 0 to 2 percent slopes	Farmland of statewide importance	Predominantly Hydric (96%)
Se	Seagate loamy sand	Not prime farmland	Predominantly Non-hydric (4%)
Wa	Wahee loam	Farmland of statewide importance	Predominantly Non-hydric (4%)

** Reference: USDA-NRCS Web Soil Survey. (http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx).*

A description of each SMU mapped within the PSA can be found below:

Borrow pits (Bp) are areas of open excavation where the surface layer, and often the subsurface, has been removed. The material in these areas is mainly loamy or clayey with low organic material and soil fertility. These pits commonly have level floors and are eight (8) to fifteen (15) feet deep (NRCS, 1980). This soil type occupies less than one (1) percent of the PSA and is located in the vicinity of the Cypress Campground Road overpass. Bp soil is classified as hydric, is included on the South Carolina list of hydric soils, and is not prime farmland (USDA, 2019).

The ***Coxville Series*** consists of nearly level, deep, poorly drained soils formed in the clay of the Coastal Plain. A typical soil profile consists of eight (8) inches of fine sandy loam that is normally dark grey to black, followed by five (5) inches of greyish-brown clay loam (NRCS, 1980). ***Coxville fine sandy loam (Cu)*** is a Coxville Series soil located within the central to southeastern portion of the PSA that accounts for approximately one (1) percent of the total area. Cu soil is classified as predominantly hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The ***Craven Series*** consists of nearly level to gently sloping, deep, and moderately well drained soils formed in the clay of the Coastal Plain. The typical profile is a two (2) inch thick layer of dark grey loam followed by a five (5) inch thick layer of pale brown silt loam, followed by a subsoil of firm clay 48 inches thick (NRCS, 1980). ***Craven loam, 0 to 2 percent slopes (CvA)*** is a Craven Series soil located within the central portion of the PSA that accounts for seven (7) percent of the total area. CvA soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland (USDA, 2019).

The ***Daleville Series*** consists of soils that formed from loamy marine sediment in depressions and drainages on upland areas with slopes of 0-2 percent. A typical soil profile consists of eight

(8) inches of very dark greyish-brown silt loam, followed by seven (7) inches of light grey silt loam (NRCS, 1990). ***Daleville silt loam (Da)*** is a Daleville series soil found throughout the PSA that accounts for sixteen (16) percent of the total area. Da soil is classified as predominantly hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The ***Duplin series*** consists of nearly level to gently sloping, deep, and moderately well drained soils formed from the clay of the Coastal Plain. The typical profile of the soil is a surface layer of greyish-brown fine sandy loam six (6) inches thick, followed by a seventeen (17) inch thick layer of yellowish-brown firm clay loam (NRCS, 1980). Duplin Series soils within the PSA include ***Duplin fine sandy loam, 0 to 2 percent slopes (DuA)*** and ***Duplin fine sandy loam, 2 to 6 percent slopes (DuB)***. These soils can be found throughout the PSA and account for approximately seven (7) percent of the total area. Both Duplin series soils are classified as predominantly non-hydric, are included on the South Carolina list of hydric soils, and are classified as prime farmland (USDA, 2019).

The ***Emporia Series*** consists of soils that formed from loamy marine sediment on gently sloping upland terraces with slopes of 2-6 percent. These soils are predominantly fine-loamy soils. A typical soil profile consists of five (5) inches of dark greyish brown loamy fine sand, nine (9) inches of very pale brown loamy fine sand, followed by 27 inches of strong brown sandy clay loam. ***Emporia loamy fine sand, 2 to 6 percent slopes (EpB)*** is an Emporia series soil found in the northwestern portion of the PSA that accounts for less than one (1) percent of the total area. EpB soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland (USDA, 2019).

The ***Foreston Series*** consists of soils that formed in loamy marine sediment on nearly level upland terraces with slopes of 0-2 percent. A typical soil profile consists of eight (8) inches of very dark grey loamy fine sand, followed by five (5) inches of yellowish-brown loamy fine sand and ten (10) inches of yellowish-brown fine sandy loam (NRCS, 1990). ***Foreston loamy fine sand, 0 to 2 percent slopes (FoA)*** is a Foreston series soil found in the northwestern portion of the PSA that accounts for three (3) percent of the total area. FoA soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland (USDA, 2019).

The ***Goldsboro series*** consists of nearly level, deep, and moderately well drained soils formed in loamy Coastal Plain sediment. A typical profile includes a very dark greyish-brown loamy sand about seven (7) inches thick followed by a subsurface of seven (7) inches of light yellowish-brown loamy sand (NRCS, 1980). ***Goldsboro loamy sand, 0 to 2 percent slopes (GoA)*** is a Goldsboro series soil found throughout the PSA that accounts for eight (8) percent of the total area. GoA soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland (USDA, 2019).

The ***Izagora series*** consists of soils that formed in the loamy and silty marine sediments on nearly level to gently sloping upland stream terraces and low ridges. A typical soil profile consists of six (6) inches of dark greyish-brown silt loam, followed by seven (7) inches of yellowish-brown silt loam and thirteen (13) inches of brownish-yellow silt loam (NRCS, 1990). ***Izagora silt loam, 0 to 2 percent slopes (IzA)*** is an Izagora series soil found throughout the PSA that accounts for three (3) percent of the total area. IzA soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland (USDA, 2019).

The ***Jedburg Series*** consists of soils formed in loamy, silty marine sediment on broad upland terraces with slopes of 0-2 percent. A typical soil profile consists of five (5) inches of dark grey loam, followed by three (3) inches of dark greyish-brown loam and seven (7) inches of light yellowish-brown loam (NRCS, 1990). ***Jedburg loam (Jd)*** is a Jedburg series soil found throughout the PSA that accounts for four (4) percent of the total area. Jd soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland if drained (USDA, 2019).

The ***Lenoir series*** consists of nearly level, deep, somewhat poorly drained soils formed in the clay of the Coastal Plain. A typical profile includes a surface layer of black/grey, very fine sandy loam seven (7) inches deep, followed by an eight (8) inch layer of light yellowish-brown very fine sandy loam (NRCS, 1980). ***Lenoir fine sandy loam (Le)*** is a Lenoir series soil found throughout the PSA that accounts for twelve (12) percent of the total area. Le soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as a farmland of statewide importance (USDA, 2019).

The ***Leon series*** consists of nearly level, poorly drained soils formed from sandy Coastal Plain sediment. A typical profile consists of a surface layer of black fine sand about seven (7) inches thick, followed by a subsurface layer of grey fine sand eight (8) inches thick (NRCS, 1980). ***Leon fine sand, 0 to 2 percent slopes (Lo)*** is a Leon series soil found in the southwestern portion of the PSA that accounts for less than one (1) percent of the total area. Lo soil is classified as predominantly hydric, is included on the South Carolina list of hydric soils, and is not prime farmland (USDA, 2019).

The ***Lucy loam series*** consists of nearly level to gently sloping, deep, and well-drained soils formed in the loam of the Coastal Plain. A typical profile consists of a surface layer of loamy sand six (6) inches thick that is very dark greyish-brown, followed by a yellowish-brown loamy sand about nineteen (19) inches thick (NRCS, 1980). ***Lucy loamy sand, 0 to 6 percent slopes (LuB)*** is a Lucy loam soil found in the far southeastern portion of the PSA that accounts for less than one (1) percent of the total area. LuB soil is classified as non-hydric and is classified as farmland of statewide importance (USDA, 2019).

The ***Lynchburg series*** consists of nearly level, deep, and somewhat poorly drained soils that are formed from loamy Coastal Plain sediment. A typical soil profile consists of black fine sandy loam about four (4) inches thick followed by five (5) inches of yellowish-brown fine sandy loam and a deep (53 inch) layer of mottled grey sandy clay loam (NRCS, 1980). ***Lynchburg fine sandy loam, 0 to 2 percent slopes (Ly)*** is a Lynchburg soil found throughout the PSA that accounts for four (4) percent of the total area. Ly soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as prime farmland if drained (USDA, 2019).

The ***Meggett series*** consists of nearly level, deep, and somewhat poorly drained soils that are formed from clayey Coastal Plain sediment. A typical soil profile consists of seven (7) inches of dark grey loam, followed by thirteen (13) inches of dark grey clay loam (NRCS, 1980). ***Meggett loam (Mg)*** is a Meggett series soil found throughout the PSA that accounts for 22 percent of the total area. Mg soil is classified as hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The ***Mouzon Series*** consists of soil that formed in the loamy marine sediment on broad, nearly level low stream terraces with slopes of less than one (1) percent. A typical profile consists of five (5) inches of very dark greyish-brown fine sandy loam, followed by three (3) inches of light grey, loamy fine sand and fourteen (14) inches of grey sandy clay loam (NRCS, 1990). ***Mouzon fine sandy loam, occasionally flooded (Mo)*** is a Mouzon series soil found in the northeastern portion of the PSA that accounts for five (5) percent of the total area. Mo soil is classified as predominantly hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The ***Norfolk series*** consists of nearly level to gently sloping, deep, and well drained soils that are formed from loamy Coastal Plain sediment. A typical profile consists of a dark greyish layer of brown loamy sand six (6) inches thick, followed by a layer of strong brown sandy clay loam 29 inches thick (NRCS, 1980). Both ***Norfolk loamy sand, 0 to 2 percent slopes (NoA***) and ***Norfolk loamy sand, 2 to 6 percent slopes (NoB)*** are Norfolk series soils found in the southeastern portion of the PSA, and account for three (3) percent of the total area. Both NoA and NoB are classified as non-hydric and are classified as prime farmland (USDA, 2019).

The ***Pelham series*** consists of soil that formed in loamy marine sediment in nearly level depressions and drainageways with slopes of 0-2 percent. A typical soil profile consists of seven (7) inches of very dark grey sand, followed by seven (7) inches of grey sand and eight (8) inches of light brownish-grey loamy sand (NRCS, 1990). ***Pelham sand (Pe)*** is a Pelham series soil found in the northeastern portion of the PSA that accounts for less than one (1) percent of the total area. Pe soil is classified as predominantly hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The ***Rains series*** consists of nearly level to gently sloping, deep, and poorly drained soils that are formed from loamy Coastal Plain sediment. A typical profile consists of black fine sandy loam about six (6) inches thick with a subsurface of grey sandy loam six (6) inches thick, followed by twelve (12) inches of grey fine sandy loam (NRCS, 1980). ***Rains fine sandy loam, 0 to 2 percent slopes (Ra)*** is a Rains series soil found throughout the PSA that accounts for less than one (1) percent of the total area. Ra soil is classified as predominantly hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The ***Seagate series*** consists of nearly level, deep, and somewhat poorly drained soils that are formed from loamy Coastal Plain sediment. A typical soil profile consists of a surface layer of black loamy sand four (4) inches thick, followed by a subsurface layer of three (3) inches of loamy sand and six (6) inches of dark brown weakly cemented organic matter (NRCS, 1980). ***Seagate loamy sand (Se)*** is a Seagate series soil found near the Cypress Campground Road overpass of I-26 that accounts for less than one (1) percent of the total area. Se soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is not prime farmland (USDA, 2019).

The ***Wahee Series*** consists of nearly level, deep, and somewhat poorly drained soils that are formed from clayey Coastal Plain sediment. A typical soil profile consists of very dark grey loam five (5) inches thick, followed by four (4) inches of light yellowish-brown silty clay loam and four (4) inches of mottled greyish-brown silty clay loam (NRCS, 1980). ***Wahee loam (Wa)*** is a Wahee series soil found in the northwestern portion of the PSA that accounts for one (1) percent of the total area. Wa soil is classified as predominantly non-hydric, is included on the South Carolina list of hydric soils, and is classified as farmland of statewide importance (USDA, 2019).

The project will also have both short-term construction related impacts, as well as long-term operational impacts on soils in the PSA; however, these impacts are not considered adverse.

2.4 WATER RESOURCES AND WATER QUALITY

2.4.1 Water Resources

River Basin

The SC Department of Health and Environmental Control (SCDHEC) divides South Carolina into eight (8) major river basins. A river basin can be described as a geographic area in which all surface waters drains to a common point. The PSA extends into two of these major river basins; the Edisto and Santee River Basins.

Edisto River Basin

The Edisto River Basin exists entirely within South Carolina where its main river, the Edisto, flows through the coastal plain in two main branches: North Fork and South Fork. Mead & Hunt

reviewed the Basinwide Watershed Water Quality Assessment Report for the Edisto River Basin (SCDHEC, 2012) and the S.C. List of 303(d) Impaired Waters (SCDHEC, 2018) for information pertaining to water resources and water quality.

The Edisto River Basin encompasses 3,151 square miles of South Carolina from the sandhills to the coastal plain. Within this river basin, land use is 37.5% forested land, 34.3% agricultural land, 17.9% forested wetland, 5.5% urban land, 2.8% non-forested wetland, 1.8% water, and 0.2% barren land. The portion of land considered urban is primarily within the City of Orangeburg and a portion of the City of Aiken. Downstream of the confluence of the North and South Fork Edisto River, the Edisto River accepts drainage from Cattle Creek, Indian Field Swamp, and Four Hole Swamp (SCDHEC, 2012).

Within South Carolina, the Edisto River Basin is subdivided into four (4) major sub-basins, including the North Fork Edisto River, South Fork Edisto River, Four Hole Swamp, and the Edisto River. A portion of the PSA is located within the Four Hole Swamp Sub-Basin (USGS Hydrologic Unit Code [HUC] 03050205).

Within the Four Hole Swamp Sub-Basin, the PSA is located in the Four Hole Swamp – Lower Reach Watershed (HUC 0305020503). The Four Hole Swamp – Lower Reach Watershed is located in Dorchester, Orangeburg, and Berkeley Counties and consists primarily of Four Hole Swamp and its tributaries from Cow Castle Creek to its confluence with the Edisto River. The watershed occupies 183,907 acres of the Upper and Lower Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 33.7% forested land, 30.8% forested wetland (swamp), 29.2% agricultural land, 5.0% urban land, 0.6% barren land, 0.4% nonforested wetland (marsh), and 0.3% water (SCDHEC, 2012).

The Four Hole Swamp – Lower Reach Watershed encompasses the northwestern portion of the PSA and approximately 55 percent of the total area. Within the PSA, the Four Hole Swamp – Lower Reach Watershed incorporates one (1) tributary, Timothy Creek, and 39 freshwater wetlands. Please see **Section 5.0** for complete details of Waters of the U.S. identified within the PSA, as well as **Appendix A Figure 4** for watershed mapping.

Santee River Basin

The Santee River Basin exists entirely within South Carolina where it covers 1,249 square miles. Mead & Hunt reviewed the Basinwide Watershed Water Quality Assessment Report for the Santee River Basin (SCDHEC, 2013) and the S.C. List of 303(d) Impaired Waters (SCDHEC, 2018) for information pertaining to water resources and water quality.

The Santee River Basin encompasses 799,227 acres of the South Carolina Coastal Plain, of which 33.0% is forested land, 30.8% is forested wetland, 15.8% is agricultural land, 11.2% is water, 5.6% is nonforested wetland, 3.4% is urban land, and 0.2% is barren land. The Santee River is

the main river within the Santee River Basin. Within the area, the Santee River accepts drainage from the Congaree and Wateree Rivers and flows through Lake Marion (SCDHEC, 2013).

The Santee River Basin is subdivided into five (5) major sub-basins, including Lake Marion, the Santee River, the Cooper River, the Stono River, and the Bulls Bay Sub-Basin. Of these, the PSA is located within the Cooper River Sub-Basin (USGS Hydrologic Unit Code [HUC] 03050201).

Within the Cooper River Sub-Basin, the PSA is located in the Cypress Swamp Watershed (HUC 0305020105). The Cypress Swamp Watershed is located in Dorchester and Berkeley Counties and consists primarily of Cypress Swamp and its tributaries. The watershed occupies 139,162 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 52.5% forested land, 25.3% forested wetland, 14.4% agricultural land, 7.1% urban land, 0.4% nonforested wetland, 0.2% water, and 0.1% barren land (SCDHEC, 2013).

The Cypress Swamp Watershed encompasses the southeastern portion of the PSA and approximately 45 percent of the total area. Within the PSA, the Cypress Swamp Watershed incorporates 25 freshwater wetlands, one (1) pond, and four (4) tributaries, including Cypress Swamp, Thompson Creek, and two (2) unnamed tributaries. Please see **Section 5.0** for complete details of Waters of the U.S. identified within the PSA, as well as **Appendix A Figure 4** for watershed mapping.

Due to the size of the project, hydrology from the PSA drains to multiple SCDHEC water quality monitoring stations. Hydrology from the westernmost portion of the PSA within the Four Hole Swamp Watershed – Lower Reach drains to the E-100 water quality monitoring station west of the PSA. Hydrology from the central portion of the PSA within the Four Hole Swamp Watershed – Lower Reach drains to the E-015A water quality monitoring station located southwest of the PSA on Four Hole Swamp. Hydrology from the eastern portion of the PSA within the Cypress Swamp Watershed drains to the CSTL-078 water quality monitoring station located southwest of the PSA. Please see **Appendix A, Figure 4** for the location of watershed boundaries and the associated water quality monitoring station.

The Four Hole Swamp contains two water quality monitoring stations, E-100 and E-015A, downstream of the PSA. The water quality monitoring station closest to the PSA, E-100, is a midstream water quality station where aquatic uses are fully supported, dissolved oxygen is irregular (but typical for a blackwater system and not considered a standard violation), pH is increasing, and recreation uses are partially supported due to fecal coliform bacteria excursions. Further downstream of the PSA at E-015A, aquatic and recreational uses are fully supported.

Water quality monitoring station CSTL-078 is located on Cypress Swamp downstream of the PSA. At Station CSTL-078, aquatic life uses are fully supported, five-day biological oxygen demand is significantly increasing (including occasional excursions that are natural for a

blackwater system), pH is increasing, and recreational uses are partially supported due to fecal coliform bacteria excursions.

2.4.2 303 (d) List of Impaired Waters

In accordance with Section 303(d) of the 1972 Federal Clean Water Act (CWA), SCDHEC evaluates water bodies identified as impaired for appropriate inclusion on the Section 303(d) list. The 303(d) list is a State list of waters that are not meeting water quality standards or have impaired uses. The 303(d) list targets water bodies that do not meet water quality standards set for the state for water quality management, as well as identifying the cause(s) of the impairment and the designated classifications.

According to SCDHEC's Draft 2018 Section 303(d) List of Impaired Waters, Station E-100 is listed as impaired for recreational uses due to fecal coliform contamination (*E.coli*). SCDHEC station E-015A and CSTL-078 are not listed as impaired for any parameters assessed in the Draft 2018 Section 303(d) List of Impaired Waters.

According to the South Carolina Watershed Atlas, accessed February 2019, water quality at station E-100 was listed as impaired on the 2016 and 2014 303(d) lists due to *E.coli*, as well as the 2012, 2010, and 2008 303(d) lists for fecal coliform. Water quality at monitoring station E-015A is not listed as impaired in the South Carolina Watershed Atlas. Water quality at monitoring station CSTL-078 was listed as impaired for fecal coliform on both the 2010 and 2008 303(d) list, but has not been listed since.

2.4.3 Total Maximum Daily Loads

A TMDL, or Total Maximum Daily Load, is the amount of a single pollutant (e.g., bacteria, nutrients, metals) that can enter a waterbody on a daily basis and still meet water quality standards set forth by the State. "TMDL" refers to both the calculation of a pollutant entering a waterbody, as well as a document which includes this calculation along with source assessments, watershed and land use information, reductions and allocations information, implementation and other relevant information, maps, figures and pictures (SCDHEC, 2012).

The goal of a TMDL is to identify potential pollution sources, calculate and quantify the reduction of those sources, and to provide general implementation information needed in order to meet water quality standards and improve water quality. After the approval of the TMDL, an implementation plan can be developed to realize the goals of the written TMDL plan document. Implementation of a TMDL has the potential to reduce sources of pollution within a watershed and the potential to restore the full use of the waterbody.

TMDLs are determined by calculating all the point and nonpoint sources for the pollutant causing the impairment. After a TMDL is calculated, the amount of load entering from point and

nonpoint sources is compared to the water quality standards for that waterbody. Then this total loading is reduced to the levels where the water quality standards can be met. This reduced loading is then divided among all the point and nonpoint sources.

According to the SCDHEC list of Approved TMDLs, accessed February, 2019, and the *State of South Carolina's 2018 Integrated Report,* the SCDHEC water quality monitoring stations E-100 and CSTL-078 are not included in any approved TMDL. A TMDL has been developed for HUC 03050201, the Charleston Harbor, as well as the Cooper, Ashley, and Wando Rivers (SCDHEC, 2013). This TMDL includes the eastern portion of the PSA.

2.4.4 National Pollutant Discharge Elimination System

Point source discharge is any discharge that is released to the waters of the State by a discernible, confined and discrete conveyance, including but not limited to a pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel, or other floating craft from which waste is or may be discharged. The National Pollutant Discharge Elimination System (NPDES) Permit Program was created by Section 402 of the CWA. In 1975, the Bureau of Water received authority from the EPA to administer the NPDES Permit Program in South Carolina. The SCDHEC Bureau of Water is responsible for the permitting, compliance, monitoring and enforcement activities of the program.

Persons with point source discharges to surface waters are required to have NPDES permits. Typical regulated point source discharges are:

- discharges from wastewater treatment systems owned by municipalities, industries, private utilities, State and Federal government, etc.;
- discharges such as cooling water, boiler blow down, etc.;
- stormwater discharges from municipal separate storm sewer systems (MS4s);
- stormwater discharges associated with industrial activity; and,
- stormwater dischargers from construction sites.

According to the Basinwide Watershed Water Quality Assessment Report for the Edisto River Basin (SCDHEC, 2012) and Basinwide Watershed Water Quality Assessment Report for the Santee River Basin (SCDHEC, 2013), no NPDES Permitted facilities are located within the PSA. Within the Four Hole Swamp – Lower Reach Watershed, there are 22 active NPDES permitted facilities. One (1) NPDES permitted facility is located upstream of the PSA. NPDES permit SCG731081 authorizes minor industrial discharge to the Santee Branch from the Mark Edwins/Edwins Mine. Within the Cypress Swamp watershed, there are five (5) active NPDES permitted facilities. Four (4) of these facilities are located upstream of the PSA. NPDES permit SCG730115 authorizes minor industrial discharge to Mill Branch from the D&A Partnership/Cumbie Pit. NPDES permit SCG731011 authorizes minor industrial discharge to a

Sandy Run Tributary from the Gramling Brothers Real EST./Ski Lake Mine. NPDES permit SCG731024 authorizes minor industrial discharge to a Sandy Run Tributary from the Gramling Brothers Real EST./Canal Lakes Mine. NPDES permit SCG731029 authorizes minor industrial discharge to a Sandy Run Tributary from the Gramling Brothers Real EST./Canal Lakes 5 Acre Mine.

2.4.5 Water Quality Summary

Mead & Hunt reviewed SCDHEC's Watershed and Water Quality Information, provided by an online query in February, 2019. According to these reports, Station E-100 is impaired for *E.coli*, and station E-015A does not list any impairments. Station CSTL-102, located on the Ashley River, is the closest available downstream station for water quality in the Cypress Swamp Watershed and is located within an approved TMDL for Dissolved Oxygen. Please see **Appendix D** for a copy of the SCDHEC Watershed and Water Quality Information Reports.

Due to the existing water quality impairments, a TMDL is approved within the PSA watershed. SCDHEC may require additional water quality protection and stormwater treatment measures during and after construction. However, the proposed project is not anticipated to contribute to these impairments or have long term impacts on water quality within the impaired watersheds.

During construction activities, temporary siltation may occur in adjacent waters and erosion may occur at a more rapid rate. It is recommended that the contractor minimize this impact through implementation of construction best management practices, reflecting policies contained in 23 CFR 650 B and S.C. Code of Regulations 72-400. The SCDOT has also issued an Engineering Directive Memorandum (Number 23), dated March 10, 2009, regarding Department procedures to be followed in order to ensure compliance with S.C. Code of 72-400, Standards for Stormwater Management and Sediment Reduction. Exposed areas may be stabilized by following the Department's Supplemental Technical Specification for Seeding (SCDOT Designation SC-M-810 (11-08)).

3.0 BIOTIC RESOURCES

3.1 TERRESTRIAL PLANT COMMUNITIES

Vegetative terrestrial communities in the PSA were distinguished by plant species, location in the landscape, past disturbances, and hydrologic characteristics. For the purpose of this report, only habitats located directly within the PSA are summarized. Based on the field review, five (5) terrestrial community types are present within the PSA, including: 1) Blackwater River Floodplain Forest, 2) Cypress Gum Swamp, 3) Mesic Mixed Pine / Hardwood Forest, 4) Pine Plantation (including clearcut), and 5) Maintained and Disturbed Land.

A brief summary of the terrestrial habitat communities found within the PSA follows:

Blackwater River Floodplain Forest

Blackwater river systems are defined by rivers that originate in the Coastal Plain and are characterized by a slow-moving channel with a silt bottom. The Blackwater River Floodplain Forest is a community type located along the banks and overflow areas of these blackwater rivers. Within the PSA, this is the dominant community type along Cypress Swamp and Four Hole Swamp. Dominant vegetation in this community consists of an overstory of bald cypress (*Taxodium distichum*), black tupelo (*Nyssa sylvatica*), water tupelo (*Nyssa aquatica*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*). This community experiences frequent flooding and periods of extended inundation, which limits understory vegetation development. However, some areas contain an understory composed of false nettle (*Boehmeria cylindrica*), switch cane (*Arundinaria gigantea*), and fetterbush (*Lyonia lucida*) as well as muscadine (*Vitis rotundifolia*).

Cypress Gum Swamp

The Cypress Gum Swamp community is a Coastal Plain community type that is frequently flooded or inundated and contains poorly drained soils. Within the PSA, Cypress Gum Swamps can be found throughout wetland areas not in direct association with riverine systems. The overstory within this community is dominated by bald cypress, black tupelo, water tupelo, and red maple. The understory is dominated by red bay (*Persea borbonia*), Chinese privet (*Ligustrum sinense*), lizard tail (*Saururus cernuus*), and pepper bush (*Clethera alnifolia*). Woody vines of muscadine and poison ivy (*Toxicodendron radicans*) are also present.

Mesic Mixed Pine/Hardwood Forest

Mesic Mixed Pine/Hardwood Forests are the most common natural community type within the PSA. This community is found throughout the PSA including roadsides and median areas that have not been cleared. Dominant vegetation consists of pine and hardwood tree species in varying stages of development from successional to mature forests. Vegetation within this community is variable, but consists mostly of sweetgum, red maple, loblolly pine (*Pinus taeda*), American beech (*Fagus grandifolia*), water oak (*Quercus nigra)*, northern red oak (*Quercus rubra*), winged elm (*Ulmus alata*), white oak (*Quercus alba*), willow oak (*Quercus phellos*), tulip poplar (*Lirodendron tulipifera*), mockernut hickory (*Carya tomentosa*), black tupelo, eastern red cedar (*Juniperus virginiana*), and American holly (*Ilex opaca*). This community type has a light shrub layer of mostly Chinese privet, American witch-hazel (*Hamamelis virginiana*), and Northern spicebush (*Lindera benzoin*). Herbaceous plant species observed within this community included Virginia chain fern (*Woodwardia virginiana*), cinnamon fern (*Osmundastrum cinnamomeum*), Christmas fern (*Polystichum acrostichoides*), broomsedge (*Andropogon virginicus*), Japanese stilt grass (*Microstegium vimineum*), and dwarf palmetto (*Sabal minor*). Common woody vines included Virginia creeper (*Parthenocissus quinquefolia*), common greenbrier (*Smilax rotundifolia*), trumpet vine (*Campsis radicans*), muscadine, and poison ivy.

Pine Plantations

Pine Plantations can be found throughout the PSA. These areas are monocultures comprised almost entirely of pines; either loblolly pine, slash pine (*Pinus elliottii*), or longleaf pine (*Pinus palusris*). These pines are grown in rotation where mature trees are harvested, often leaving a clear cut with no vegetation where a new crop of trees will grow. Within the PSA, pine plantations exist at all stages of development including clear cuts, seedlings, saplings, and mature stands. Pine plantations are often maintained through prescribed burns to maintain a minimal understory.

Maintained and Disturbed Land

The Maintained and Disturbed Land community type is found throughout the PSA, and occurs primarily alongside I-26, SC 27, Cypress Campground Road, and utility corridors. Maintained and disturbed land is maintained by frequent mowing and therefore is comprised mostly of herbaceous species, including various grasses such as Bermuda grass (*Cynodon dactylon*), bahiagrass (*Paspalum notatum*), common fescue (*Festuca sp*.), ryegrass (*Lolium perenne*) and bluegrass (*Poa sp*.).

3.2 WETLAND PLANT COMMUNITIES

A total of nineteen (19) wetland communities were depicted on the NWI Wetlands Mapper within the PSA, including three (3) riverine systems [R2UBHx, R4SBC and R5UBH]; one (1) emergent wetland [PEM1F]; four (4) freshwater scrub-shrub wetlands [PSS1/4A, PSS1A, PSS1Cd, and PSS4B], and eleven (11) freshwater forested wetlands [PFO1/2C, PFO1/2F, PFO/2Fh, PFO1/4A, PFO1/4Ad, PFO1/4C, PFO1A, PFO1Ad, PFO1C, PFO4/1B, and PFO4A]. Please see **Appendix A, Figure 5** for the location and extent of NWI elements within the PSA. Please see **Section 5.0** for complete details of Waters of the U.S. identified within the PSA.

3.3 AQUATIC PLANT COMMUNITIES

No evidence of aquatic plant communities was observed within the PSA.

4.0 FLOODPLAINS

Floodplains are low-lying areas adjacent to rivers, streams, and other waterbodies that are susceptible to inundation during rain events. These areas provide important functions in the natural environment, such as providing storage for flood waters, protecting the surrounding environment from erosion, and providing habitat for wildlife. As such, agencies are required to take actions that reduce the risk of impacts to floodplains and their associated floodway or main channel of flow.

Floodplain and floodway protection are required under several federal, state, and local laws, including Executive Order 11988 entitled “Floodplain Management,” which requires federal

agencies to avoid making modifications to and supporting development in floodplains wherever practical. Floodplains subject to inundation by the one-percent-annual-chance (100 year) flood event are regulated by the Federal Emergency Management Agency (FEMA).

FEMA publishes maps which depict areas of regulated floodplains and floodways. The Flood Insurance Rate Map (FIRM) is the most common of these flood maps. FIRMs depict the boundaries of flood hazard areas and differentiates them by Zone.

Zone A floodplains are areas subject to inundation by the 1-percent-annual-chance flood event and are generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, Base Flood Elevations (BFEs) or flood depths are not available for Zone A floodplains.

Zone AE floodplains are areas subject to inundation by the 1-percent-annual-chance flood event and are determined by detailed methods. BFEs are available for Zone AE floodplains and are provided on FIRMs.

Based upon a review of the floodplain mapping [FIRM Map IDs 45015C & 45035C (Dorchester)] and a GIS analysis of the PSA, the proposed project crosses FEMA-regulated Zone AE floodplain and floodway associated with Cypress Swamp and the Zone AE floodplain associated Four Hole Swamp; please see **Appendix A, Figure 7** for the location and extent of regulated floodplains in the vicinity of the PSA.

In accordance with Executive Order 11988, a hydraulic analysis must be conducted for an encroachment of a FEMA-regulated floodplain. The hydraulic analysis is used to determine if the project is likely to increase the risk of flooding within the floodplain. In order to meet the requirements of a “No-Rise” condition, FEMA requires projects which would encroach on Regulated Floodways and Zone AE floodplains to result in a change no greater than 0.1 feet from the established 100-year flood elevations. Furthermore, SCDOT requires all Zone A crossings to be analyzed for the 100-year flood to ensure that the floodplain encroachment does not cause one (1) foot or more of backwater when compared to unrestricted or natural conditions.

The encroachment of the FEMA-regulated floodplains within the PSA are not anticipated to increase the risk of flooding within these floodplains and the proposed project would be designed to meet the “No-Rise” requirements. A preliminary hydraulic analysis will be performed for each encroachment of a FEMA-regulated floodplain and a detailed hydraulic analysis will be performed during final design.

5.0. WATERS OF THE U.S.

Waters of the U.S. are defined by 33 CFR 328.3(b) and protected by Section 404 of the Clean Water Act (33 U.S.C. 1344), which is administered and enforced in South Carolina by the U.S. Army Corps of Engineers (USACE), Charleston District. The term "Waters of the U.S." is defined in 33 CFR Part 328 as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    - Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    - Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs 1 – 4 above;
6. The territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in 1 – 6 above.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition), are not waters of the United States. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, the final authority regarding Clean Water Act jurisdiction remains with the Environmental Protection Agency.

Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal circumstances a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands are defined in the field as areas that display positive evidence of three environmental parameters including dominance of hydrophytic vegetation, wetland hydrology, and hydric soils (USACE, 1987).

The boundaries of waters of the U.S. were delineated on June 5-9, 2018, June 19-21, 2018, June 25-27, 2018, and July 3, 2018. Potential wetland areas were evaluated using the Routine On-Site Determination Method as defined in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Atlantic and Gulf Coastal Plain Regional Supplement to the Manual (USACE, 2010). The boundaries of delineated waters within the PSA were flagged (delineated) in the field at that time. Wetlands were delineated with pink flagging and numbered sequentially. Tributaries, perennial streams, and ponds were delineated with blue flagging, and potentially jurisdictional ditches were marked at the start and end points with both pink and blue flagging. Furthermore, delineated waters were subsequently located using a handheld Trimble GeoXH Global Positioning System (GPS) unit capable of sub-meter accuracy. The USACE field verified all jurisdictional Waters of the U.S. on February 26, 2019.

5.1 WETLANDS

A total of 64 wetlands were identified within the PSA during site reviews, as listed in Table 2.

TABLE 2
WETLANDS WITHIN THE PROJECT STUDY AREA

Feature	Wetland Type	Latitude	Longitude	Area of Feature
Freshwater Wetland 1	PFO1	33.1414220^0 N	80.318236^0 W	0.380 acre
Freshwater Wetland 2	PFO1	33.140289^0 N	80.315877^0 W	0.237 acre
Freshwater Wetland 3	PFO1	33.139553^0 N	80.314225^0 W	0.305 acre
Freshwater Wetland 4	PFO1/4	33.138669^0 N	80.311016^0 W	1.315 acres
Freshwater Wetland 5	PFO1	33.137886^0 N	80.310893^0 W	0.554 acre
Freshwater Wetland 6	PFO1	33.137404^0 N	80.311742^0 W	0.467 acre
Freshwater Wetland 7	PEM1	33.134604^0 N	80.312009^0 W	0.795 acre
Freshwater Wetland 8	PFO1	33.137330^0 N	80.309458^0 W	0.606 acre
Freshwater Wetland 9	PFO1	33.137389^0 N	80.308592^0 W	0.063 acre
Freshwater Wetland 10	PFO1	33.134991^0 N	80.307109^0 W	2.541 acres
Freshwater Wetland 11	PFO1d	33.135902^0 N	80.306602^0 W	0.092 acre
Freshwater Wetland 12	PEM1	33.135186^0 N	80.305287^0 W	0.288 acre
Freshwater Wetland 13	PFO4	33.132389^0 N	80.312209^0 W	0.123 acre
Freshwater Wetland 14	PFO1/4	33.131214^0 N	80.311726^0 W	0.193 acre

Freshwater Wetland 15	PFO4	33.130682^0 N	80.312355^0 W	0.348 acre
Freshwater Wetland 16	PFO1/4, PEM1	33.129510^0 N	80.311930^0 W	0.560 acre
Freshwater Wetland 17	PFO4, PEM1	33.129090^0 N	80.312451^0 W	0.844 acre
Freshwater Wetland 18	PFO1/4	33.127430^0 N	80.312252^0 W	0.260 acre
Freshwater Wetland 19	PFO4	33.126305^0 N	80.311979^0 W	0.068 acre
Freshwater Wetland 20	PFO1/4d	33.125274^0 N	80.311672^0 W	0.145 acre
Freshwater Wetland 21	PFO4	33.123848^0 N	80.311479^0 W	0.460 acre
Freshwater Wetland 22	PFO1/4	33.139419^0 N	80.308204^0 W	0.381 acre
Freshwater Wetland 23	PFO1/4	33.139848^0 N	80.308640^0 W	0.136 acre
Freshwater Wetland 24	PFO1	33.141671^0 N	80.306473^0 W	0.118 acre
Freshwater Wetland 25	PFO1	33.134719^0 N	80.304311^0 W	0.336 acre
Freshwater Wetland 26	PEM1	33.133860^0 N	80.302483^0 W	0.344 acre
Freshwater Wetland 27	PFO1/4	33.132863^0 N	80.302448^0 W	1.020 acres
Freshwater Wetland 28	PFO1	33.131563^0 N	80.299714^0 W	0.535 acre
Freshwater Wetland 29	PFO1/4	33.131920^0 N	80.298241^0 W	0.258 acre
Freshwater Wetland 30	PFO1	33.130137^0 N	80.296824^0 W	2.014 acres
Freshwater Wetland 31	PFO1	33.131282^0 N	80.297402^0 W	0.117 acre
Freshwater Wetland 32	PFO1/4	33.128100^0 N	80.292588^0 W	0.248 acre
Freshwater Wetland 33	PFO1	33.127261^0 N	80.290848^0 W	1.554 acres
Freshwater Wetland 34	PFO1	33.126418^0 N	80.287091^0 W	2.798 acres
Freshwater Wetland 35	PEM1	33.114219^0 N	80.260444^0 W	2.351 acres
Freshwater Wetland 36	PFO1/4	33.105291^0 N	80.267441^0 W	1.037 acres
Freshwater Wetland 37	PFO4	33.111209^0 N	80.263395^0 W	1.561 acres
Freshwater Wetland 38	PEM1	33.115812^0 N	80.257195^0 W	0.290 acre
Freshwater Wetland 39	PFO1/4	33.110448^0 N	80.262808^0 W	0.255 acre
Freshwater Wetland 40	PFO1	33.110911^0 N	80.261044^0 W	0.035 acre
Freshwater Wetland 41	PFO1/4	33.111303^0 N	80.258962^0 W	0.774 acre
Freshwater Wetland 42	PFO4	33.109877^0 N	80.257098^0 W	0.202 acre

Freshwater Wetland 43	PEM1	33.108430^0 N	80.256777^0 W	0.356 acre
Freshwater Wetland 44	PFO1/4	33.108446^0 N	80.254694^0 W	0.056 acre
Freshwater Wetland 45	PFO1	33.116155^0 N	80.256314^0 W	0.234 acre
Freshwater Wetland 46	PFO1	33.116382^0 N	80.255706^0 W	0.514 acre
Freshwater Wetland 47	PFO1	33.116792^0 N	80.254430^0 W	0.741 acre
Freshwater Wetland 48	PFO1	33.104939^0 N	80.249928^0 W	0.128 acre
Freshwater Wetland 49	PFO1	33.099791^0 N	80.242234^0 W	2.461 acres
Freshwater Wetland 50	PFO1	33.101999^0 N	80.244971^0 W	0.345 acre
Freshwater Wetland 51	PFO1/4	33.102290^0 N	80.244469^0 W	0.363 acre
Freshwater Wetland 52	PFO1	33.099988^0 N	80.240776^0 W	1.194 acres
Freshwater Wetland 53	PFO1/2	33.096487^0 N	80.236741^0 W	3.361 acres
Freshwater Wetland 54	PFO1/2	33.097400^0 N	80.236459^0 W	4.181 acres
Freshwater Wetland 55	PFO1/4	33.094350^0 N	80.233146^0 W	0.419 acre
Freshwater Wetland 56	PEM1	33.091053^0 N	80.224421^0 W	0.052 acre
Freshwater Wetland 57	PFO1/4	33.090102^0 N	80.224758^0 W	0.556 acre
Freshwater Wetland 58	PFO1/4	33.088982^0 N	80.222386^0 W	0.424 acre
Freshwater Wetland 59	PFO1/2	33.145443^0 N	80.326558^0 W	2.999 acres
Freshwater Wetland 60	PFO1/2	33.144730^0 N	80.327205^0 W	3.628 acres
Freshwater Wetland 61	PFO1	33.143529^0 N	80.322454^0 W	0.015 acre
Freshwater Wetland 62	PFO1/4	33.142773^0 N	80.320854^0 W	0.212 acre
Freshwater Wetland 63	PEM	33.136536^0 N	80.311992^0 W	0.093 acre
Freshwater Wetland 64	PEM	33.113238^0 N	80.260195^0 W	1.685 acres
Wetlands Total				**51.025 acres**

Please see **Appendix A, Figure 6** for the location and extent of delineated wetlands in the PSA.

Freshwater Wetland 1

Freshwater Wetland 1 is a palustrine, or freshwater, wetland located immediately northeast of the I-26 westbound travel lane and 0.55 mile northwest of the SC 27 interchange. Freshwater Wetland 1 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.380

acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 1 is dominated by loblolly pine, sweetgum, and red maple, with non-dominant species of water oak. The understory of Freshwater Wetland 1 is dominated by saplings and shrubs of sweetgum, red maple, water oak, red bay, sweet pepperbush (*Clethra alnifolia*), and wax myrtle (*Morella cerifera*), with non-dominant species of black tupelo. Herbaceous species of slender woodoats (*Chasmanthium laxum*), sawtooth blackberry (*Rubus argutus*), giant cane, and royal fern (*Osmunda regalis*) are present within the wetland. Woody vines of muscadine, common greenbrier, poison ivy, and Virginia creeper are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. Freshwater Wetland 1 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 1 is included in **Appendix C, Photograph 1.**

Freshwater Wetland 2

Freshwater Wetland 2 is a palustrine wetland located immediately northeast of the I-26 westbound travel lane and 0.4 mile northwest of the SC 27 interchange. Freshwater Wetland 2 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.237 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 2 is dominated by loblolly pine, sweetgum, and red maple, with non-dominant species of water oak. The understory of Freshwater Wetland 2 is dominated by saplings and shrubs of sweetgum, red maple, water oak, red bay, sweet pepperbush, and wax myrtle, with non-dominant species of black tupelo. Herbaceous species of slender woodoats, sawtooth blackberry, giant cane, and royal fern are present within the wetland. Woody vines of muscadine, common greenbrier, poison ivy, and Virginia creeper are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. Freshwater Wetland 2 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 2 is included in **Appendix C, Photograph 2.**

Freshwater Wetland 3

Freshwater Wetland 3 is a palustrine wetland located 50 feet northeast of the I-26 westbound travel lane and 0.3 mile northwest of the SC 27 interchange. Freshwater Wetland 3 is a forested depressional wetland. Approximately 0.305 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 3 is dominated by red maple and sweetgum, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 3 is dominated by saplings and shrubs of red maple, sweetgum, sweet pepperbush, and red bay, with non-dominant species of water oak. Herbaceous species of slender woodoats and greenwhite sedge (*Carex albolutescens*) are present within the wetland. Woody vines of muscadine, poison ivy, and Virginia creeper are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres,

geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 3 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 3 is included in **Appendix C, Photograph 3.**

Freshwater Wetland 4

Freshwater Wetland 4 is a palustrine wetland located immediately north of the on-ramp for I-26 westbound from SC 27. Freshwater Wetland 4 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 1.315 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 4 is dominated by loblolly pine, sweetgum, and red maple, with non-dominant species of water oak. The understory of Freshwater Wetland 4 is dominated by saplings and shrubs of sweetgum, red maple, water oak, red bay, sweet pepperbush, and wax myrtle, with non-dominant species of black tupelo. Herbaceous species of slender woodoats, sawtooth blackberry, giant cane, and royal fern are present within the wetland. Woody vines of muscadine, common greenbrier, poison ivy, and Virginia creeper are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 4 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). A representative photograph of Freshwater Wetland 4 is included in **Appendix C, Photograph 4.**

Freshwater Wetland 5

Freshwater Wetland 5 is a palustrine wetland located within a forested portion of the I-26 and SC 27 interchange. Specifically, Freshwater Wetland 5 is located northeast of the westbound I-26 travel lane, southwest of the I-26 westbound on-ramp from SC 27, and northwest of the SC 27 overpass. Freshwater Wetland 5 is a forested depressional wetland. The entire wetland is contained within the PSA, encompassing 0.554 acre. The overstory of Freshwater Wetland 5 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 5 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern (*Woodwardia areolate*) are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 5 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 5 is included in **Appendix C, Photograph 5.**

Freshwater Wetland 6

Freshwater Wetland 6 is a palustrine wetland located within a forested portion of the I-26 and SC 27 interchange. Specifically, Freshwater Wetland 6 is located southwest of the eastbound I-26 travel lane, northeast of the I-26 eastbound off-ramp to SC 27, and northwest of the SC 27 overpass. Freshwater Wetland 6 is a forested depressional wetland. The entire wetland is contained within the PSA, encompassing 0.467 acre. The overstory of Freshwater Wetland 6 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 6 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry and giant cane are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 6 is not depicted on USFWS NWI Seamless Wetlands Data. Representative photographs of Freshwater Wetland 6 are included in **Appendix C, Photographs 6 and 7.**

Freshwater Wetland 7

Freshwater Wetland 7 is a palustrine wetland located 50 feet west of SC 27 southbound and 500 feet south of the off-ramp from I-26 eastbound to SC 27. Freshwater Wetland 7 is an emergent wetland located predominantly within a utility corridor. Approximately 0.795 acre of the wetland is located within the PSA. Freshwater Wetland 7 is maintained within a utility corridor and area of open land, and therefore contains no overstory or saplings. Shrubs within the wetland consist of sweetgum and persimmon (*Diospyros virginiana*). Herbaceous species of velvet panicum (*Dichanthelium scoparium*), leathery rush (*Juncus coriaceus*), roundleaf thoroughwort (*Eupatorium rotundifolium*), handsome harry (*Rhexia virginica*), slender goldentop (*Euthamia minor*), savannah meadowbeauty (*Rhexia alifanus*), woolgrass (*Scirpus cyperinus*), common rush (*Juncus effuses*), southern dewberry (*Rubus trivialis*), and giant cane are present within the wetland. Woody vines of muscadine, trumpet vine, and common greenbrier are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a redox dark surface, a depleted dark surface, and an umbric surface were observed within the wetland. Freshwater Wetland 7 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 7 is included in **Appendix C, Photograph 8.**

Freshwater Wetland 8

Freshwater Wetland 8 is a palustrine wetland located within a forested portion of the I-26 and SC 27 interchange. Specifically, Freshwater Wetland 8 is located northeast of the westbound I-26 travel lane, southwest of the I-26 westbound off-ramp to SC 27, and southeast of the SC 27 overpass. Freshwater Wetland 8 is a forested depressional wetland. The entire wetland is contained within the PSA, encompassing 0.606 acre. The overstory of Freshwater Wetland 8 is dominated by red maple, with non-dominant species of sweetgum and water oak. The

understory of Freshwater Wetland 8 is dominated by saplings and shrubs of laurel oak (*Quercus laurifolia*), red maple, black elder (*Sambucus nigra*), red bay, and laurel oak. Herbaceous species of slender woodoats, lizard's tail, and royal fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water marks, water-stained leaves, oxidized rhizospheres, geomorphic position, and FAC-neutral test. A redox dark surface, hydric soil indicator, was observed within the wetland. Freshwater Wetland 8 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 8 is included in **Appendix C, Photograph 9.**

Freshwater Wetland 9

Freshwater Wetland 9 is a palustrine wetland located immediately east of the I-26 westbound off-ramp to SC 27 approximately 400 feet southeast of the SC 27 interchange. Freshwater Wetland 9 is a forested, mixed pine/hardwood, and saturated wetland. The entire wetland is contained within the PSA, encompassing 0.063 acre. The overstory of Freshwater Wetland 9 is dominated by loblolly pine, sweetgum, and red maple. The understory of Freshwater Wetland 9 is dominated by saplings and shrubs of sweetgum, red maple, water oak, red bay, sweet pepperbush, and wax myrtle. Herbaceous species of slender woodoats and sawtooth blackberry are present within the wetland. Woody vines of muscadine, common greenbrier, and poison ivy are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. Freshwater Wetland 9 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 9 is included in **Appendix C, Photograph 10.**

Freshwater Wetland 10

Freshwater Wetland 10 is a palustrine wetland located immediately southwest of the I-26 eastbound on-ramp from SC 27 and stretches east along the I-26 eastbound travel lane immediately west of the roadway. Freshwater Wetland 10 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 2.541 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 10 is dominated by sweetgum and water oak, with non-dominant species of loblolly pine and red maple. The understory of Freshwater Wetland 10 is dominated by saplings and shrubs of water oak, sweetgum, and red bay. Herbaceous species of slender woodoats and giant cane are present within the wetland. Woody vines of muscadine, common greenbrier, and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. A portion of Freshwater Wetland 10 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). Representative photographs of Freshwater Wetland 10 are included in **Appendix C, Photographs 11 through 13.**

Freshwater Wetland 11

Freshwater Wetland 11 is a palustrine wetland located immediately northeast of the I-26 westbound off-ramp to SC 27 and 0.2 mile southeast of the interchange. Freshwater Wetland 11 is a forested riparian wetland. Approximately 0.092 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 11 is dominated by water oak, sweetgum, and red maple, with non-dominant species of loblolly pine, laurel oak, and green ash (*Fraxinus pennsylvanica*). The understory of Freshwater Wetland 11 is dominated by saplings and shrubs of sweetgum, water oak, red maple, laurel oak, and wax myrtle. Herbaceous species of slender woodoats, and giant cane are present within the wetland. Woody vines of muscadine and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 11 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded, partly drained/ditched wetland (PFO1Ad). A representative photograph of Freshwater Wetland 11 is included in **Appendix C, Photograph 14.**

Freshwater Wetland 12

Freshwater Wetland 12 is a palustrine wetland located immediately northeast of I-26 westbound and 0.3 mile southeast of the SC 27 overpass. Freshwater Wetland 12 is an emergent wetland within a clear-cut pine plantation that has been recently bedded. Approximately 0.288 acre of the wetland is located within the PSA. Freshwater Wetland 12 is located within a clear-cut pine plantation, and therefore contains minimal vegetation and no overstory. Shrubs within the wetland consist of loblolly pine and sandweed (*Hypericum fasciculatum*). Herbaceous species of noddig beaksedge (*Rhynchospora inexpansa*), awepetal meadow beauty (*Rhexia aristosa*), savannah meadow beauty, chapman's beaksedge (*Rhynchospora chapmanii*), American burnweed (*Erechtites hieraciifolius*), and dogfennel (*Eupatorium capillifolium*) are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include saturation, water-stained leaves, geomorphic position, and FAC-neutral test. A depleted matrix, hydric soil indicator, was observed within the wetland. A portion of Freshwater Wetland 12 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded, partly drained/ditched wetland (PFO1Ad). A representative photograph of Freshwater Wetland 12 is included in **Appendix C, Photograph 15.**

Freshwater Wetland 13

Freshwater Wetland 13 is a palustrine wetland located 50 feet west of SC 27 southbound and 0.3 mile south of the I-26 eastbound off-ramp to SC 27. Freshwater Wetland 13 is a forested wetland within a recently thinned pine stand. Approximately 0.123 acre of the wetland is located within the PSA. Freshwater Wetland 13 is located within a recently thinned pine plantation, and therefore contains minimal overstory and sapling diversity. The overstory within Freshwater Wetland 13 consists entirely of loblolly pine. The understory of Freshwater

Wetland 13 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge (*Carex glaucescens*), Vasey's grass (*Paspalum urvillei*), American burnweed, leathery rush, and woolgrass are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 13 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 13 is included in **Appendix C, Photograph 17.**

Freshwater Wetland 14

Freshwater Wetland 14 is a palustrine wetland located immediately east of SC 27 northbound and 0.35 mile south of the I-26 eastbound on-ramp from SC 27. Freshwater Wetland 14 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.193 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 14 is dominated by sweetgum and water oak, with non-dominant species of loblolly pine and red maple. The understory of Freshwater Wetland 14 is dominated by saplings and shrubs of water oak, sweetgum, and red bay. Herbaceous species of slender woodoats, sawtooth blackberry, royal fern, and giant cane are present within the wetland. Woody vines of muscadine, common greenbrier, and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including depleted below dark surface and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 14 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland (PFO1/4A). A representative photograph of Freshwater Wetland 14 is included in **Appendix C, Photograph 18.**

Freshwater Wetland 15

Freshwater Wetland 15 is a palustrine wetland located immediately west of SC 27 southbound and 0.4 mile south of the I-26 eastbound off-ramp to SC 27. Freshwater Wetland 15 is a forested wetland within a recently thinned pine stand. Approximately 0.348 acre of the wetland is located within the PSA. Freshwater Wetland 15 contains minimal overstory and sapling diversity. The overstory within Freshwater Wetland 15 consists entirely of loblolly pine. The understory of Freshwater Wetland 15 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 15 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 15 is included in **Appendix C, Photograph 19.**

Freshwater Wetland 16

Freshwater Wetland 16 is a palustrine wetland located immediately east of SC 27 northbound and 0.5 mile south of the I-26 eastbound on-ramp from SC 27. Freshwater Wetland 16 spans both an emergent wetland located within a utility corridor and an area of mixed pine/hardwood forest. Approximately 0.560 acre of the wetland is located within the PSA. A portion of Freshwater Wetland 16 is maintained within a utility corridor, and therefore contains no overstory or saplings. The portion of Freshwater Wetland 16 that represents a mixed pine/hardwood forest contains an overstory of sweetgum and water oak, with non-dominant species of loblolly pine and red maple, as well as an understory containing saplings and shrubs of red maple, wax myrtle, and sweetgum. Both communities within the wetland contain an herbaceous layer of velvet panicum, leathery rush, roundleaf thoroughwort, handsome harry, slender goldentop, savannah meadowbeauty, woolgrass, common rush, southern dewberry, and giant cane. Woody vines of muscadine, trumpet vine, and common greenbrier are also present within the forested section of the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position and FAC-neutral test. Hydric soil indicators, including a redox dark surface, depleted dark surface, and an umbric surface were observed within the wetland. The majority of Freshwater Wetland 16 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland (PFO1/4A). Representative photographs of Freshwater Wetland 16 are included in **Appendix C, Photographs 20 and 21.**

Freshwater Wetland 17

Freshwater Wetland 17 is a palustrine wetland located immediately west of SC 27 southbound and 0.5 mile south of the I-26 eastbound off-ramp to SC 27. Freshwater Wetland 17 spans both an emergent wetland located within a utility corridor and an area of recently thinned pine plantation. Approximately 0.844 acre of the wetland is located within the PSA. A portion of Freshwater Wetland 17 is maintained within a utility corridor, and therefore contains no overstory or saplings. The portion of Freshwater Wetland 17 that represents a thinned pine plantation contains an overstory of loblolly pine, with no saplings due to thinning. The understory of both communities within Freshwater Wetland 17 is dominated by shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present throughout the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. The majority of Freshwater Wetland 17 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland (PFO1/4A). A representative photograph of Freshwater Wetland 17 is included in **Appendix C, Photograph 22.**

Freshwater Wetland 18

Freshwater Wetland 18 is a palustrine wetland located immediately west of SC 27 southbound and 0.4 mile north of the SC 27 intersection with US 78. Freshwater Wetland 18 is a forested wetland within a recently thinned pine stand. Approximately 0.260 acre of the wetland is located within the PSA. Freshwater Wetland 18 is located within a recently thinned pine plantation, and therefore contains minimal overstory and sapling diversity. The overstory within Freshwater Wetland 18 consists entirely of loblolly pine. The understory of Freshwater Wetland 18 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. A portion of Freshwater Wetland 18 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). A representative photograph of Freshwater Wetland 18 is included in **Appendix C, Photograph 24.**

Freshwater Wetland 19

Freshwater Wetland 19 is a palustrine wetland located 100 feet west of SC 27 southbound and 0.35 mile north of the SC 27 intersection with US 78. Freshwater Wetland 19 is a forested wetland within a recently thinned pine stand. Approximately 0.068 acre of the wetland is located within the PSA. Freshwater Wetland 19 contains minimal overstory and sapling diversity. The overstory within Freshwater Wetland 19 consists entirely of loblolly pine. The understory of Freshwater Wetland 19 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 19 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 19 is included in **Appendix C, Photograph 25.**

Freshwater Wetland 20

Freshwater Wetland 20 is a palustrine wetland located 50 feet west of SC 27 southbound and 0.35 mile north of the SC 27 intersection with US 78. Freshwater Wetland 20 is a forested depressional wetland. Approximately 0.145 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 20 is dominated by red maple, with non-dominant species of sweetgum and water oak. The understory of Freshwater Wetland 20 is dominated by saplings and shrubs of laurel oak, red maple, black elder, red bay, and laurel oak. Herbaceous species of slender woodoats, lizard's tail, and royal fern are present within the wetland. Woody vines of

muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water marks, water-stained leaves, oxidized rhizospheres, geomorphic position, and FAC-neutral test. A redox dark surface, hydric soil indicator, was observed within the wetland. A portion of Freshwater Wetland 20 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded, partly drained/ditched wetland (PFO1Ad). A representative photograph of Freshwater Wetland 20 is included in **Appendix C, Photograph 26.**

Freshwater Wetland 21

Freshwater Wetland 21 is a palustrine wetland located 25 feet west of SC 27 southbound and 0.2 mile north of the SC 27 intersection with US 78. Freshwater Wetland 21 is a forested wetland within a recently thinned pine stand. Approximately 0.460 acre of the wetland is located within the PSA. Freshwater Wetland 21 contains minimal overstory and sapling diversity. The overstory within Freshwater Wetland 21 consists entirely of loblolly pine. The understory of Freshwater Wetland 21 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators at the site include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including depleted below dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 21 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 21 is included in **Appendix C, Photograph 27.**

Freshwater Wetland 22

Freshwater Wetland 22 is a palustrine wetland located 50 feet east of SC 27 northbound and 0.1 mile north of the I-26 westbound off-ramp to SC 27. Freshwater Wetland 22 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.381 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 22 is dominated by sweetgum and water oak, with non-dominant species of loblolly pine and red maple. The understory of Freshwater Wetland 22 is dominated by saplings and shrubs of water oak, sweetgum, and red bay. Herbaceous species of slender woodoats, sawtooth blackberry, royal fern, and giant cane are present within the wetland. Woody vines of muscadine, common greenbrier, and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including depleted below dark surface and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 22 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland (PFO1/4A). A representative photograph of Freshwater Wetland 22 is included in **Appendix C, Photograph 29.**

Freshwater Wetland 23

Freshwater Wetland 23 is a palustrine wetland located 50 feet west of SC 27 southbound and 0.15 mile north of the I-26 westbound on-ramp from SC 27. The majority of Freshwater Wetland 23 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.136 acre of the wetland is located within the PSA. A utility corridor is also present within a portion of the wetland. This utility corridor contains no overstory, saplings, or shrubs due to frequent mowing. The overstory of Freshwater Wetland 23 within the forested portion of the wetland is dominated by sweetgum and water oak, with non-dominant species of loblolly pine and red maple. The understory within the forested portion of Freshwater Wetland 23 is dominated by saplings and shrubs of water oak, sweetgum, and red bay. Herbaceous species found throughout the wetland include slender woodoats, sawtooth blackberry, royal fern, and giant cane. Woody vines of muscadine, common greenbrier, and trumpet creeper are also present within the forested portion of the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 23 is depicted on USFWS NWI Seamless Wetlands Data as both a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A) and a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded, partly drained/ditched wetland (PFO1/4Ad). A representative photograph of Freshwater Wetland 23 is included in **Appendix C, Photograph 30.**

Freshwater Wetland 24

Freshwater Wetland 24 is a palustrine wetland located 50 feet east of SC 27 northbound and 0.3 mile north of the I-26 westbound off-ramp to SC 27. Freshwater Wetland 24 is a forested depressional wetland. Approximately 0.118 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 24 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 24 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 24 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 24 is included in **Appendix C, Photograph 31.**

Freshwater Wetland 25

Freshwater Wetland 25 is a palustrine wetland located immediately northeast of the I-26 westbound travel lane and 0.35 mile southeast of the SC 27 overpass. Freshwater Wetland 25 is a forested depressional wetland. Approximately 0.336 acre of the wetland is located within the PSA. A portion of Wetland 25 is cleared to maintain property boundaries; this area contains

no overstory, saplings, shrubs, or woody vines. The overstory of Freshwater Wetland 25 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 25 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 25 is depicted on USFWS NWI Seamless Wetlands Data as both a forested, broad-leaved deciduous, temporarily flooded, partly drained/ditched wetland (PFO1Ad) and a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded, partly drained/ditched wetland (PFO1/4Ad). A representative photograph of Freshwater Wetland 25 is included in **Appendix C, Photograph 33.**

Freshwater Wetland 26

Freshwater Wetland 26 is a palustrine wetland located immediately northeast of I-26 westbound travel lanes and 0.5 mile southeast of the SC 27 overpass. Freshwater Wetland 26 is an emergent wetland located within a utility corridor. Approximately 0.344 acre of the wetland is located within the PSA. Freshwater Wetland 26 contains no overstory or saplings. Shrubs within the wetland consist of black willow (*Salix nigra*), sweetgum, and wax myrtle. Herbaceous species of velvet panicum, leathery rush, roundleaf thoroughwort, handsome harry, slender goldentop, savannah meadowbeauty, woolgrass, common rush, southern dewberry, and giant cane are present within the wetland. Woody vines of trumpet creeper, peppervine (*Ampelopsis arborea*), and yellow jessamine (*Gelsemium sempervirens*) are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a redox dark surface, a depleted dark surface, and an umbric surface, were observed within the wetland. Freshwater Wetland 26 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded, partly drained/ditched wetland (PFO1/4Ad). A representative photograph of Freshwater Wetland 26 is included in **Appendix C, Photograph 34.**

Freshwater Wetland 27

Freshwater Wetland 27 is a palustrine wetland located immediately southwest of I-26 eastbound travel lane and 0.5 mile southeast of the SC 27 overpass. The majority of Freshwater Wetland 27 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 1.020 acres of the wetland is located within the PSA. A utility corridor is also present within the northwest portion of the wetland. This utility corridor contains no overstory, saplings, or shrubs due to frequent mowing. The overstory of Freshwater Wetland 27 within the forested portion of the wetland is dominated by loblolly pine, sweetgum, red maple, and water oak. The understory within the forested portion of Freshwater Wetland 27 is

dominated by saplings and shrubs of sweetgum, water oak, red maple, and wax myrtle, with non-dominant species of black tupelo and high bush blueberry (*Vaccinium corymbosum*). Herbaceous species found throughout the wetland include royal fern and giant cane. Woody vines of muscadine, trumpet creeper, and Virginia creeper are also present within the forested portion of the wetland. Secondary wetland hydrology indicators within the wetland include a shallow aquitard, geomorphic position, and FAC-neutral test. A depleted matrix, hydric soil indicator, was observed within the wetland. The northwestern portion of Freshwater Wetland 27 is depicted on USFWS NWI Seamless Wetlands Data as a scrub-shrub broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland (PSS1/4A). A representative photograph of Freshwater Wetland 27 is included in **Appendix C, Photograph 35.**

Freshwater Wetland 28

Freshwater Wetland 28 is a palustrine wetland located immediately southwest of I-26 eastbound travel lane and 0.75 mile southeast of the SC 27 overpass. Freshwater Wetland 28 is a forested streamside wetland. Approximately 0.535 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 28 is dominated by water oak, sweetgum, and red maple, with non-dominant species of loblolly pine, laurel oak, and green ash. The understory of Freshwater Wetland 28 is dominated by saplings and shrubs of sweetgum, water oak, red maple, laurel oak, and wax myrtle. Herbaceous species of slender woodoats and giant cane are present within the wetland. Woody vines of muscadine and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. The majority of Freshwater Wetland 28 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad leaved deciduous, temporarily flooded, partially ditched/drained wetland (PFO1Ad). A representative photograph of Freshwater Wetland 28 is included in **Appendix C, Photograph 36.**

Freshwater Wetland 29

Freshwater Wetland 29 is a palustrine wetland located 100 feet northeast of I-26 westbound travel lane and 0.85 mile southeast of the SC 27 overpass. Freshwater Wetland 29 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.258 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 29 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple. The understory within Freshwater Wetland 29 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. The northwestern portion of Freshwater Wetland 29 is depicted on USFWS NWI Seamless Wetlands Data as a scrub-shrub broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland

(PSS1/4A). Representative photographs of Freshwater Wetland 29 are included in **Appendix C, Photographs 37 and 38.**

Freshwater Wetland 30

Freshwater Wetland 30 is a palustrine wetland located immediately southwest of I-26 eastbound travel lane and 0.9 mile southeast of the SC 27 overpass. Freshwater Wetland 30 is a forested streamside wetland. Approximately 2.014 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 30 is dominated by water oak, sweetgum, and red maple, with non-dominant species of loblolly pine, laurel oak, and green ash. The understory of Freshwater Wetland 30 is dominated by saplings and shrubs of sweetgum, water oak, red maple, laurel oak, and wax myrtle. Herbaceous species of slender woodoats and giant cane are present within the wetland. Woody vines of muscadine and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. The northwestern portion of Freshwater Wetland 30 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad leaved deciduous, temporarily flooded, partially ditched/drained wetland (PFO1Ad). A representative photograph of Freshwater Wetland 30 is included in **Appendix C, Photograph 39.**

Freshwater Wetland 31

Freshwater Wetland 31 is a palustrine wetland located immediately northeast of I-26 westbound travel lane and 0.9 mile southeast of the SC 27 overpass. Freshwater Wetland 31 is a forested depressional wetland. Approximately 0.117 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 31 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 31 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 31 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 31 is included in **Appendix C, Photograph 40.**

Freshwater Wetland 32

Freshwater Wetland 32 is a palustrine wetland located immediately southwest of I-26 eastbound travel lane and 1.2 miles southeast of the SC 27 overpass. Freshwater Wetland 32 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.248 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 32 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple.

The understory within Freshwater Wetland 32 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 32 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 32 is included in **Appendix C, Photograph 43.**

Freshwater Wetland 33

Freshwater Wetland 33 is a palustrine wetland located immediately southwest of I-26 eastbound travel lane and 1.25 miles southeast of the SC 27 overpass. Freshwater Wetland 33 is a forested streamside wetland. Approximately 1.540 acres of the wetland is located within the PSA. The northwestern boundary of Freshwater Wetland 33 is formed by Ditch 5, while the northeastern boundary of the wetland, closest to I-26, is formed by Ditch 6. The overstory of Freshwater Wetland 33 is dominated by water oak, sweetgum, and red maple, with non-dominant species of loblolly pine, laurel oak, and green ash. The understory of Freshwater Wetland 33 is dominated by saplings and shrubs of sweetgum, water oak, red maple, laurel oak, and wax myrtle. Herbaceous species of slender woodoats and giant cane are present within the wetland. Woody vines of muscadine and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. The northwestern portion of Freshwater Wetland 33 is depicted on USFWS NWI Seamless Wetlands Data as a riverine, unknown perennial, unconsolidated bottom, permanently flooded stream (R5UBH), which represents Ditch 5. A representative photograph of Freshwater Wetland 33 is included in **Appendix C, Photograph 44.**

Freshwater Wetland 34

Freshwater Wetland 34 is a palustrine wetland located immediately northeast of I-26 westbound travel lane and 1.5 miles southeast of the SC 27 overpass. Freshwater Wetland 34 is a forested streamside wetland. Approximately 2.798 acres of the wetland is located within the PSA. Ditch 5 is located partly within the wetland and continues to flow northwest towards a culvert crossing I-26. The overstory of Freshwater Wetland 34 is dominated by water oak, sweetgum, and red maple, with non-dominant species of loblolly pine, laurel oak, and green ash. The understory of Freshwater Wetland 34 is dominated by saplings and shrubs of sweetgum, water oak, red maple, laurel oak, and wax myrtle. Herbaceous species of slender woodoats and giant cane are present within the wetland. Woody vines of muscadine and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. A

portion of Freshwater Wetland 34 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, seasonally flooded wetland (PFO1/4C). In addition, the northwestern portion of the wetland is included as a riverine, unknown perennial, unconsolidated bottom, permanently flooded stream (R5UBH), which represents Ditch 5. A representative photograph of Freshwater Wetland 34 is included in **Appendix C, Photograph 45.**

Freshwater Wetland 35

Freshwater Wetland 35 is a palustrine wetland located north of the overpass of Cypress Campground Road. Specifically, the wetland is located northwest of the I-26 westbound travel lane and west of Cypress Campground Road. The majority of Freshwater Wetland 35 is a forested depressional wetland, while the northern portion of the wetland is a clear-cut lacking all overstory and saplings. Approximately 2.351 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 35 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 35 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 35 is not depicted on USFWS NWI. Representative photographs of Freshwater Wetland 35 are included in **Appendix C, Photographs 51 and 65.**

Freshwater Wetland 36

Freshwater Wetland 36 is a palustrine wetland located immediately east of Cypress Campground Road and 0.5 mile southwest of the overpass over I-26 and immediately northeast of the intersection of Cypress Campground Road and Saab Drive. Freshwater Wetland 36 is a forested wetland within a former pine stand. Approximately 1.037 acres of the wetland is located within the PSA. The overstory within Freshwater Wetland 36 dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple. The understory of Freshwater Wetland 36 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present within the wetland. Woody vines of muscadine, common greenbrier, and trumpet creeper are also present within the wetland. Primary and secondary wetland hydrology indicators at the site include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including depleted below dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 36 is not depicted on USFWS NWI Seamless Wetlands Data. Representative photographs of Freshwater Wetland 36 are included in **Appendix C, Photographs 52 and 53.**

Freshwater Wetland 37

Freshwater Wetland 37 is a palustrine wetland located immediately west of Cypress Campground Road and 0.1 mile southwest of the overpass over I-26. Freshwater Wetland 37 is located within a recently thinned pine plantation, and therefore contains minimal overstory and sapling diversity. Approximately 1.561 acres of the wetland is located within the PSA. The overstory within Freshwater Wetland 37 consists entirely of loblolly pine. The understory of Freshwater Wetland 37 is dominated by saplings and shrubs of sweetgum and wax myrtle. Herbaceous species of velvet panicum, nodding beaksedge, awnpetal meadow beauty, southern waxy sedge, Vasey's grass, American burnweed, leathery rush, and woolgrass are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. A portion of the southern extent of Freshwater Wetland 37 is depicted on USFWS NWI Seamless Wetlands Data as a riverine, intermittent, streambed, seasonally flooded stream (R4SBC), which represents Stream 2. A representative photograph of Freshwater Wetland 37 is included in **Appendix C, Photograph 54.**

Freshwater Wetland 38

Freshwater Wetland 38 is a palustrine wetland located immediately east of Cypress Campground Road and 0.1 mile northeast of the overpass over I-26. Freshwater Wetland 38 is an emergent wetland within a clear-cut pine plantation that has been recently bedded. Approximately 0.290 acre of the wetland is located within the PSA. Freshwater Wetland 38 is located within a clear-cut pine plantation, and therefore contains minimal vegetation and no overstory. In addition, a portion of this wetland has been cleared for development and contains no vegetation. Shrubs within the wetland consist of loblolly pine, sweetgum, and sweetbay magnolia (*Magnolia virginiana*). Herbaceous species of fall panicgrass (*Panicum dichotomiflorum*), velvet panicum, awepetal meadow beauty, slender nutrush (*Scleria minor*), noddig beaksedge, chapman's beaksedge, and dogfennel are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. A depleted matrix, hydric soil indicator, was observed within the wetland. Freshwater Wetland 38 is not depicted on USFWS NWI Seamless Wetlands Data. Representative photographs of Freshwater Wetland 38 are included in **Appendix C, Photographs 55 and 66.**

Freshwater Wetland 39

Freshwater Wetland 39 is a palustrine wetland located immediately east of Cypress Campground Road and 0.1 mile southwest of the overpass over I-26. Freshwater Wetland 39 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.255 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 39 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple.

The understory within Freshwater Wetland 39 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 39 is depicted on USFWS NWI Seamless Wetlands Data as a scrub-shrub broad-leaved deciduous, temporarily flooded wetland (PSS1A). In addition, a portion of the southwestern extent of Freshwater Wetland 39 is also depicted as a riverine, intermittent, streambed, seasonally flooded stream (R4SBC), which represents Stream 2. A representative photograph of Freshwater Wetland 39 is included in **Appendix C, Photograph 56.**

Freshwater Wetland 40

Freshwater Wetland 40 is a palustrine wetland located immediately southwest of I-26 eastbound travel lane, on the opposite side of Rudd Road, and 0.1 mile southeast of the Cypress Campground Road overpass. Freshwater Wetland 40 is a forested streamside wetland. Approximately 0.035 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 40 is dominated by water oak, sweetgum, and red maple, with non-dominant species of loblolly pine, laurel oak, and green ash. The understory of Freshwater Wetland 40 is dominated by saplings and shrubs of sweetgum, water oak, red maple, laurel oak, and wax myrtle. Herbaceous species of slender woodoats and giant cane are present within the wetland. Woody vines of muscadine and trumpet creeper are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 40 is depicted on USFWS NWI Seamless Wetlands Data as a scrub-shrub broad-leaved deciduous, temporarily flooded wetland (PSS1A). A representative photograph of Freshwater Wetland 40 is included in **Appendix C, Photograph 57.**

Freshwater Wetland 41

Freshwater Wetland 41 is a palustrine wetland located 100 feet northeast of I-26 westbound travel lane, on the opposite side of Fivel Lane, and 0.15 mile southeast of the Cypress Campground Road overpass. Freshwater Wetland 41 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.774 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 41 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple. The understory within Freshwater Wetland 41 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include, geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were

observed within the wetland. Freshwater Wetland 41 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 41 is included in **Appendix C, Photograph 58.**

Freshwater Wetland 42

Freshwater Wetland 42 is a palustrine wetland located 100 feet northeast of I-26 westbound travel lane, on the opposite side of Fivel Lane, and 0.3 mile southeast of the Cypress Campground Road overpass. Freshwater Wetland 42 is an emergent wetland within a clear-cut pine plantation that has been recently bedded. Approximately 0.202 acre of the wetland is located within the PSA. Freshwater Wetland 42 is located within a clear-cut pine plantation, and therefore contains minimal vegetation and no overstory. Shrubs within the wetland consist of sweetgum, smooth sumac (*Rhus copaline*), and sea myrtle (*Baccharis halimifolia*). Herbaceous species of maidencane (*Panicum hemitomon*), dogfennel, nodding beaksedge, American burnweed, awepetal meadow beauty, and handsome harry are present within the wetland. No woody vines are present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include surface water, high-water table, saturation, water-stained leaves, and geomorphic position. Hydric soil indicators, including a depleted matrix and redox depression, were observed within the wetland. Freshwater Wetland 42 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 42 is included in **Appendix C, Photograph 59.**

Freshwater Wetland 43

Freshwater Wetland 43 is a palustrine wetland located southwest of I-26 eastbound travel lane, on the opposite side of Rudd Road, and 0.35 mile southeast of the Cypress Campground Road overpass. Freshwater Wetland 43 is an emergent wetland within a clear-cut pine plantation that has been recently bedded. Approximately 0.356 acre of the wetland is located within the PSA. Freshwater Wetland 43 contains minimal vegetation and no overstory. Shrubs within the wetland consist of loblolly pine and sandweed. Herbaceous species of noddig beaksedge, awepetal meadow beauty, savannah meadow beauty, chapman's beaksedge, American burnweed, and dogfennel are present within the wetland. No woody vines are present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 43 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 43 is included in **Appendix C, Photograph 60.**

Freshwater Wetland 44

Freshwater Wetland 44 is a palustrine wetland located 100 feet northeast of I-26 westbound travel lane, on the opposite side of Fivel Lane, and 0.5 mile southeast of the Cypress Campground Road overpass. Freshwater Wetland 44 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.056 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 44 is dominated by loblolly pine, water oak, willow oak, and

sweetgum, with non-dominant species of red maple. The understory within Freshwater Wetland 44 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 44 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 44 is included in **Appendix C, Photograph 61.**

Freshwater Wetland 45

Freshwater Wetland 45 is a palustrine wetland located immediately east of Cypress Campground Road and 0.4 mile northeast of the overpass over I-26. Freshwater Wetland 45 is a forested depressional wetland. Approximately 0.234 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 45 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 45 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine, common greenbrier, poison ivy, and Virginia creeper are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 45 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 45 is included in **Appendix C, Photograph 67.**

Freshwater Wetland 46

Freshwater Wetland 46 is a palustrine wetland located immediately east of Cypress Campground Road and 0.45 mile northeast of the overpass over I-26. Freshwater Wetland 46 is a forested depressional wetland. Approximately 0.514 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 46 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 46 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine, common greenbrier, poison ivy, and Virginia creeper are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 46 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). A representative photograph of Freshwater Wetland 46 is included in **Appendix C, Photograph 68.**

Freshwater Wetland 47

Freshwater Wetland 47 is a palustrine wetland located immediately east of Cypress Campground Road and 0.5 mile northeast of the overpass over I-26. Freshwater Wetland 47 is a forested depressional wetland. Approximately 0.741 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 47 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 47 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine, common greenbrier, poison ivy, and Virginia creeper are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. A portion of Freshwater Wetland 47 is depicted on USFWS NWI Seamless Wetlands Data as both a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A) and a forested, Needle-leaved evergreen, temporarily flooded wetland (PFO4A). A representative photograph of Freshwater Wetland 47 is included in **Appendix C, Photograph 69.**

Freshwater Wetland 48

Freshwater Wetland 48 is a palustrine wetland located in the median of I-26 and 0.85 mile southeast of the Cypress Campground Road overpass. Freshwater Wetland 48 is a forested depressional wetland. The entire wetland is contained within the PSA, encompassing 0.128 acre. The overstory of Freshwater Wetland 48 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 48 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 48 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 48 is included in **Appendix C, Photograph 70.**

Freshwater Wetland 49

Freshwater Wetland 49 is a palustrine wetland located southwest of I-26 eastbound travel lane, 1.15 miles southeast of the Cypress Campground Road overpass, and immediately east of the terminus of Rudd Road. Freshwater Wetland 49 is a forested streamside wetland. Approximately 2.461 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 49 is dominated by sweetgum, water oak, and cherrybark oak (*Quercus pagoda*), with non-dominant species of winged elm. The understory of Freshwater Wetland 49 is dominated by saplings and shrubs of winged elm, water oak, sweetgum, green ash, dwarf

palmetto, and St. Andrew's cross (*Hypericum hypericoides*). Herbaceous species of slender woodoats and variable panicgrass (*Dichanthelium commutatum*) are present within the wetland. Woody vines of Virginia creeper, muscadine, peppervine, poison ivy, and saw greenbrier (*Smilax bona-nox*) are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. A depleted matrix, hydric soil indicator, was observed within the wetland. Portions of Freshwater Wetland 49 are depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved evergreen, temporarily flooded wetland (PFO1/4A); a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A); a forested, broad-leaved deciduous, seasonally flooded wetland (PFO1C); and a forested, broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded wetland (PFO1/2F). In addition, a portion of the wetland is included as a riverine, lower perennial, unconsolidated bottom, permanently flooded, excavated stream (R2UBHx) representing Stream 3. Representative photographs of Freshwater Wetland 49 are included in **Appendix C, Photographs 71 and 75.**

Freshwater Wetland 50

Freshwater Wetland 50 is a palustrine wetland located in the median of I-26 and 1.15 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 50 is a forested depressional wetland. The entire wetland is contained within the PSA, encompassing 0.345 acre. The overstory of Freshwater Wetland 50 is dominated by sweetgum and red maple, with non-dominant species of loblolly pine. The understory of Freshwater Wetland 50 is dominated by saplings and shrubs of red maple, sweetgum, wax myrtle, and red bay, with non-dominant species of water oak. Herbaceous species of sawtooth blackberry, greenwhite sedge, and netted chain fern are present within the wetland. Woody vines of muscadine are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, oxidized rhizospheres, drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 50 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 50 is included in **Appendix C, Photograph 72.**

Freshwater Wetland 51

Freshwater Wetland 51 is a palustrine wetland located 100 feet northeast of I-26 westbound travel lane, on the opposite side of Fivel Lane, and 1.15 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 51 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.363 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 51 is dominated by willow oak and loblolly pine, with non-dominant species of water oak, red maple, and sweetgum. The understory within Freshwater Wetland 51 is dominated by saplings and shrubs of winged elm, sweetgum, and wax myrtle, with non-dominant species of black tupelo, water oak, and Elliott's blueberry (*Vaccinium elliottii*). Herbaceous species within the wetland include slender woodoats and leathery rush. Woody vines of poison ivy, Virginia creeper, trumpet vine, common greenbrier, and peppervine

are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 51 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 51 is included in **Appendix C, Photograph 73.**

Freshwater Wetland 52

Freshwater Wetland 52 is a palustrine wetland located 52 feet northeast of I-26 westbound travel lane, and 1.5 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 52 is a forested streamside wetland. Approximately 1.194 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 52 is dominated by sweetgum, water oak, and cherrybark oak, with non-dominant species of winged elm. The understory of Freshwater Wetland 52 is dominated by saplings and shrubs of winged elm, water oak, sweetgum, green ash, dwarf palmetto, and St. Andrew's cross. Herbaceous species of slender woodoats and variable panicgrass are present within the wetland. Woody vines of Virginia creeper, muscadine, peppervine, poison ivy, and saw greenbrier are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. A depleted matrix, hydric soil indicator, was observed within the wetland. Portions of Freshwater Wetland 52 are depicted on USFWS NWI Seamless Wetlands Data as forested, needle-leaved evergreen, broad-leaved deciduous, seasonally saturated wetland (PFO4/1B); a forested, broad-leaved deciduous / needle-leaved deciduous, seasonally flooded wetland (PFO1/2C); and a forested, broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded wetland (PFO1/2F). Representative photographs of Freshwater Wetland 52 are included in **Appendix C, Photographs 74 and 76.**

Freshwater Wetland 53

Freshwater Wetland 53 is a palustrine wetland located 50 feet southwest of I-26 eastbound travel lane, approximately 1.75 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 53 is a forested streamside wetland. Approximately 3.361 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 53 is dominated by sweetgum, water oak, and cherrybark oak, with non-dominant species of winged elm. The understory of Freshwater Wetland 53 is dominated by saplings and shrubs of winged elm, water oak, sweetgum, green ash, dwarf palmetto, and St. Andrew's cross. Herbaceous species of slender woodoats and variable panicgrass are present within the wetland. Woody vines of Virginia creeper, muscadine, peppervine, poison ivy, and saw greenbrier are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. A depleted matrix, hydric soil indicator, was observed within the wetland. Portions of Freshwater Wetland 53 are depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded wetland (PFO1/2F); a forested, broad-leaved deciduous, seasonally flooded wetland (PFO1C); a forested, broad-leaved deciduous / needle-leaved

deciduous, seasonally flooded wetland (PFO1/2C); and a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). In addition, a portion of the wetland is included as a riverine, intermittent, streambed, seasonally flooded stream (R4SBC), representing Stream 3. Representative photographs of Freshwater Wetland 53 are included in **Appendix C, Photographs 77 and 78.**

Freshwater Wetland 54

Freshwater Wetland 54 is a palustrine wetland located 50 feet northeast of I-26 westbound travel lane and 1.75 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 54 is a forested streamside wetland. Approximately 4.181 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 54 is dominated by red maple and laurel oak, with non-dominant species of sweetgum, swamp tupelo (*Nyssa biflora*), water oak, and green ash. The understory of Freshwater Wetland 54 is dominated by saplings and shrubs of red maple, sweetgum, American hornbeam (*Carpinus caroliniana*), bald cypress, and dwarf palmetto. Herbaceous species of sawtooth blueberry, southern waxy sedge, slender woodoats, greater bladder sedge (*Carex intumescens*), and giant cane are present within the wetland. Woody vines of Virginia creeper, muscadine, common greenbrier, and poison ivy are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water marks, water-stained leaves, geomorphic position, and FAC-neutral test. The redox dark surface hydric soil indicator was observed within the wetland. Portions of Freshwater Wetland 54 are depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded wetland (PFO1/2F); a forested, broad-leaved deciduous, seasonally flooded wetland (PFO1C); and a forested, broad-leaved deciduous / needle-leaved deciduous, seasonally flooded wetland (PFO1/2C). In addition, a portion of the wetland is included as riverine, unknown perennial, unconsolidated bottom, permanently flooded stream (R5UBH), which represents Stream 3. Representative photographs of Freshwater Wetland 54 are included in **Appendix C, Photographs 79 and 80.**

Freshwater Wetland 55

Freshwater Wetland 55 is a palustrine wetland located immediately southwest of the I-26 eastbound travel lane and 2 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 55 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.419 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 55 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple. The understory within Freshwater Wetland 55 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 55 is depicted on USFWS NWI Seamless Wetlands Data as a

forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). A representative photograph of Freshwater Wetland 55 is included in **Appendix C, Photograph 81.**

Freshwater Wetland 56

Freshwater Wetland 56 is a palustrine wetland located immediately northeast of I-26 westbound travel lane and 2.5 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 56 is an emergent wetland located within a utility corridor. Approximately 0.052 acre of the wetland is located within the PSA. Freshwater Wetland 56 is maintained within a utility corridor, and therefore contains no overstory or saplings. Shrubs within the wetland consist of black willow, sweetgum, and wax myrtle. Herbaceous species of velvet panicum, leathery rush, roundleaf thoroughwort, handsome harry, slender goldentop, savannah meadowbeauty, woolgrass, common rush, southern dewberry, and giant cane are present within the wetland. Woody vines of trumpet creeper, peppervine, and yellow jessamine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a redox dark surface, depleted dark surface, and an umbric surface, were observed within the wetland. Freshwater Wetland 56 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 56 is included in **Appendix C, Photograph 91.**

Freshwater Wetland 57

Freshwater Wetland 57 is a palustrine wetland located immediately southwest of the I-26 eastbound travel lane and 2.5 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 57 is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.556 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 57 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple. The understory within Freshwater Wetland 57 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 57 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). In addition, a portion of the wetland is included as riverine, unknown perennial, unconsolidated bottom, permanently flooded stream (R5UBH). A representative photograph of Freshwater Wetland 57 is included in **Appendix C, Photograph 92.**

Freshwater Wetland 58

Freshwater Wetland 58 is a palustrine wetland located immediately southwest of the I-26 eastbound travel lane and 2.75 miles southeast of the Cypress Campground Road overpass. Freshwater Wetland 58 is a forested, mixed pine/hardwood, and saturated wetland.

Approximately 0.312 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 58 is dominated by loblolly pine, water oak, willow oak, and sweetgum, with non-dominant species of red maple. The understory within Freshwater Wetland 58 is dominated by saplings and shrubs of water oak, sweetgum, black tupelo, red maple, and dwarf palmetto. Herbaceous species within the wetland include giant cane and slender woodoats. Woody vines of muscadine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include, geomorphic position and FAC-neutral test. Hydric soil indicators, including an umbric surface and depleted below dark surface, were observed within the wetland. Freshwater Wetland 58 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). A representative photograph of Freshwater Wetland 58 is included in **Appendix C, Photograph 93.**

Freshwater Wetland 59

Freshwater Wetland 59 is a palustrine wetland located immediately north of the I-26 eastbound travel lane and 1.01 miles northwest of the SC 27 interchange. Freshwater Wetland 59 is a forested streamside wetland. Approximately 2.999 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 59 is dominated by red maple, river birch (*Betula nigra*), sweetgum, and bald cypress. The understory within Freshwater Wetland 59 is dominated by saplings and shrubs of sweetgum, red maple, dwarf palmetto, and Chinese privet. Herbaceous species within the wetland include hammock sedge (*Carex fissa*). Woody vines of muscadine are also present within the wetland. Primary wetland hydrology indicators within the wetland include surface water, high water table, saturation, water marks, water-stained leaves, and aquatic fauna. A depleted matrix, hydric soil indicator, was observed within the wetland. Portions of Freshwater Wetland 59 are depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded wetland (PFO1/2F); a forested, broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded, diked/impounded wetland (PFO1/2Fh); and a forested, broad-leaved deciduous, seasonally flooded wetland (PFO1C). Representative photographs of Freshwater Wetland 59 are included in **Appendix C, Photographs 94 & 95.**

Freshwater Wetland 60

Freshwater Wetland 60 is a palustrine wetland located immediately south of the I-26 westbound travel lane and 1.04 miles southwest of the SC 27 interchange. Freshwater Wetland 60 is a forested streamside wetland. Approximately 3.628 acres of the wetland is located within the PSA. The overstory of Freshwater Wetland 60 is dominated by red maple, river birch, sweetgum, and bald cypress. The understory within Freshwater Wetland 60 is dominated by saplings and shrubs of sweetgum, red maple, dwarf palmetto, and Chinese privet. Herbaceous species within the wetland include hammock sedge. Woody vines of muscadine are also present within the wetland. Primary wetland hydrology indicators within the wetland include surface water, high water table, saturation, water marks, water-stained leaves, and aquatic fauna. A depleted matrix, hydric soil indicator, was observed within the wetland. Portions of Freshwater Wetland 60 are depicted on USFWS NWI Seamless Wetlands Data as a forested,

broad-leaved deciduous / needle-leaved deciduous, semi-permanently flooded wetland (PFO1/2F); and a forested, broad-leaved deciduous, seasonally flooded wetland (PFO1C). A representative photograph of Freshwater Wetland 60 is included in **Appendix C, Photograph 96.**

Freshwater Wetland 61

Freshwater Wetland 61 is a palustrine wetland located immediately north of the I-26 eastbound travel lane and 0.82 mile northwest of the SC 27 interchange. Freshwater Wetland 61 is a forested depressional wetland. Approximately 0.016 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 61 is dominated by sweetgum, red maple, and loblolly pine. The understory within Freshwater Wetland 61 is dominated by saplings and shrubs of red maple, sweetgum, water oak, wax myrtle, and red bay. Herbaceous species within the wetland include sawtooth blackberry, greenwhite sedge, and netted chain fern. Woody vines of muscadine are also present within the wetland. Primary wetland hydrology indicators within the wetland include water-stained leaves and oxidized rhizospheres. Secondary wetland hydrology indicators within the wetland include drainage patterns, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a thick dark surface and an umbric surface, were observed within the wetland. Freshwater Wetland 61 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 61 is included in **Appendix C, Photograph 97.**

Freshwater Wetland 62

Freshwater Wetland 62 is a palustrine wetland located immediately north of the I-26 eastbound travel lane and 0.74 mile northwest of the SC 27 interchange. Freshwater Wetland 62 is a is a forested, mixed pine/hardwood, and saturated wetland. Approximately 0.212 acre of the wetland is located within the PSA. The overstory of Freshwater Wetland 62 is dominated by sweetgum, red maple, water oak, and loblolly pine. The understory within Freshwater Wetland 62 is dominated by saplings and shrubs of red maple, sweetgum, water oak, black tupelo, red bay, sweet pepper bush, and wax myrtle. Herbaceous species within the wetland include sawtooth blackberry, slender woodoats, giant cane, and royal fern. Woody vines of muscadine, poison ivy, common greenbrier, trumpet vine, and Virginia creeper are also present within the wetland. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a depleted matrix and an umbric surface, were observed within the wetland. Freshwater Wetland 62 is depicted on USFWS NWI Seamless Wetlands Data as a forested, broad-leaved deciduous, temporarily flooded wetland (PFO1A). A representative photograph of Freshwater Wetland 62 is included in **Appendix C, Photograph 98.**

Freshwater Wetland 63

Freshwater Wetland 63 is a palustrine wetland located immediately south of Country Road S-18-1280 and 0.06 mile west of SC 27. Freshwater Wetland 63 is an emergent wetland located within an open field. Approximately 0.093 acre of the wetland is located within the PSA. The

understory within Freshwater Wetland 63 is dominated by shrubs of sweetgum and persimmon. Herbaceous species within the wetland include giant cane, velvet panicum, leathery rush, roundleaf thoroughwort, handsome Harry, slender goldentop, Savannah meadow beauty, *woolgrass*, common rush, and southern dewberry. Woody vines of muscadine, common greenbrier, and trumpet vine are also present within the wetland. Secondary wetland hydrology indicators within the wetland include geomorphic position and FAC-neutral test. Hydric soil indicators, including a depleted dark surface, redox dark surface, and an umbric surface, were observed within the wetland. Freshwater Wetland 63 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 63 is included in **Appendix C, Photograph 99.**

Freshwater Wetland 64

Freshwater Wetland 64 is a palustrine wetland located immediately east of Cypress Campground Road and 0.09 mile north of the I-26 eastbound travel lane. Freshwater Wetland 64 is an emergent wetland located within a clear-cut pine plantation. Approximately 1.685 acres of the wetland is located within the PSA. Freshwater Wetland 64 is located within a clear-cut pine plantation, and therefore contains minimal vegetation and no overstory. In addition, a portion of this wetland has been cleared for development and contains no vegetation. The understory within Freshwater Wetland 64 is dominated by shrubs of sweetgum, sweetbay magnolia, and loblolly pine. Herbaceous species within the wetland include velvet panicum, fall panicgrass, awepetal meadowbeauty, slender nutrush, nodding beaksedge, Chapman's beaksedge, and dogfennel. Primary and secondary wetland hydrology indicators within the wetland include water-stained leaves, geomorphic position, and FAC-neutral test. Hydric soil indicators, including a depleted dark surface, was observed within the wetland. Freshwater Wetland 64 is not depicted on USFWS NWI Seamless Wetlands Data. A representative photograph of Freshwater Wetland 64 is included in **Appendix C, Photograph 100.**

5.2 STREAMS, RIVERS, AND OTHER LINEAR CONVEYANCES

5.2.1 DITCHES

Six (6) Ditches were identified within the PSA during site reviews. During the field verification meeting with the USACE, these waters were identified as linear conveyances for the purposes of roadside drainage and stormwater retention and were determined to be non-jurisdictional; please see **Appendix A, Figure 6** for the location and extent of Non-Aquatic Features delineated within the PSA.

5.2.2 STREAMS

Five (5) Streams were identified within the PSA during site reviews. These waters were identified as Timothy Creek (Stream 1), Thompson Creek (Stream 2), Cypress Swamp (Stream 3),

and two (2) unnamed tributaries to Cypress Swamp (Streams 4 and 5); please see **Appendix A, Figure 6** for the location and extent of streams delineated in the PSA.

TABLE 3
TRIBUTARIES WITHIN THE PROJECT STUDY AREA

Water ID	Water Type	Latitude	Longitude	Area of Jurisdiction	
				Linear Feet (lf)	Acres (ac)
Stream 1 (aka Timothy Creek)	R2UBH	33.131177^0 N	80.298194^0 W	171-lf	0.091 acre
Stream 2 (aka Thompson Creek)	R4UB	33.111412^0 N	80.260012^0 W	1,486-lf	0.267 acre
Stream 3 (aka Cypress Swamp)	R2UBH	33.099039^0 N	80.239769^0 W	419-lf	1.286 acres
Stream 4	R2UBH	33.096461^0 N	80.236211^0 W	190-lf	0.183 acre
Stream 5	R4UB	33.095276^0 N	80.234421^0 W	215-lf	0.094 acre
Total Area of Waters Identified				**2,481-lf**	**1.921 acres**

Stream 1, aka Timothy Creek

Stream 1, aka Timothy Creek, flows north to south through the PSA and flows under I-26 approximately 0.8 mile southeast of the SC 27 interchange. Beyond the PSA, Timothy Creek drains southwest 4.5 river miles (3.7 aerial miles) to Four Hole Swamp. Within the PSA, Stream 1 is approximately 20 to 25 feet in width, with bank heights of one (1) to three (3) feet. Approximately 171 linear feet (0.091 acre) of the water is located within the PSA. During field investigations, the stream channel exhibited high flow, low sinuosity and a substrate consisting primarily of sandy loam. Stream 1 exhibits an ordinary high-water mark, inundation, and aquatic life such as fish and amphibians. Within the PSA, the stream accepts drainage from Freshwater Wetland 29, Freshwater Wetland 31, roadside drainage from I-26, and the surrounding upland forest. Stream 1 is depicted on USGS topographic mapping as a solid blue-line stream and included in the National Hydrography Dataset. Representative photographs of Stream 1 are included in **Appendix C, Photographs 41 and 42.**

Stream 2, aka Thompson Creek

Stream 2, aka Thompson Creek, is located east of the Cypress Campground Road overpass, and flows in a northeasterly direction, through the PSA. Stream 2 enters the PSA, flows through Wetland 37, and through a culvert under Cypress Campground Road. East of Cypress Campground Road, the stream flows through Wetland 39. The stream flows out of Wetland 39 and through an upland forest southeast of the Cypress Campground Road overpass. The stream then flows through Wetland 40 and through a culvert under I-26. North of I-26, the stream continues through Wetland 41 and beyond the limits of the PSA. Beyond the PSA, Thompson Creek drains northeast 2.25 river miles (1.75 aerial miles) into Cypress Swamp

(Stream 3) upstream of the PSA. Within the PSA, Stream 2 is approximately ten (10) to twelve (12) feet in width, with bank heights of one (1) to five (5) feet. Approximately 1,486 linear feet (0.267 acre) of the water is located within the PSA. During field investigations, the stream channel exhibited low flow, moderate sinuosity, and a substrate consisting primarily of silty loam. Stream 2 exhibits an ordinary high-water mark, inundation, and aquatic life such as fish and amphibians. Within the PSA, the stream accepts drainage from Freshwater Wetland 37, Freshwater Wetland 39, roadside drainage from I-26, Cypress Campground Road, Rudd Road, Fivel lane, and the surrounding upland forest. Stream 2 is depicted on USGS topographic mapping as a dashed blue-line (intermittent stream) southwest of I-26 and a solid blue-line (perennial stream) northeast of I-26. Stream 2 is also included in the National Hydrography Dataset. Representative photographs of Stream 2 are included in **Appendix C, Photographs 62 and 63.**

Stream 3, aka Cypress Swamp

Stream 3, aka Cypress Swamp, is the main channel of the swamp that originates north of the PSA and flows through the PSA approximately 1.5 miles southeast of the Cypress Campground Road overpass. Beyond the PSA, Stream 3 drains southwest and becomes the main channel of the Ashley River five (5) aerial miles west of the Town of Summerville, SC. Within the PSA, Stream 3 is approximately 120 to 140 feet in width, with bank heights of one (1) to four (4) feet. Approximately 419 linear feet (1.286 acres) of the water is located within the PSA. During field investigations, the stream channel exhibited high flow, moderate sinuosity, and a substrate consisting primarily of silty loam. Stream 3 exhibits an ordinary high-water mark, inundation, and aquatic life such as fish and amphibians. Within the PSA, the stream accepts drainage from Freshwater Wetland 49, Freshwater Wetland 52, Freshwater Wetland 53, Freshwater Wetland 54, and median / roadside drainage from I-26. Stream 3 is depicted on USGS topographic mapping as a dashed blue-line (intermittent stream) within an expansive wetland forest. Stream 3 is also included in the National Hydrography Dataset. Representative photographs of Stream 3 are included in **Appendix C, Photographs 82 through 85.**

Stream 4

Stream 4 is an unnamed tributary to Cypress Swamp and is located 1.8 miles southeast of the Cypress Campground Road overpass. Stream 4 originates within the PSA as a channelized portion of Freshwater Wetland 54 and flows under I-26 through a box culvert that daylights in the median to accept roadside drainage. Beyond the PSA, Stream 4 drains southwest into Cypress Swamp. Within the PSA, Stream 4 is approximately 38 to 42 feet in width, with bank heights of one (1) to three (3) feet. Approximately 190 linear feet (0.183 acre) of the water is located within the PSA. During field investigations, the stream channel exhibited high flow, moderate sinuosity, and a substrate consisting primarily of silty loam. Stream 4 exhibits an ordinary high-water mark, inundation, and aquatic life such as fish and amphibians. Within the PSA, the stream accepts drainage from Freshwater Wetland 54, Freshwater Wetland 53, and median / roadside drainage from I-26. Stream 4 is not depicted on USGS topographic mapping

or included in the National Hydrography Dataset. Representative photographs of Stream 4 are included in **Appendix C, Photographs 86 through 88.**

Stream 5

Stream 5 is an unnamed tributary of Cypress Swamp located approximately 2 miles southeast of the Cypress Campground Road overpass. Stream 5 originates within the PSA at a head cut within Freshwater Wetland 54 and flows under I-26 through a box culvert that daylights in the median to accept roadside drainage. Beyond the PSA, Stream 5 drains southwest into Cypress Swamp. Within the PSA, Stream 5 is approximately fifteen (15) to 20 feet in width, with bank heights of one (1) to three (3) feet. Approximately 215 linear feet (0.094 acre) of the water is located within the PSA. During field investigations, the stream channel exhibited high flow, moderate sinuosity, and a substrate consisting primarily of silty loam. Stream 5 exhibits an ordinary high-water mark, inundation, and no indicators of aquatic life. Within the PSA, the stream accepts drainage from Freshwater Wetland 54, Freshwater Wetland 53, and median / roadside drainage from I-26. Stream 5 is not depicted on USGS topographic mapping or included in the National Hydrography Dataset. Representative photographs of Stream 5 are included in **Appendix C, Photographs 89 and 90.**

5.3 PONDS / OPEN WATERS

One (1) Non-Wetland Water (Pond) was identified within the PSA during field reviews; please see **Appendix A, Figure 6** for the location and extent of Non-Wetland Waters delineated in the PSA.

TABLE 4
PONDS WITHIN THE PROJECT STUDY AREA

Feature	Water Type	Latitude	Longitude	Area of Feature
Pond 1	PUBHx	80.25403786^0 N	33.1067561^0 W	0.024 acre
Ponds Total				**0.024 acre**

Pond 1 (Non-Wetland Water)

Pond 1 is an excavated pond located 0.6 mile southeast of the Cypress Campground Road overpass and southwest of the I-26 eastbound travel lane. The pond shows no evidence of aquatic vegetation. Approximately 0.024 acre of the pond is located within the PSA. A representative photograph of Pond 1 is included in **Appendix C, Photograph 64.**

5.4 PERMITTING

A Clean Water Act Section 404 permit is required for impacts to waters of the U.S., including wetlands. Section 404 is administered by the U.S. Army Corps of Engineers (USACE). Depending on the type and extent of waters of the U.S. (including wetlands) to be impacted, Section 404 permitting requirements can range from activities that are considered exempt or preauthorized to those requiring pre-construction notification (PCN) for a Nationwide Permit (NWP) or Individual Permit (IP) from the USACE. For SCDOT Road Widening projects, USACE General Permit (GP) 2015-1280 may be applicable if impacts do not exceed 3.0 acres of freshwater wetlands, 0.5 acre of tidal wetlands, and/or 300 linear feet of stream.

In addition to the Section 404 permit, SCDHEC must grant, deny, or waive a Water Quality Certification (WQC), in accordance with Section 401 of the Clean Water Act. Waters considered by SCDHEC to be sensitive may also require additional consideration during the 401 WQC process. These include, but are not limited to, Outstanding Resource Waters (ORW), Shellfish Harvesting Waters (SFH), trout waters, areas draining to waters included on the 303(d) list of impaired waters, and areas draining to waters with an approved TMDL. According to SCDHEC reports, the project contains TMDL waters, as well as waters listed on the Draft 303(d) list.

If impacts exceed the GP threshold limits, an IP from the USACE would be required, which involves a more rigorous, time-consuming review process. It is not uncommon for the regulatory processing of an IP application to take close to a year.

Specific permitting requirements and strategies for the project will be determined once impacts to wetlands (and other waters of the U.S.) are quantified following establishment of proposed project construction limits. Pursuant to Section 404, regulated discharges would include, but are not necessarily limited to, the placement of fill material, riprap, pipes, culverts, etc., into waters of the U.S. The permit application must include a delineation of affected waters of the U.S. (including wetlands), as well as a description of impact avoidance and minimization strategies, and an alternatives analysis. It is anticipated that the SCDOT GP will be applicable for this project.

Compensatory Mitigation

Compensatory mitigation is normally required to offset unavoidable losses of waters of the U.S. The Council on Environmental Quality (CEQ) has defined mitigation in 40 CFR Part 1508.20 to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. Three general types of mitigation include avoidance, minimization, and compensatory mitigation. Compensatory mitigation consists usually of the restoration of existing degraded wetlands or waters, or the creation of wetlands/waters of equal or greater value than those to be impacted. This type of mitigation is only undertaken after avoidance and minimization actions are exhausted and should be undertaken, when practicable, in areas near the impact site (i.e., on-site compensatory mitigation). The USACE

typically requires compensatory mitigation for any wetland impacts for which a Section 404 permit application is submitted.

It is anticipated that compensatory mitigation for permanent project impacts will be attained through purchase of mitigation credits from a USACE approved mitigation bank. Specific mitigation requirements will be established during the Section 404 permitting process.

6.0 THREATENED AND ENDANGERED SPECIES

The Federal Endangered Species Act (ESA) of 1973, as amended, is the federal regulatory tool that serves to administer permits, implement recovery plans, and monitor federally protected (endangered and threatened) species. The ESA is administered and regulated by the USFWS and/or National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NOAA-NMFS).

Because of the federal nexus of the proposed project, consultation with the USFWS is required under Section 7 of the ESA, as amended (16 USC 1531-1534), for proposed projects that "may affect" federally endangered and threatened species. This assessment analyzes potential impacts to federally endangered and threatened species associated with the proposed project, and is intended to initiate informal consultation, as needed.

Federal Protected Species - Species with the federal classification of Endangered (E) or Threatened (T) or Threatened due to Similarity of Appearance (T [S/A]) are protected under the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). The term "endangered species" is defined as "any species which is in danger of extinction throughout all or a significant portion of its range," and the term "threatened species" is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (16 U.S.C. 1532).

The term "Proposed" (P) is defined as "any species proposed for official listing as endangered or threatened." "Candidate" (C) species are taxons under consideration for which there is sufficient information to support listing, but development of a proposed listing regulation is precluded by other higher priority listing activities. "At-Risk Species" (ARS) is an informal term that refers to those species which may be in need of concentrated conservation actions and have been petitioned for listing as threatened or endangered. The USFWS designations P, C, and ARS do not provide federal protection and require no Section 7 consultation under the ESA; please see **Appendix E**, for a List of Federally Protected Species in Berkeley County, SC.

State Protected Species – Animal species that are on the South Carolina state protected species list receive protection under the South Carolina Nongame and Endangered Species Conservation Act (South Carolina Code, Title 50). State endangered species are defined as any

species or subspecies of wildlife whose prospects of survival or recruitment within the state are in jeopardy, or are likely within the foreseeable future to become so. It is unlawful for any person to take, possess, transport, export, process, sell or offer for sale or ship, and for any common or contract carrier knowingly to transport or receive for shipment any species or subspecies of wildlife appearing on the state list of protected species without appropriate authorization; please see **Appendix E**, for a List of State Protected Species in Berkeley County, SC.

TABLE 5
PROTECTED SPECIES IN BERKELEY COUNTY, SOUTH CAROLINA

Protected Species		Protection	
Common Name	**Scientific Name**	**Federal**	**State**
Amphibian Species			
Frosted flatwoods salamander	*Ambystoma cingulatum*	T, CH	E
Gopher frog	*Lithobates capito*	ARS	E
Bird Species			
American swallow-tailed Kite	*Elanoides forficatus*	-	E
American wood stork	*Mycteria americana*	T	E
Bald eagle	*Haliaeetus leucocephalus*	BGEPA	T
Least tern	*Sterna antillarum*	-	T
Red-cockaded woodpecker	*Picoides borealis*	E	E
Saltmarsh sparrow	*Ammospiza caudacuta*	ARS	-
Fish Species			
Atlantic sturgeon*	*Acipenser oxyrinchus*	E	-
Shortnose sturgeon*	*Acipenser brevirostrum*	E	E
Insect Species			
Frosted elfin	*Callophrys irus*	ARS	-
Monarch butterfly	*Danaus plexippus*	ARS	-
Mammal Species			
Northern long-eared bat	*Myotis septentrionalis*	T	-
Tri-colored bat	*Perimyotis subflavus*	ARS	-
West Indian manatee	*Trichechus manatus*	T	E
Rafinesque's big-eared bat	*Corynorhinus rafinesquii*	-	E
Plant Species			
American chaffseed	*Schwalbea americana*	E	-
Boykin’s lobelia	*Lobelia boykinii*	ARS	-
Canby's dropwort	*Oxypolis canbyi*	E	-
Carolina-birds-in-a-nest	*Macbridea caroliniana*	ARS	-

Ciliate-leaf tickseed	*Coreopsis integrifolia*	ARS	-
Pondberry	*Lindera melissifolia*	E	-
Raven's seedbox	*Ludwigia ravenii*	ARS	-
Sun-facing coneflower	*Rudbeckia heliopsidis*	ARS	-
Reptile Species			
American alligator	*Alligator mississippiensis*	T S/A**	T
Eastern diamondback rattlesnake	*Crotalus adamanteus*	ARS	-
Southern hognose snake	*Heterodon simus*	ARS	T
Spotted turtle	*Clemmys guttata*	ARS	T

E = Endangered, T = Threatened, ARS = At Risk Species, BGEPA = Bald and Golden Eagle Protection Act
** Species is under the jurisdiction of the National Marine Fisheries Service (NMFS)*
***Listed as federally threatened only by SC Department of Natural Resources*

A search of the USFWS database provided existing information concerning the potential occurrence of threatened or endangered species within Berkeley County. This database identifies ten (10) federally threatened or endangered species known to occur or to have formerly occurred in Berkeley County, as listed in Table 5 (USFWS, June 21, 2019). Please note: Table 5 also includes 15 At-Risk Species and the bald eagle (*Haliaeetus leucocephalus*). The bald eagle is no longer protected under the ESA but is afforded federal protection through the Bald and Golden Eagle Protection Act (BGEPA) of 1940.

The South Carolina Department of Natural Resources (SCDNR) Rare, Threatened and Endangered Species Inventory database was reviewed on May 29, 2019 for information regarding species with state endangered or threatened status. 15 species are identified as state endangered or threatened, as listed in Table 5. This list includes the American alligator, which is listed by the SCDNR as federally threatened, however, does not appear on the USFWS list of threatened and endangered species for Berkeley County.

State and/or federally-listed endangered and threatened species and their respective habitats are briefly described below:

Frosted flatwoods salamander (*Ambystoma cingulatum*) – Federally Threatened / Critical Habitat / State Endangered
The frosted flatwoods salamander is a small amphibian, approximately 3.5-5.5 inches long with short legs, a rounded tail, and no neck. The species is dark brown or purple with highly variable light grey bands or diffuse spotting. The larvae are distinguished by their gills and large bold brown or yellow stripes running along the length of their body. The frosted flatwoods salamander lives in wet pine flatwoods or savannahs that are fire maintained and contain species such as longleaf pine and wiregrass (*Aristida spp.*). Within these areas, the species can be found living in subterranean root channels or crayfish burrows, only emerging during periods of heavy rain or during breeding. The species can also sometimes be found under logs or decaying vegetation near vernal ponds.

Gopher Frog (*Lithobates capito*) – State Endangered
The gopher frog is an average sized frog, approximately 2.4-3.5 inches in length with short legs and a plum body. This species is typically light to dark brown with heavy blotching and numerous warts giving it a toad-like appearance. The gopher frog lives in isolated temporarily flooded ponds within longleaf pine and wiregrass ecosystems. The species spends most of its life underground in gopher tortoise holes, or when these are not available, holes made by other animals such as rodents or crayfish as well as stumps or root channels. The gopher frog only emerges from its burrow at night to feed, during heavy rains, and during breeding.

American swallow-tailed kite (*Elanoides forficatus*) – State Endangered
The American swallow-tailed kite is a medium-sized migratory raptor that weighs just over a pound and has a 4-foot wingspan. This species is contrastingly black and white, where black coloring dominates the underside of its wing edges and tail feathers and the dorsal side of the body, and white coloration occupies the underside and head. This kite is distinguished by its slender body, long forked tail, and striking black and white coloration. American swallow-tailed kites are aerial hunters, feeding on insects, reptiles, and other birds. This species prefers large tracts of forested wetlands for nesting and foraging. Nesting birds occupy the top branches of tall trees within its chosen habitat. Common nesting trees include loblolly pine, bald cypress, and water tupelo. American swallow-tailed kites can be found in the early spring- summer in South Carolina.

American wood stork (*Mycteria americana*) – Federally Threatened / State Endangered
The American wood stork is a large, long-legged wading bird, approximately 45 inches in height with a wingspan of 60 to 65 inches. The species has mostly white plumage, excluding the black trailing edges of the wings and tail. The neck and head are primarily un-feathered with greyish black skin. The bill is black, thick at the base, and curves downward. The American wood stork prefers freshwater and estuarine wetlands for breeding, feeding, and roosting. These birds are colonial nesters with colonies that range from less than 12 to more than 500 nests. Nests can be located in small or large trees, typically occurring in trees found in standing water or on small islands. Feeding often occurs in water 6 to 10 inches deep.

Bald eagle (*Haliaeetus leucocephalus*) – Bald and Golden Eagle Protection Act / State Threatened
The bald eagle is a large raptor, with a wingspan of approximately seven feet, and mainly dark brown in color. Adults have a pure white head and tail. This species nests in large, mature live pine or cypress trees. Nests are typically large, up to six feet in width, and constructed of sticks and soft materials, such as dead vegetation, grass, and pine needles. Nesting trees are usually found within two miles of coasts, rivers, and lakes, near the bodies of water in which it feeds. The bald eagle primarily feeds on fish but also preys on a variety of bird, mammals, and turtles when fish are not readily available.

Least tern (*Sterna antillarum*) – State Threatened
The smallest of the North American tern species, the least tern measures approximately 9 inches long with a 20-inch wingspan. Least terns are sexually monomorphic, with both males and females exhibiting grey plumage on their backs and wings, a white chest and undersection, and black caps and eye stripes. Least terns can be distinguished by their small size, yellow feet, and yellow bills with black tips. Least terns prefer sandy beaches, with ample shells and pebbles, near open water for nesting and foraging. These birds are colony nesters and lay eggs in small scrapes directly on the sandy beach or sometimes on roofs with pebbles when beaches are not abundant.

Red-cockaded woodpecker (*Picoides borealis*) – Federally Endangered / State Endangered
Adult red-cockaded woodpeckers are approximately 7 to 8 inches long with a wingspan of 13 to 15 inches. Adults have a black cap, throat, and stripe on the side of the neck with white cheeks and underparts. The back is barred with black and white horizontal stripes. Adult males have a small red spot on each side of the black cap. The bird is native to southern pine forests and typically nests within open pine stands with trees 80 years or older. Roosting cavities are excavated within live pines, which are often infected with a fungus, which causes what is known as red-heart disease. Foraging may occur in pine and/or mixed pine/hardwood stands 30 years or older with trees 10 inches or larger in diameter at breast height (dbh).

Atlantic sturgeon (*Acipenser oxyrinchus*) – Federally Endangered
The Atlantic sturgeon is an anadromous fish species which spends most of the year in brackish or salt water, and then moves into freshwater only to spawn during the spring. The Atlantic sturgeon is distinguished by its large body size, small mouth and snout shape and scutes. The Atlantic sturgeon can grow up to 14 feet in length and weigh as much as 800 pounds. The Atlantic sturgeon is bluish-black or olive brown on the dorsal side and has paler sides and a white abdomen. The sides of the body exhibit five rows of scutes.

Shortnose sturgeon (*Acipenser brevirostrum*) – Federally Endangered / State Endangered
The shortnose sturgeon is an anadromous fish species which spends most of the year in brackish or salt water, and then moves into freshwater only to spawn during the spring. They are the smallest of three sturgeon species that occur in eastern North America. The shortnose sturgeon can grow up to 4.7 feet in length and can weigh up to 50 pounds. The shortnose sturgeon is dark-colored on its dorsal side and light on the ventral side and has a wide mouth pointed downward beneath a short snout. The sides of its body contain five rows of sharp, pointed plates, or scutes. The shortnose sturgeon inhabits the lower portions of large rivers and coastal rivers along the Atlantic Coast.

Northern long-eared bat (*Myotis septentrionalis*) – Federally Threatened
The northern long-eared bat is a medium-sized bat with a total body length of approximately 3 to 3.7 inches and a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and tawny to pale-brown on the underside. The species is distinguished by its long

ears, which when pushed forward, extend at least 4 millimeters past its nose. During the winter months, the northern long-eared bat can be found hibernating in caves and mines. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. During the summer, northern long-eared bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Individuals of the species have also been found rarely roosting in structures, like barns and sheds.

West Indian manatee (*Trichechus manatus*) – Federally Threatened / State Endangered
The West Indian manatee is a large aquatic mammal approximately 10 feet long and weighing 800-1,200 pounds. The manatee ranges in color from grey to light brown and has wrinkled skin covered sparsely with hairs. The West Indian manatee prefers shallow, slow-moving waters of rivers, estuaries, and saltwater bays. The West Indian manatee can move between both salt and freshwater habitats, but prefers freshwater.

Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) – State Endangered
The Rafinesque's big-eared bat is a small bat, approximately 3 to 4 inches long with a wingspan that ranges from 10 to 12 inches. This species is distinguishable by its large ears which, when laid back, are almost half the length of the animal's body. The Rafinesque's big-eared bat is grey/brown on top and silvery on the bottom. The species inhabits the southeastern United States and will hibernate rather than migrate. Rafinesque's big-eared bat characteristically roots in dilapidated buildings or tree cavities near water and have been known to day-roost under bridges.

American chaffseed (*Schwalbea americana*) - Federally Endangered
American chaffseed is an erect perennial herb that is both parasitic and photosynthetic, producing their own food and feeding off the roots of a host plant. Leaves are alternate, fixed, and ascend in an overlapping spiral. The leaves, stem, and flowers are hairy throughout, and the stem branches off only at the base of the plant. The flowers are reddish purple and five lobed, and flower from April to June. The American chaffseed is fire or disturbance dependent and grows mainly in fire maintained longleaf pine flatwoods and savannahs in transitional areas between wetland and upland soils.

Canby's dropwort (*Oxypolis canbyi*) – Federal Endangered
Canby's dropwort is a perennial herbaceous plant with tuberous roots and pale, fleshy rhizomes, and erect stems up to 39 inches tall. The stems may be purplish at the base, and the leaves resemble quills. The flowers are small and white with 5 petals and grow in umbels or flat-topped clusters. Canby's dropwort grows in moist areas in the coastal plain and sandhills, including wet meadows, wet pineland savannas, ditches, sloughs, and around the edges of Cypress-pine ponds. The plant seems to be more prolific when the habitat has been burned.

Pondberry (*Lindera melissifolia*) – Federally Endangered
The pondberry is a deciduous shrub approximately 6 feet tall at maturity. Pale yellow flowers appear in the spring before leaves reemerge. Fruits are oval shaped and half an inch long, turning from green in the summer, to bright red in the fall. The pondberry is distinguished by its drooping foliage, obtuse to rounded leaf base, and conspicuous venation. The leaves give off a sassafras-like odor when crushed. The pondberry is associated with wetland and bottomland habitats on the margins of sinks, ponds, and depressions.

American alligator (*Alligator mississippiensis*) – Threatened Due to Similarity of Appearance / State Threatened
The American alligator has a large, slightly round body with four short stout legs, a broad head, and a long powerful tail. The alligator can grow to a size of 14 feet long and weigh up to 1,000 pounds. These large reptiles are almost black in color and covered in coarse scales. The American alligator is threatened due to its similarity in appearance to the American crocodile. The American alligator can be distinguished by their thicker head shape, hidden lower teeth, and darker color. American alligators live in large marshes or wetland areas.

Southern hognose snake (*Heterodon simus*) – State Threatened
The southern hognose snake is a small snake approximately 14–20 inches in length with a distinctive upturned snout. The snake is typically tan-brown with darker blotches running down its back. The southern hognose snake inhabits sandhills, pine flatwoods, and coastal dunes.

Spotted turtle (*Clemmys guttata*) – State Threatened
The spotted turtle is a small semi-aquatic turtle reaching sizes of 3.5-4.3 inches. The species has a black carapace, as well as a black head and neck, with small yellow-orange spots throughout. The species can be found in and surrounding natural intact ponds, streams, and rivers, as well as wetland and inundated areas of the coastal plain.

6.1 METHODOLOGY

Environmental scientists with the Project Team performed literature and field reviews to determine the likelihood of protected species within the PSA and the potential for project-related impacts. The list of protected species known to occur in Berkeley County was reviewed, and field reviews were conducted within the PSA on September 4, 2018. Areas that matched the descriptions of preferred habitat for protected species were classified as protected species habitat and were surveyed for the presence of protected species.

The PSA reviewed was approximately 492 acres in size and extended the length of I-26 between MM 186 and MM 193, as well as approximately one (1) mile along both SC 27 and Cypress Campground Road on each side of I-26. The natural communities observed during field reviews consisted of blackwater river floodplain forest, cypress gum swamp, mesic mixed pine/hardwood forest, pine plantation, and maintained and disturbed land.

The SCDNR South Carolina Heritage Trust (SCHT) Geographic Database of Rare and Endangered Species was also reviewed to determine the presence of known populations of protected species within the vicinity of the project.

At-Risk Species (ARS) and state threatened species do not receive legal protection from the ESA; therefore, surveys for these species were not conducted.

6.2 RESULTS

There is no potential habitat for the frosted flatwoods salamander within the PSA due to the lack of wetlands associated with longleaf pine savannahs.

There is no potential habitat for the American wood stork within the PSA due to the lack of shallow water wetlands suitable for foraging and nesting.

No potential nesting or foraging habitat for the bald eagle is present within the PSA due to a lack of open rivers or water bodies large enough to support the species. The closest known bald eagle nest is over a mile away to the south of the PSA along the banks of the Dawson Branch. No individual bald eagles, nests, or evidence of the species was found during field reviews of the PSA.

There is no potential habitat for the red-cockaded woodpecker within the PSA due to the lack of old growth pines. In addition, the understory in most areas of pines was overdeveloped for red-cockaded woodpeckers. No tree cavities, individual red-cockaded woodpeckers, or other indicators of the species were found within the PSA.

There is no potential habitat for the Atlantic sturgeon within the PSA due to the lack of water bodies large enough to support this species or major river systems with direct connectivity to the Atlantic Ocean.

There is no potential habitat for the shortnose sturgeon within the PSA due to the lack of water bodies large enough to support this species or major river systems with association to the Atlantic Ocean.

There is potential habitat for the northern long-eared bat located within the PSA in the form of dead and dying trees. The final 4(d) rule for the northern long-eared bat went into effect February 16, 2016 and focuses on protecting known maternity roost trees and/or known hibernacula. SCDOT has coordinated with USFWS to check for known hibernacula in the study area. The USFWS did not respond within 30 business days of request, indicating they have no objection to the project as described; see USFWS coordination from March 11, 2019 attached in **Appendix B**.

There is no potential habitat for the West Indian manatee located within the PSA due a lack of association with marine habitats or water bodies large and deep enough to support this large aquatic species.

There is no potential habitat for the American chaffseed located within the PSA due to the lack of fire or disturbance-maintained longleaf pine savannah or flatwoods habitat. No individuals or evidence of the species was located in within the PSA.

There is potential habitat for Canby's dropwort within the PSA. The areas identified as potentially suitable habitat are: Wetland 17 (powerline right-of-way (ROW) south of Interstate 26 and north of SC 27); Wetland 26, and Wetland 44. Each of these areas was surveyed for the presence of the species.

Species composition at Freshwater Wetland 17 at the powerline ROW, consists of torpedo grass (*Panicum hematomum*), bushy goldentop, beaksedge, Chapman's beaksedge, meadowbeauty, velvet panicum, Carolina yelloweyed grass (*Xyris caroliniana*), roundleaf thoroughwort, justiceweed (*Eupatorium leucolepis*), common boneset (*Eupatorium perfoliatum*), Vasey's grass, and sugarcane plumegrass (*Erianthus giganteus*).

Species composition at Freshwater Wetland 17 north of SC 27, consisted of the same species as above, in addition to an emerging shrub layer of wax myrtle and sweetgum. Additional herbaceous species are St. Peter's wort (*Hypericum stans*), peelbark St. Johnswort, rosy camphorweed (*Pluchea rosea*), and little bluestem (*Schizachyrium scoparium*).

Species composition at Freshwater Wetland 26 consists of black willow), sweetgum, wax myrtle in the shrub layer and trumpet creeper, peppervine, and yellow jessamine in the vine layer, in addition to the same species assemblage found at Freshwater Wetland 17 at the powerline ROW.

Species composition at Freshwater Wetland 44 consists of swamp tupelo and laurel oak in the canopy, fetterbush in the shrub layer, southern waxy sedge, Virginia chainfern (*Woodwardia virginica*), and common greenbrier in the herbaceous and vine layer. This is a depressional wetland, but no water was present during the survey. There is a 70-80% canopy cover; photos of all habitats surveyed during field reviews can be found in **Appendix C.**

There is no potential habitat for the pondberry within the PSA due to the lack of large pine savannah wetlands, sinks, or pocosins. No individuals or evidence of this species was located within the PSA.

6.3 BIOLOGICAL CONCLUSIONS

Based on the literature and field reviews, it is determined that the proposed project will have a biological conclusion of '**no effect**' for all federally protected species. At-Risk Species (ARS) and State-listed species do not currently receive legal protection from the ESA; therefore, a biological conclusion for these species is not provided.

6.4 ENVIRONMENTAL COMMITMENTS

In the event additional species are listed as federally threatened or endangered prior to the construction of the project, SCDOT will consult with USFWS on the results of the surveys performed, if necessary, and will follow any USFWS regulations/requirements resulting from that consultation.

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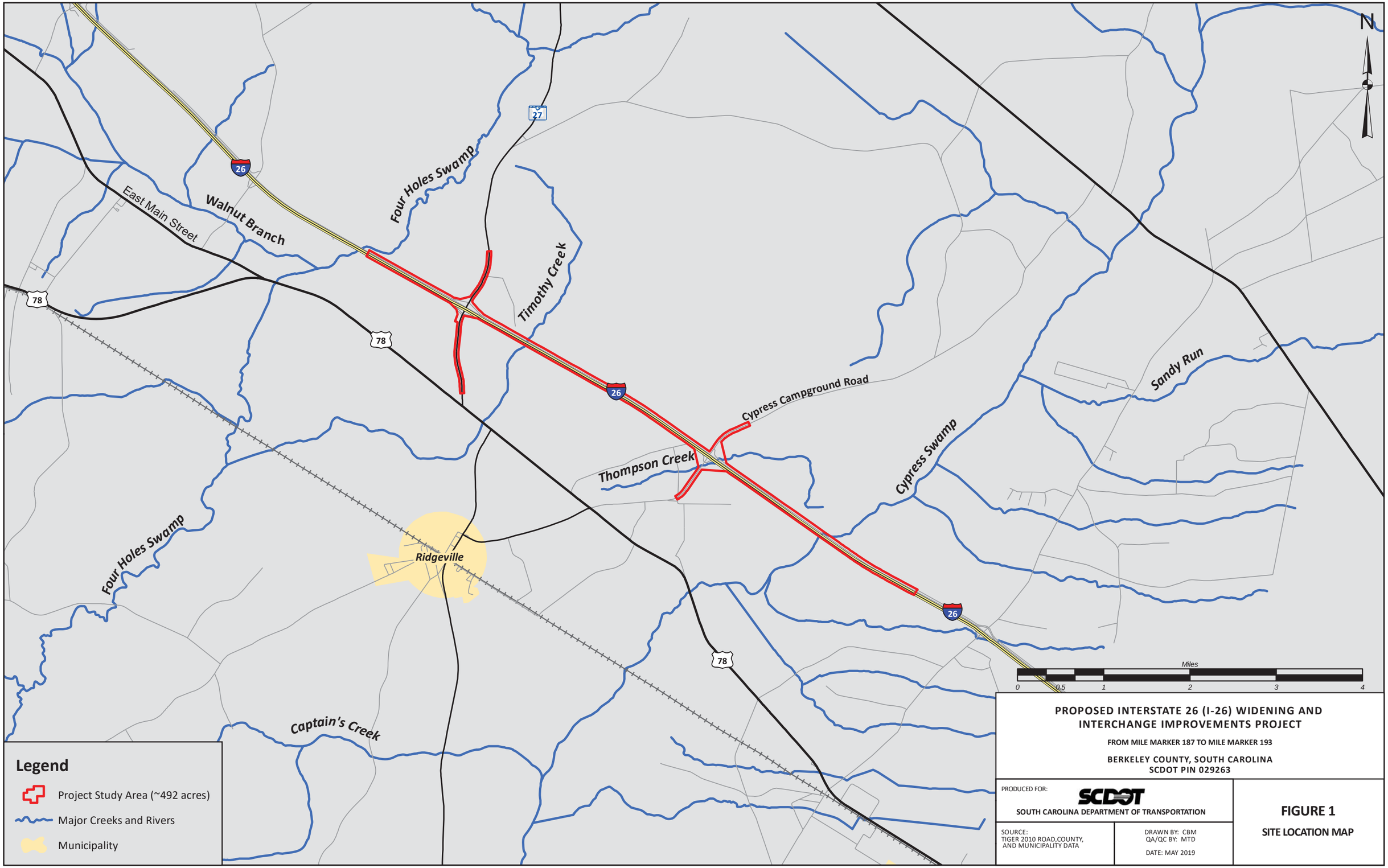
APPENDIX A

FIGURES



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

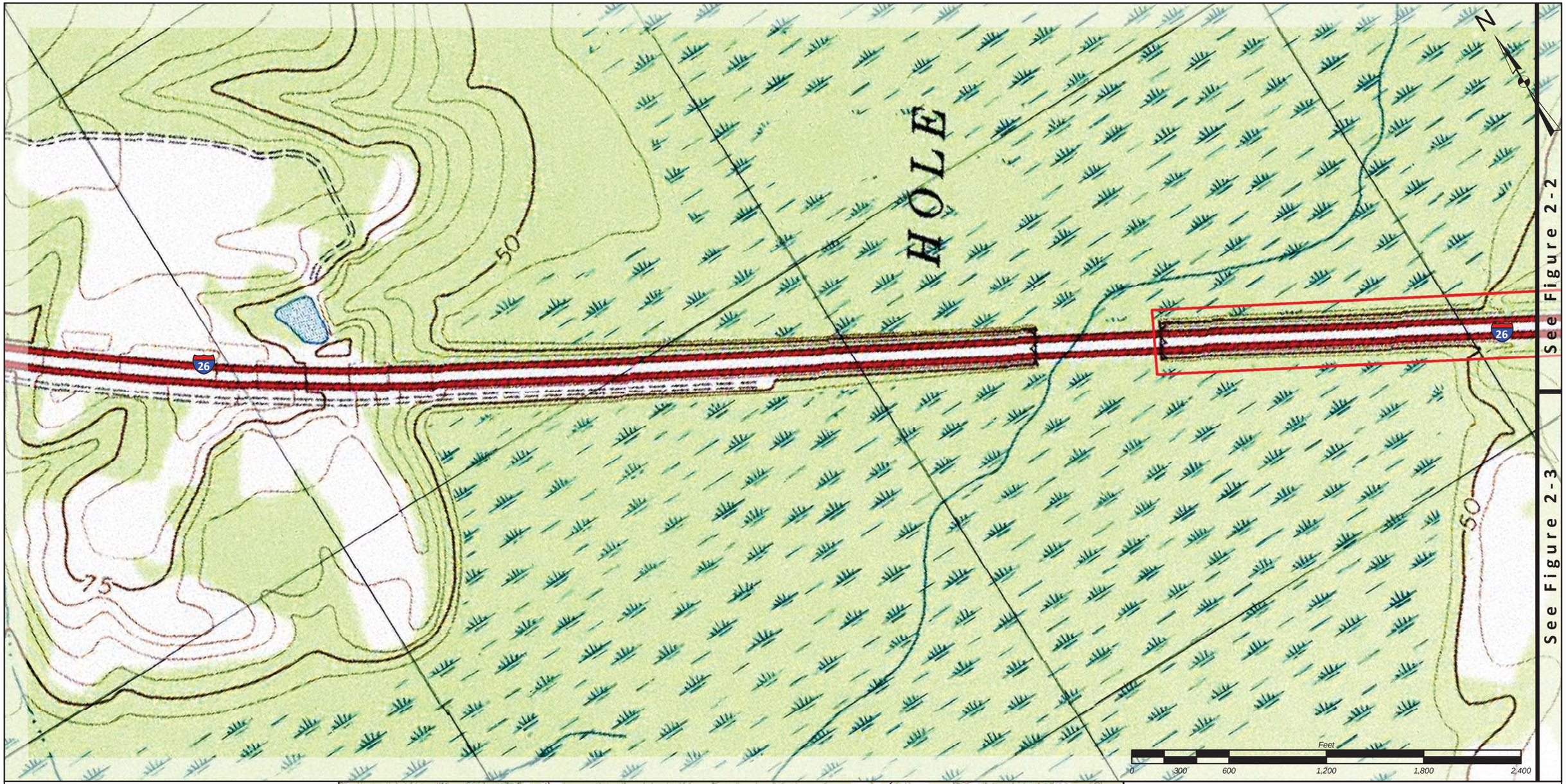
SOURCE:
TIGER 2010 ROAD,COUNTY, AND MUNICIPALITY DATA

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

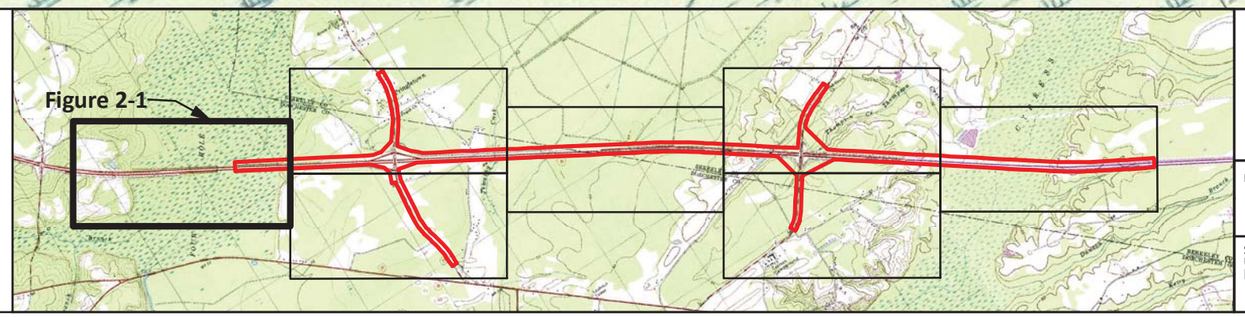
FIGURE 1

SITE LOCATION MAP



Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USGS 7.5 MINUTE QUAD MAPS
[PRINGLETOWN, SC (1979)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 2-1

USGS TOPOGRAPHY MAP

Pringletown

BERKELEY CO

CHESTER CO

Gaddist Road

Mt Pisgah Ch

Creek

Ridgeville Road

BR 62

27

187

26

N

See Figure 2-1

See Figure 2-3

See Figure 2-4

Feet

0 300 600 1,200 1,800 2,400

Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number

Figure 2-2

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USGS 7.5 MINUTE QUAD MAPS
[PRINGLETOWN, SC (1979)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 2-2

USGS TOPOGRAPHY MAP

See Figure 2-2

See Figure 2-1

See Figure 2-4

N

Jared Lane

27

Ridgeville Road

Samson Road

Pringletown Quad

Ridgeville Quad

56

60

55

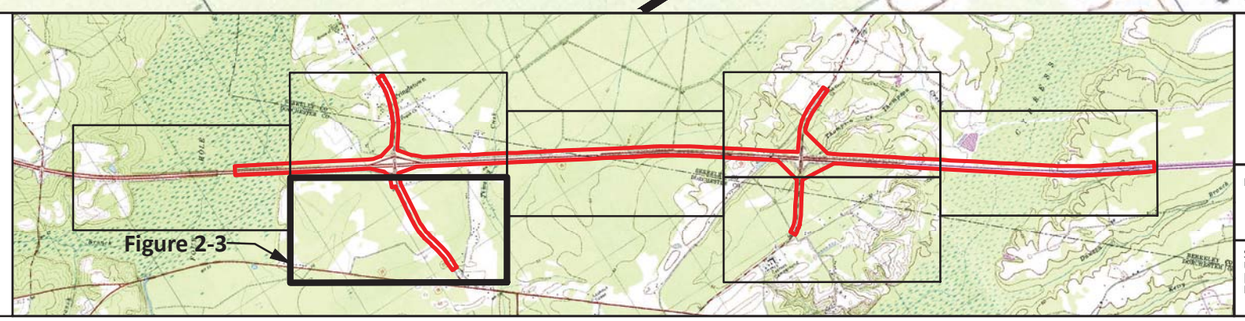
78

Feet

0 300 600 1,200 1,800 2,400

Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

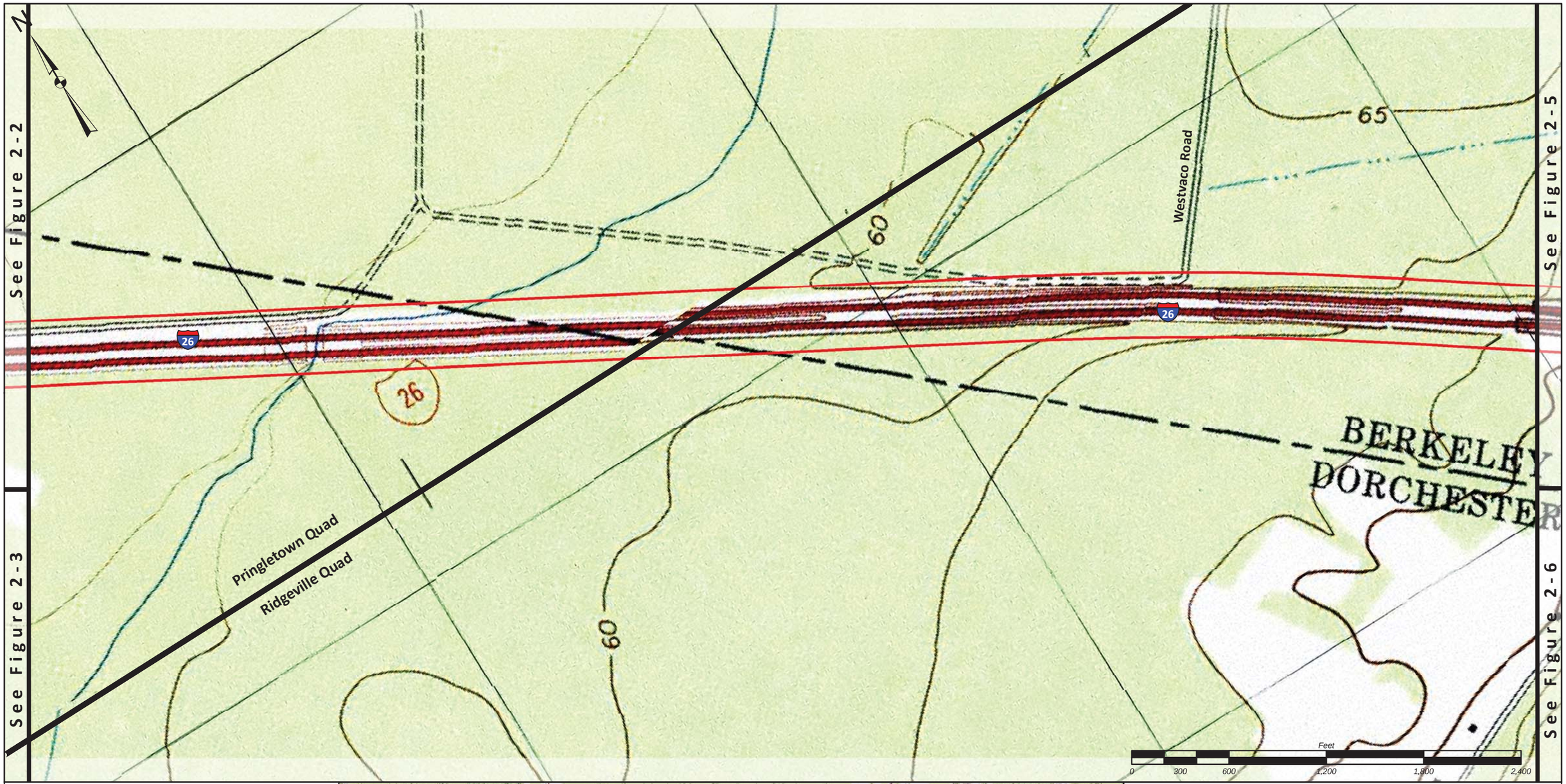
SOURCE:
USGS 7.5 MINUTE QUAD MAPS
[PRINGLETOWN, SC (1979)
RIDGEVILLE, SC (1979)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

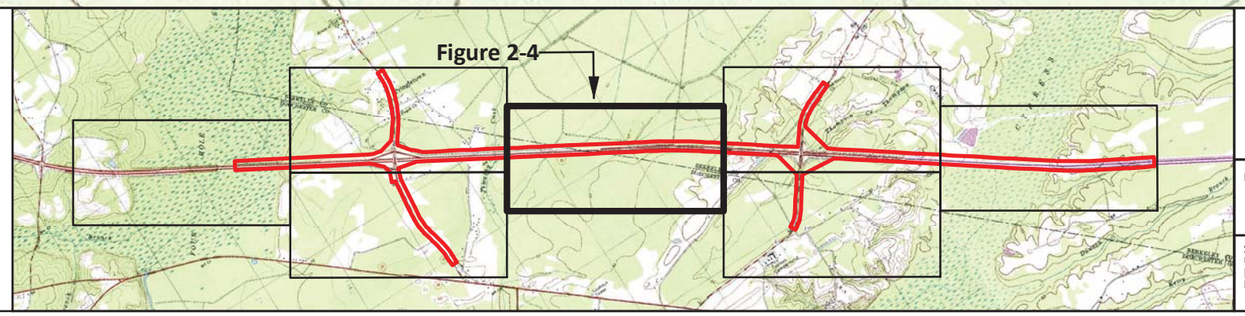
FIGURE 2-3

USGS TOPOGRAPHY MAP



Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

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SOURCE:
USGS 7.5 MINUTE QUAD MAPS [PRINGLETOWN, SC (1979) RIDGEVILLE, SC (1979)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 2-4

USGS TOPOGRAPHY MAP

N

Oak Grove Ch

S-32 (Cypress Campground Road)

Thompson Cr

Thompson Creek

Summerville Quad

Ridgeville Quad

Fivel Lane

Rudd Road

26

75

74

50

60

See Figure 2-4

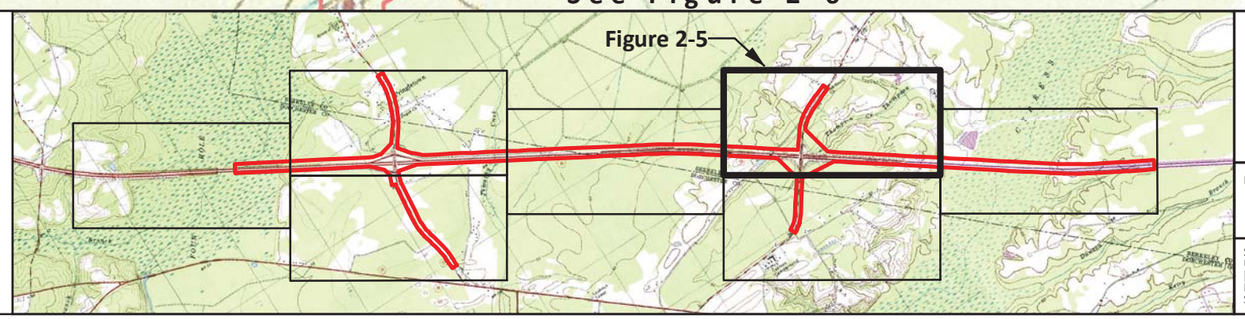
See Figure 2-7

See Figure 2-6

0 300 600 1,200 1,800 2,400 Feet

Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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USGS 7.5 MINUTE QUAD MAPS
[PRINGLETOWN, SC (1979)
RIDGEVILLE, SC (1979)
SUMMERVILLE, SC (1990)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 2-5

USGS TOPOGRAPHY MAP

See Figure 2-5

See Figure 2-4

See Figure 2-7

S-32 (Cypress Campground Road)

Sabo Drive

Red Hill Road

Lucille Road

Summerville Quad

Ridgeville Quad

Cypress Campground

65

66

70

50

25

Feet

0 300 600 1,200 1,800 2,400

Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number

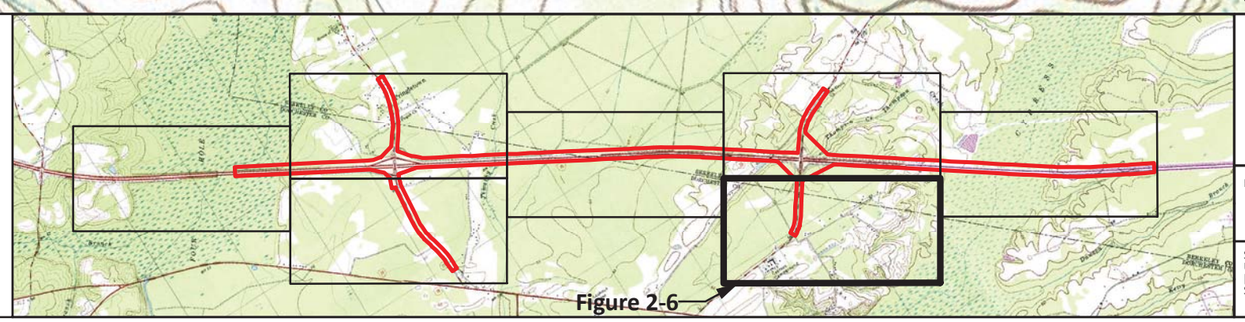


Figure 2-6

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USGS 7.5 MINUTE QUAD MAPS
[RIDGEVILLE, SC (1979)
SUMMERVILLE, SC (1990)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 2-6

USGS TOPOGRAPHY MAP

See Figure 2-5

See Figure 2-6

N

26

26

50

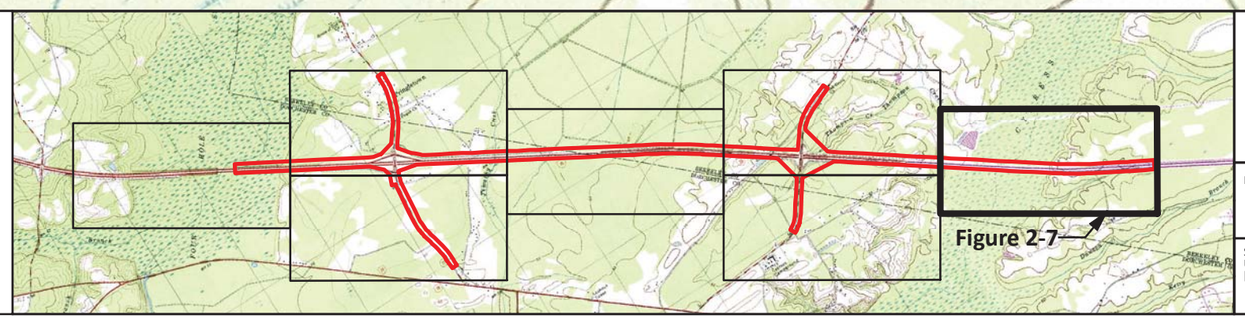
60

Feet

0 300 600 1,200 1,800 2,400

Legend

- Project Study Area (~492 acres)
- USGS Quad Index
- 83 Exit Location/Number



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FROM MILE MARKER 187 TO MILE MARKER 193

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SOURCE:
USGS 7.5 MINUTE QUAD MAPS
[SUMMERVILLE, SC (1990)]

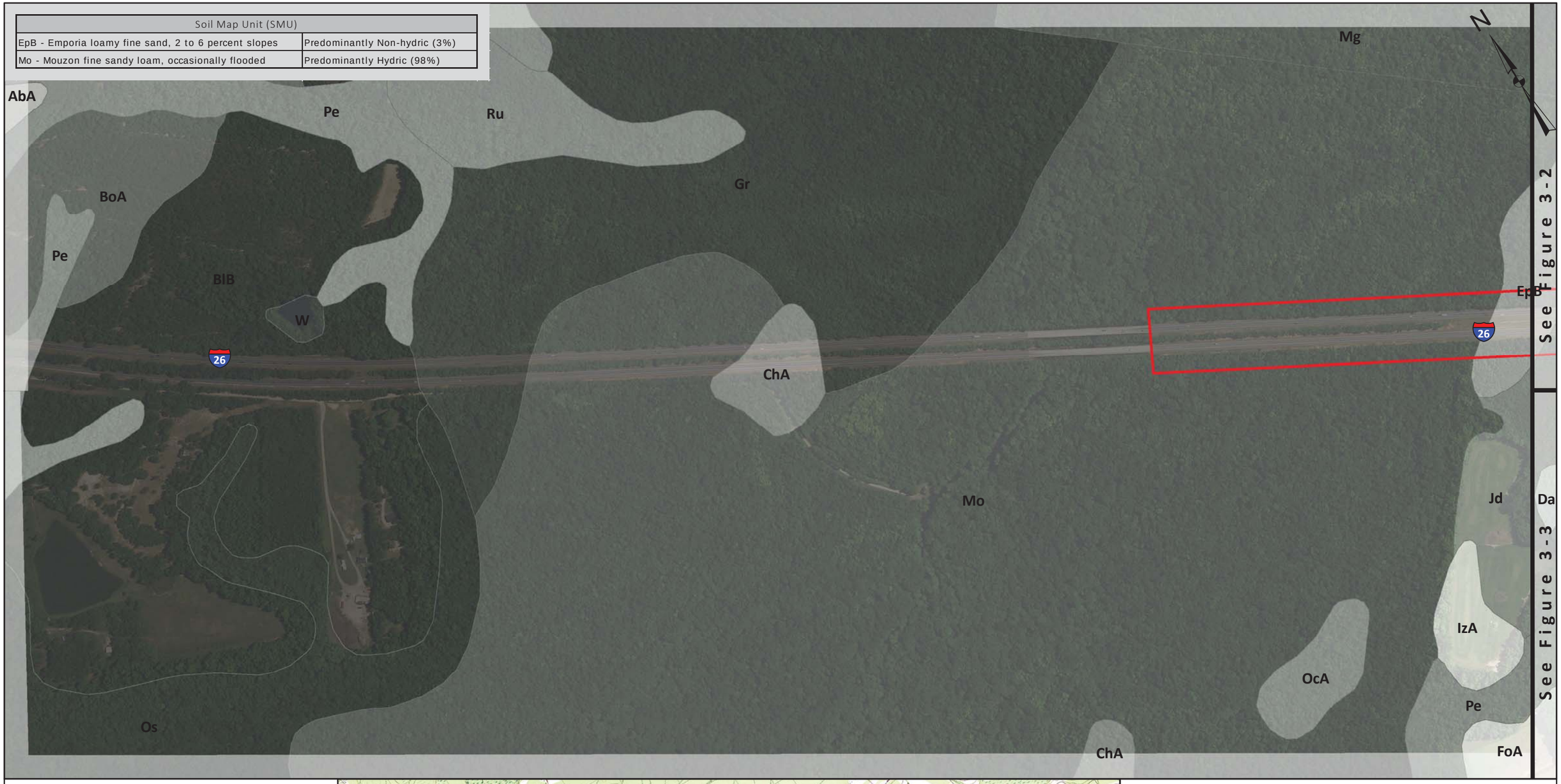
DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 2-7

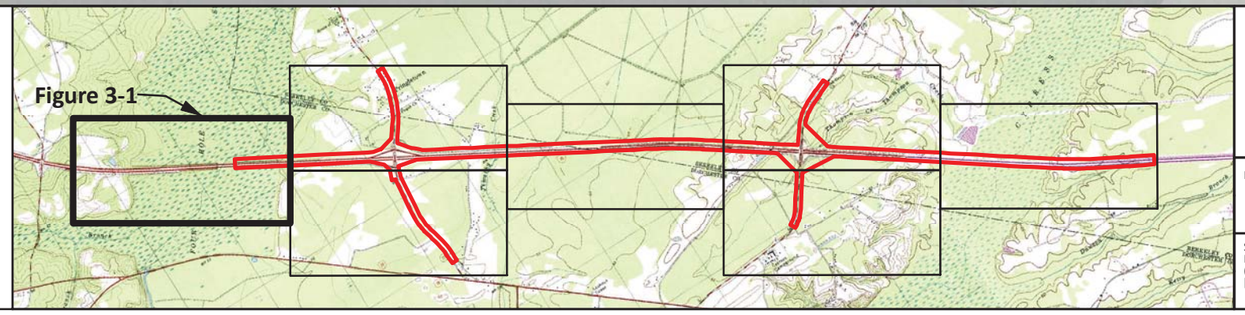
USGS TOPOGRAPHY MAP

Soil Map Unit (SMU)	
EpB - Emporia loamy fine sand, 2 to 6 percent slopes	Predominantly Non-hydric (3%)
Mo - Mouzon fine sandy loam, occasionally flooded	Predominantly Hydric (98%)



Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE [STATEWIDE (2014)]

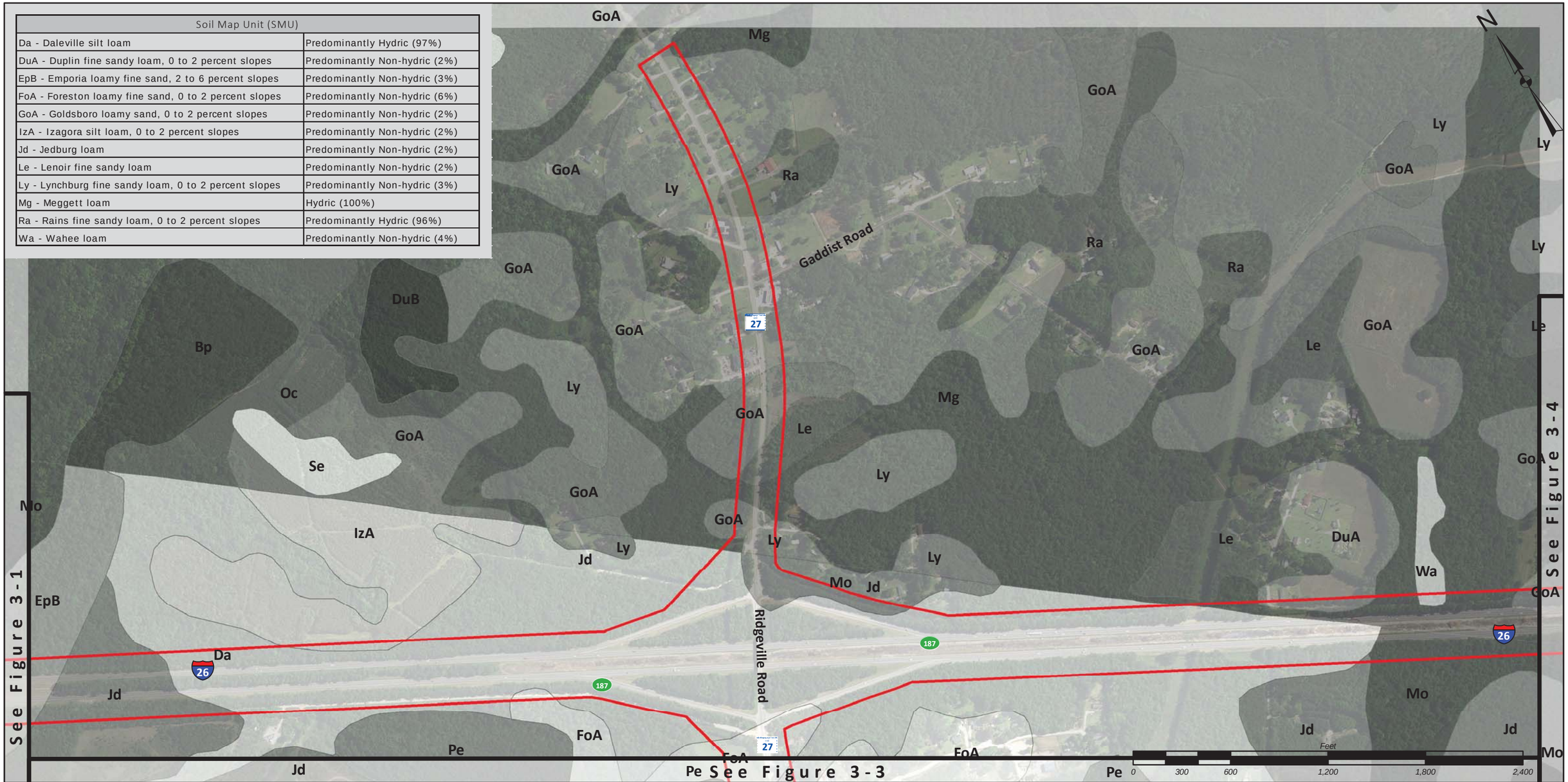
DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 3-1

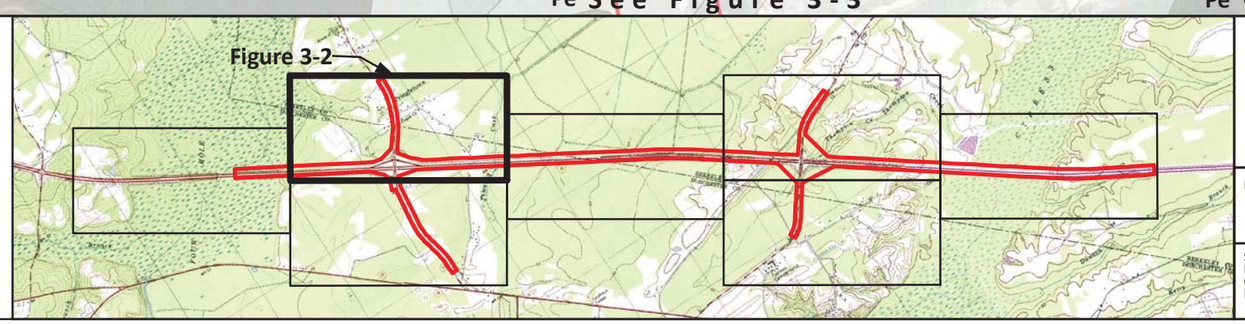
NRCS SOIL MAP UNIT (SMU) MAP

Soil Map Unit (SMU)	
Da - Daleville silt loam	Predominantly Hydric (97%)
DuA - Duplin fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
EpB - Emporia loamy fine sand, 2 to 6 percent slopes	Predominantly Non-hydric (3%)
FoA - Foreston loamy fine sand, 0 to 2 percent slopes	Predominantly Non-hydric (6%)
GoA - Goldsboro loamy sand, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
IzA - Izagora silt loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
Jd - Jedburg loam	Predominantly Non-hydric (2%)
Le - Lenoir fine sandy loam	Predominantly Non-hydric (2%)
Ly - Lynchburg fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (3%)
Mg - Meggett loam	Hydric (100%)
Ra - Rains fine sandy loam, 0 to 2 percent slopes	Predominantly Hydric (96%)
Wa - Wahee loam	Predominantly Non-hydric (4%)



Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
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SOURCE:
NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE [STATEWIDE (2014)]

DRAWN BY: CBM
QA/QC BY: MTD
DATE: MAY 2019

FIGURE 3-2

NRCS SOIL MAP UNIT (SMU) MAP

See Figure 3-2

See Figure 3-1

See Figure 3-4

Jared Lane

Ridgeville Road

Samson Road

27

78

Da

Pe

FoA

Jd

IzA

ChA

OcA

Mo

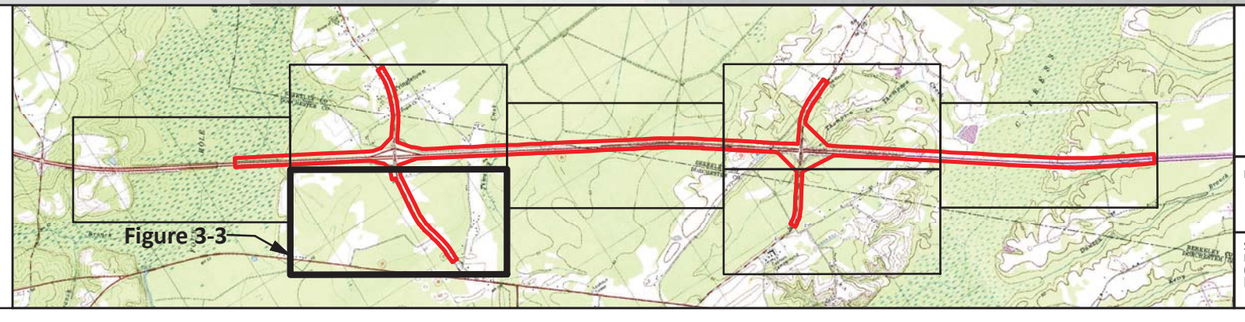
Feet

0 300 600 1,200 1,800 2,400

Soil Map Unit (SMU)	
Da - Daleville silt loam	Predominantly Hydric (97%)
FoA - Foreston loamy fine sand, 0 to 2 percent slopes	Predominantly Non-hydric (6%)
IzA - Izagora silt loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
Pe - Pelham sand	Predominantly Hydric (97%)

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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SOURCE:
NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE [STATEWIDE (2014)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

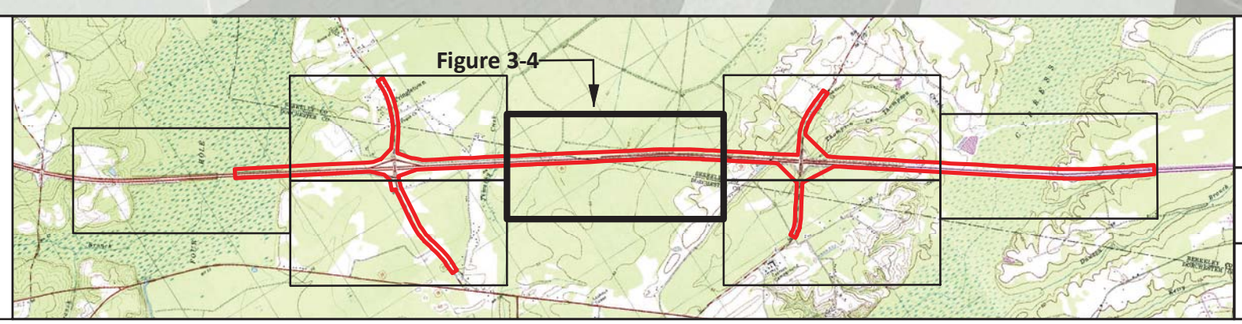
FIGURE 3-3

NRCS SOIL MAP UNIT (SMU) MAP

Soil Map Unit (SMU)	
Cu - Coxville fine sandy loam	Predominantly Hydric (97%)
CvA - Craven loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
GoA - Goldsboro loamy sand, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
Jd - Jedburg loam	Predominantly Non-hydric (2%)
Le - Lenoir fine sandy loam	Predominantly Non-hydric (2%)
Mg - Meggett loam	Hydric (100%)
Mo - Mouzon fine sandy loam, occasionally flooded	Predominantly Hydric (98%)
NoB - Norfolk loamy sand, 2 to 6 percent slopes	Non-hydric (0%)
Wa - Wahee loam	Predominantly Non-hydric (4%)

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE [STATEWIDE (2014)]

DRAWN BY: CBM
QA/QC BY: MTD
DATE: MAY 2019

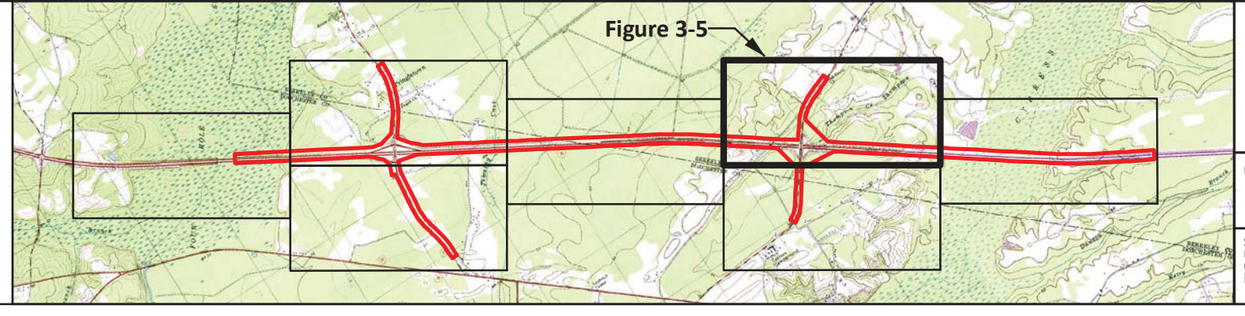
FIGURE 3-4

NRCS SOIL MAP UNIT (SMU) MAP

Soil Map Unit (SMU)	
Bp - Borrow pits	Hydric (100%)
Cu - Coxville fine sandy loam	Predominantly Hydric (97%)
DuA - Duplin fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
GoA - Goldsboro loamy sand, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
Le - Lenoir fine sandy loam	Predominantly Non-hydric (2%)
Lo - Leon fine sand, 0 to 2 percent slopes	Predominantly Hydric (97%)
Ly - Lynchburg fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (3%)
Mg - Meggett loam	Hydric (100%)
NoA - Norfolk loamy sand, 0 to 2 percent slopes	Non-hydric (0%)
NoB - Norfolk loamy sand, 2 to 6 percent slopes	Non-hydric (0%)
Ra - Rains fine sandy loam, 0 to 2 percent slopes	Predominantly Hydric (96%)
Se - Seagate loamy sand	Predominantly Non-hydric (4%)

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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SCDOT PIN 029263

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SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

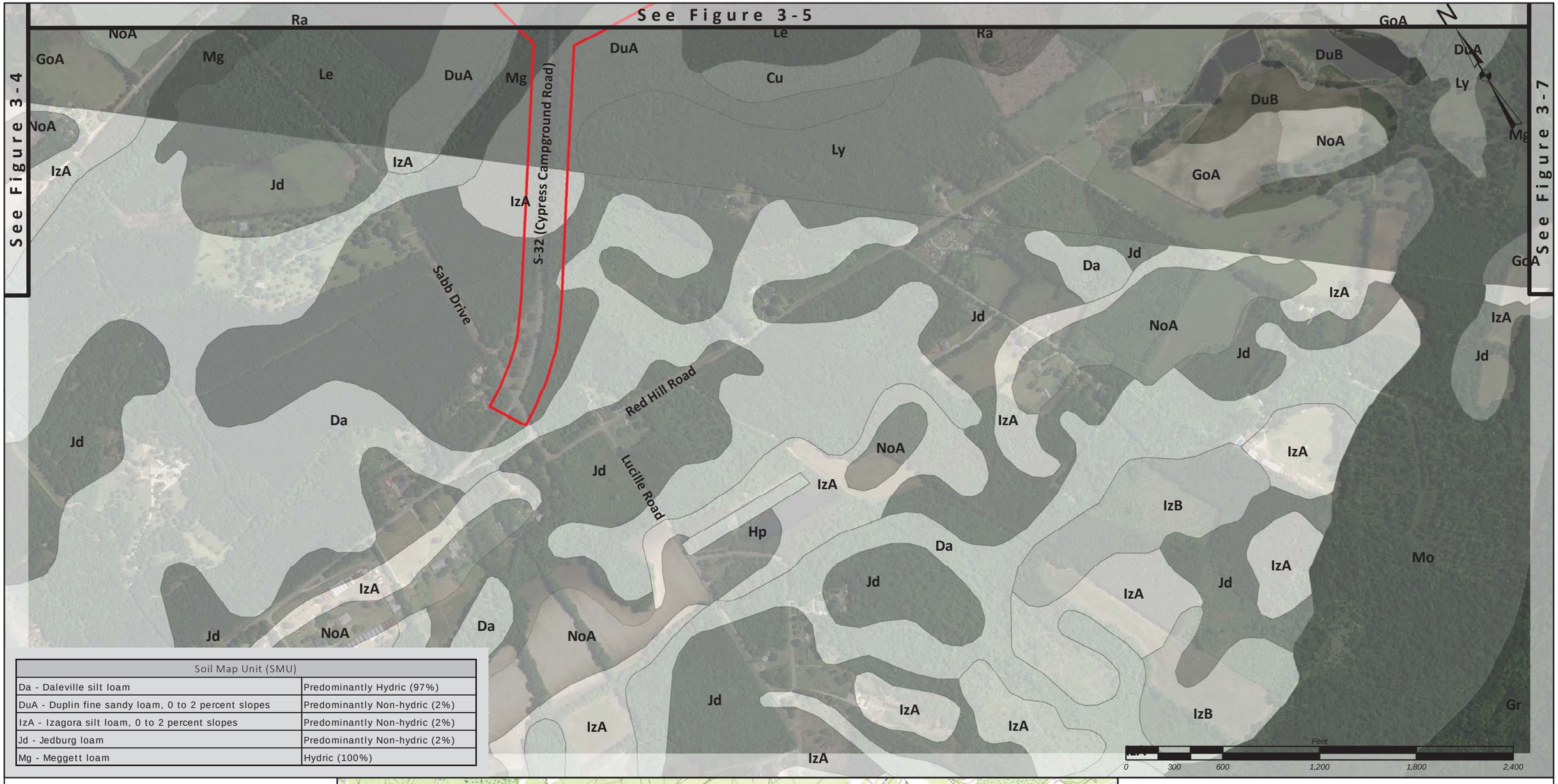
SOURCE:
NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE [STATEWIDE (2014)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 3-5

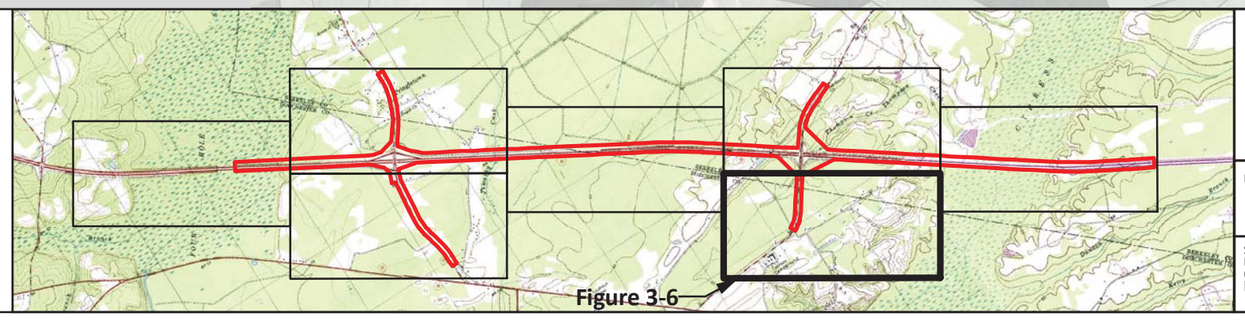
NRCS SOIL MAP UNIT (SMU) MAP



Soil Map Unit (SMU)	
Da - Daleville silt loam	Predominantly Hydric (97%)
DuA - Duplin fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
IzA - Izagora silt loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
Jd - Jedburg loam	Predominantly Non-hydric (2%)
Mg - Meggett loam	Hydric (100%)

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

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SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
NRCS SOIL SURVEY GEOGRAPHIC (SSURGO) DATABASE [STATEWIDE (2014)]

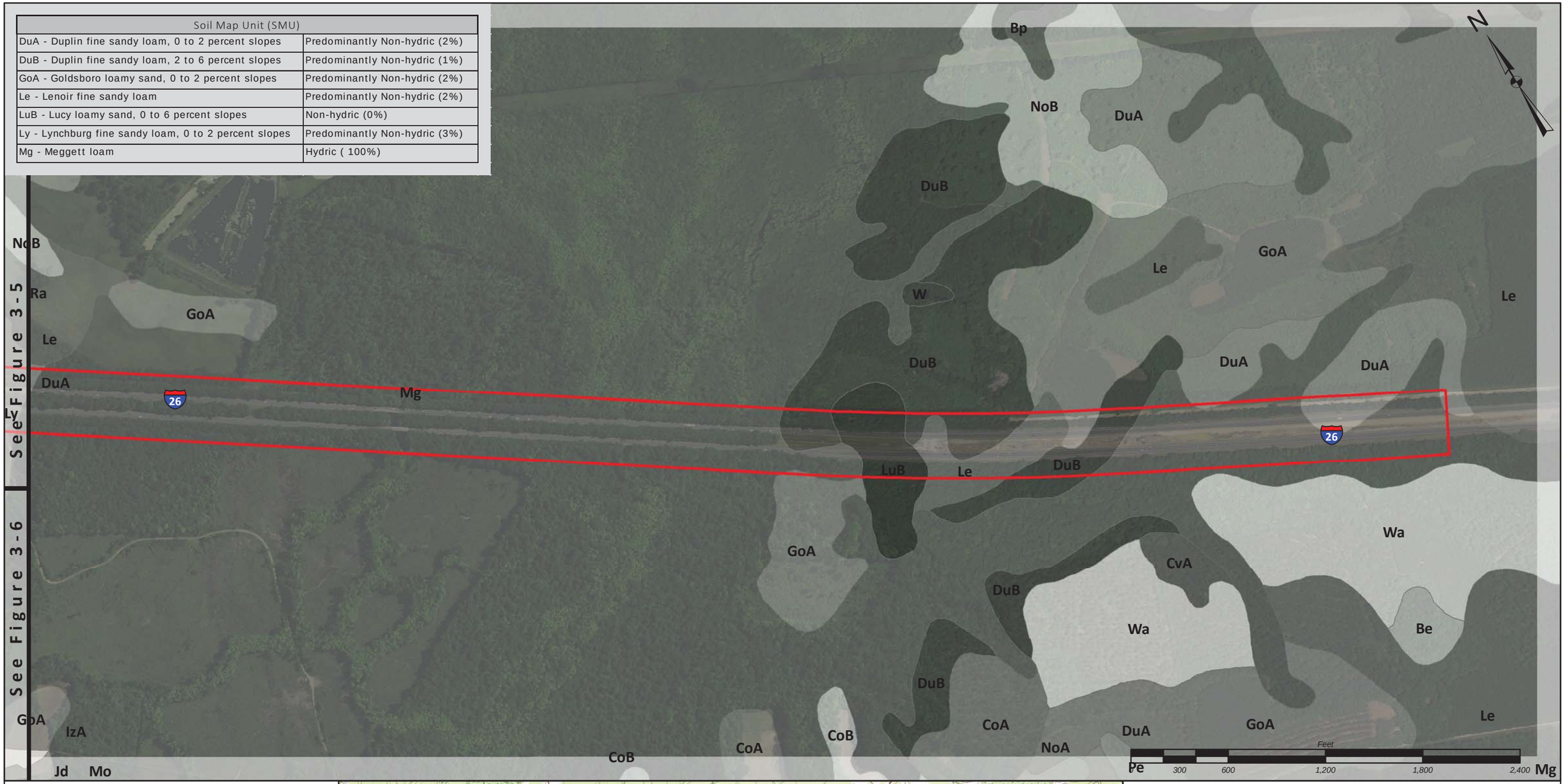
DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 3-6

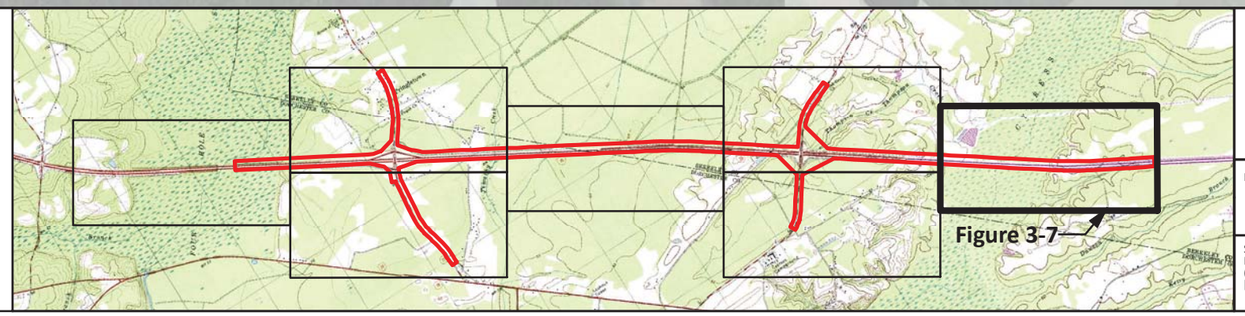
NRCS SOIL MAP UNIT (SMU) MAP

Soil Map Unit (SMU)	
DuA - Duplin fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
DuB - Duplin fine sandy loam, 2 to 6 percent slopes	Predominantly Non-hydric (1%)
GoA - Goldsboro loamy sand, 0 to 2 percent slopes	Predominantly Non-hydric (2%)
Le - Lenoir fine sandy loam	Predominantly Non-hydric (2%)
LuB - Lucy loamy sand, 0 to 6 percent slopes	Non-hydric (0%)
Ly - Lynchburg fine sandy loam, 0 to 2 percent slopes	Predominantly Non-hydric (3%)
Mg - Meggett loam	Hydric (100%)



Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

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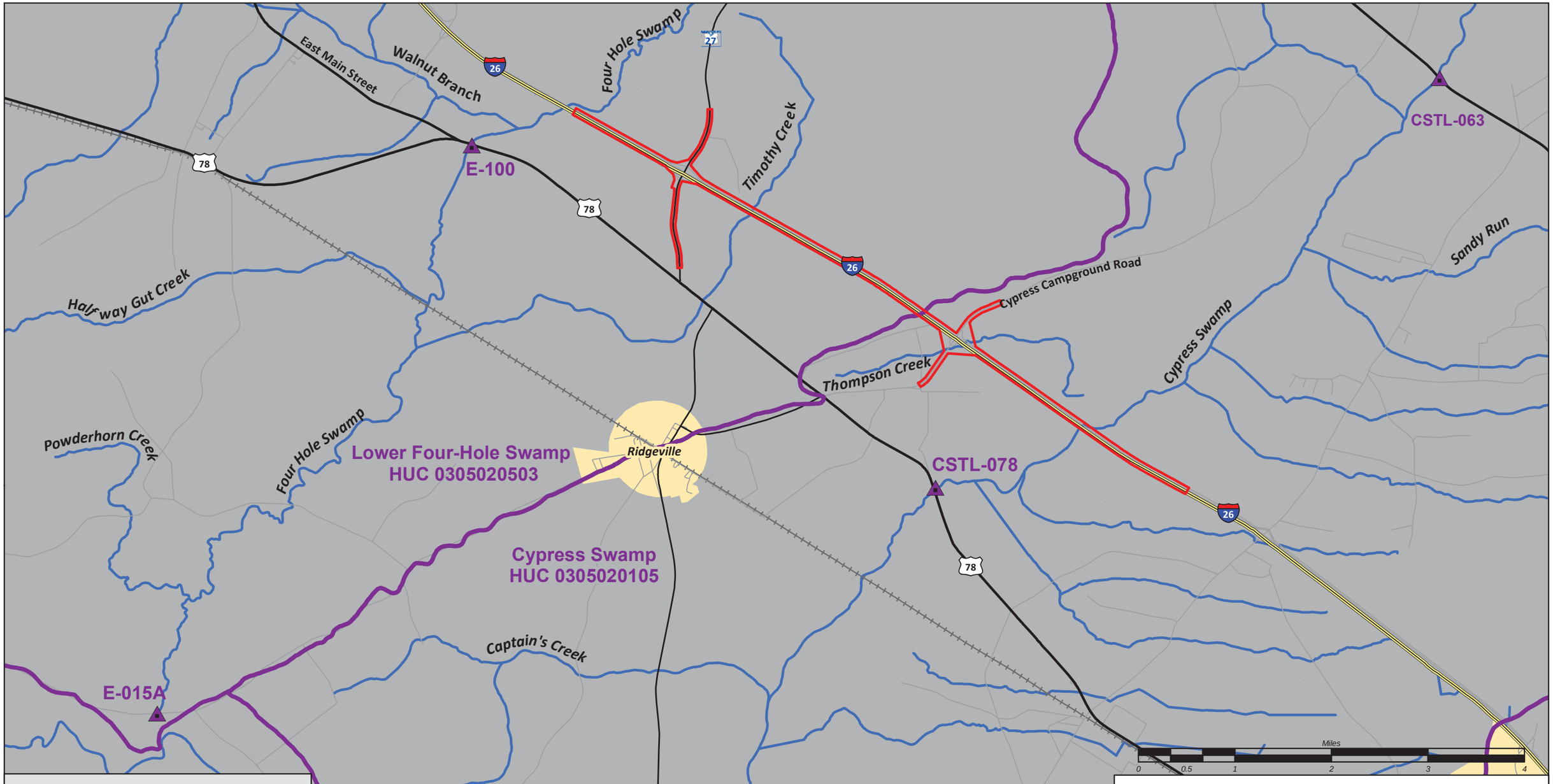
DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 3-7

NRCS SOIL MAP UNIT (SMU) MAP



Legend

- Project Study Area (~492 acres)
- SCDHEC Wathershed Boundries
- SCDHEC Water Quality Monitoring Stations
- Major Creeks and Rivers
- Municipality

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

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SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
TIGER 2010 ROAD,COUNTY, AND MUNICIPALITY DATA & SCDHEC WATER QUALITY MONITORING DATA

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 4

WATER QUALITY MONITORING STATION MAP

NWI Elements in PSA

PEM1F - Palustrine, Emergent, Persistent, Semipermanently Flooded

PFO1/2F - Palustrine, Forested, Broad-leaved Deciduous, Needle-leaved Deciduous, Semipermanently Flooded

PFO1/2Fh - Palustrine, Forested, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Semipermanently Flooded, Diked/Impounded

PFO1C - Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded

PFO1A
PFO1A
PFO1/4A
PFO1/2F
PFO1C
PFO1C
PSS1/4A
PFO1F
PFO1/2Fh
PFO1A
PFO1F
PFO1/2F
PFO1/2F
PFO1C
PFO1A
PUBHh
PFO1/2F
PFO1C
PFO1/2F
R5UBH
PEM1F
R5UBH
PFO1/2F
PFO1/2F
PFO1/2F
PFO1/2F
PFO1/2F
PFO1A
PFO1/2F
PFO1C

N

26

26

See Figure 5-2

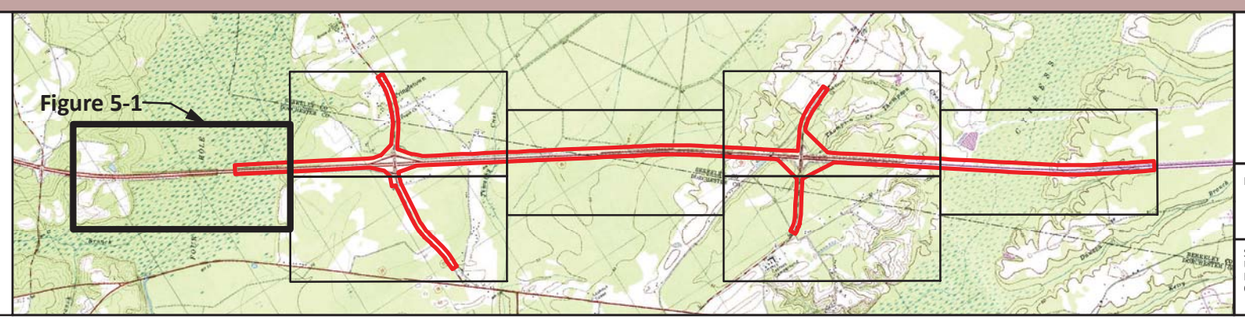
See Figure 5-3

Feet
0 300 600 1,200 1,800 2,400

Legend

Project Study Area (~492 acres)

83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

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SCDOT PIN 029263

PRODUCED FOR:
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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 5-1

NATIONAL WETLANDS INVENTORY (NWI) MAP

NWI Elements in PSA

- PFO1A - Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded
- PFO1Ad - Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded, Partially Drained / Ditched
- PFO1/4Ad - Palustrine, Forested, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Temporarily Flooded, Partially Drained / Ditched
- PSS1/4A - Palustrine, Scrub-Shrub, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Temporarily Flooded
- PSS4B - Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Seasonally Saturated
- R5UBh - Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded

PFO1A
PFO1A
PFO4/1A
PFO1/2C
PFO4A
PFO1A
PFO1A
PFO1A
Gaddist Road
PFO1/2C
PFO1/4Ad
27
PFO1C
PFO1C
PFO1/4Ad
R5UBH
PFO1/2Fh
PFO1C
PFO1C
PFO1/4Ad
PFO1Ad
PFO1A
PFO1A
PFO1A
PFO1A
R5UBH
26
187
Ridgeville Road
187
PSS4B
PSS1/4A
PFO1Ad
PFO1A
PFO1/2F
R5UBH
27
PFO1A
PSS3A
R5UBH
0 300 600 1,200 1,800 2,400 Feet

See Figure 5-1

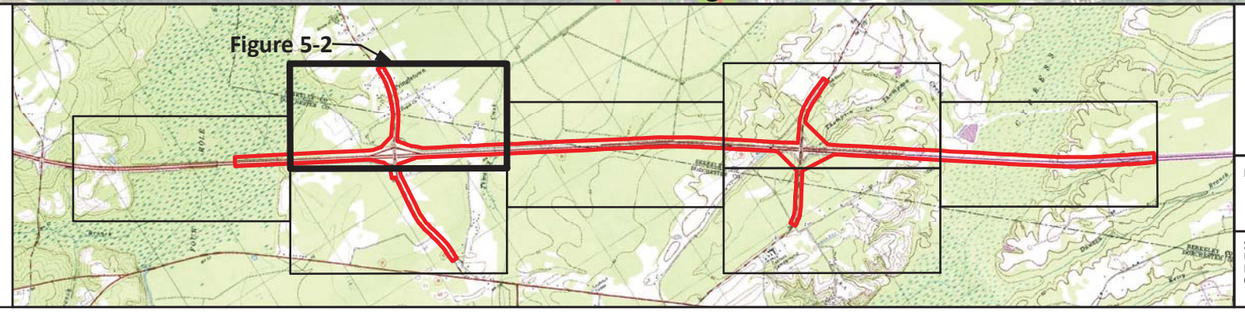
See Figure 5-3

See Figure 5-4

N

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD
DATE: MAY 2019

FIGURE 5-2
NATIONAL WETLANDS INVENTORY (NWI) MAP

See Figure 5-2

See Figure 5-1

See Figure 5-4

PEM1Cd
PFO1C
PFO1/2C
PFO1A
PFO1A
PFO1C
PFO1C
PFO1C
PFO1A
PFO1/4A
PFO1A
PFO1/4A
PEM1A
PFO1/2C
PFO1/4A
PEM1A
PFO1Ad
PFO1A
PFO1/4A
PSS3A
PFO1/2F
R5UBH
R5UBH
PEM1A
PFO1Ad
R5UBH
R2UBHx

Jared Lane
Ridgeville Road
Samson Road
27
78
78
27

0 300 600 1,200 1,800 2,400 Feet

NWI Elements in PSA

PFO1A - Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded

PFO1/4A - Palustrine, Forested, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Temporarily Flooded

Legend

Project Study Area (~492 acres)

83 Exit Location/Number

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD

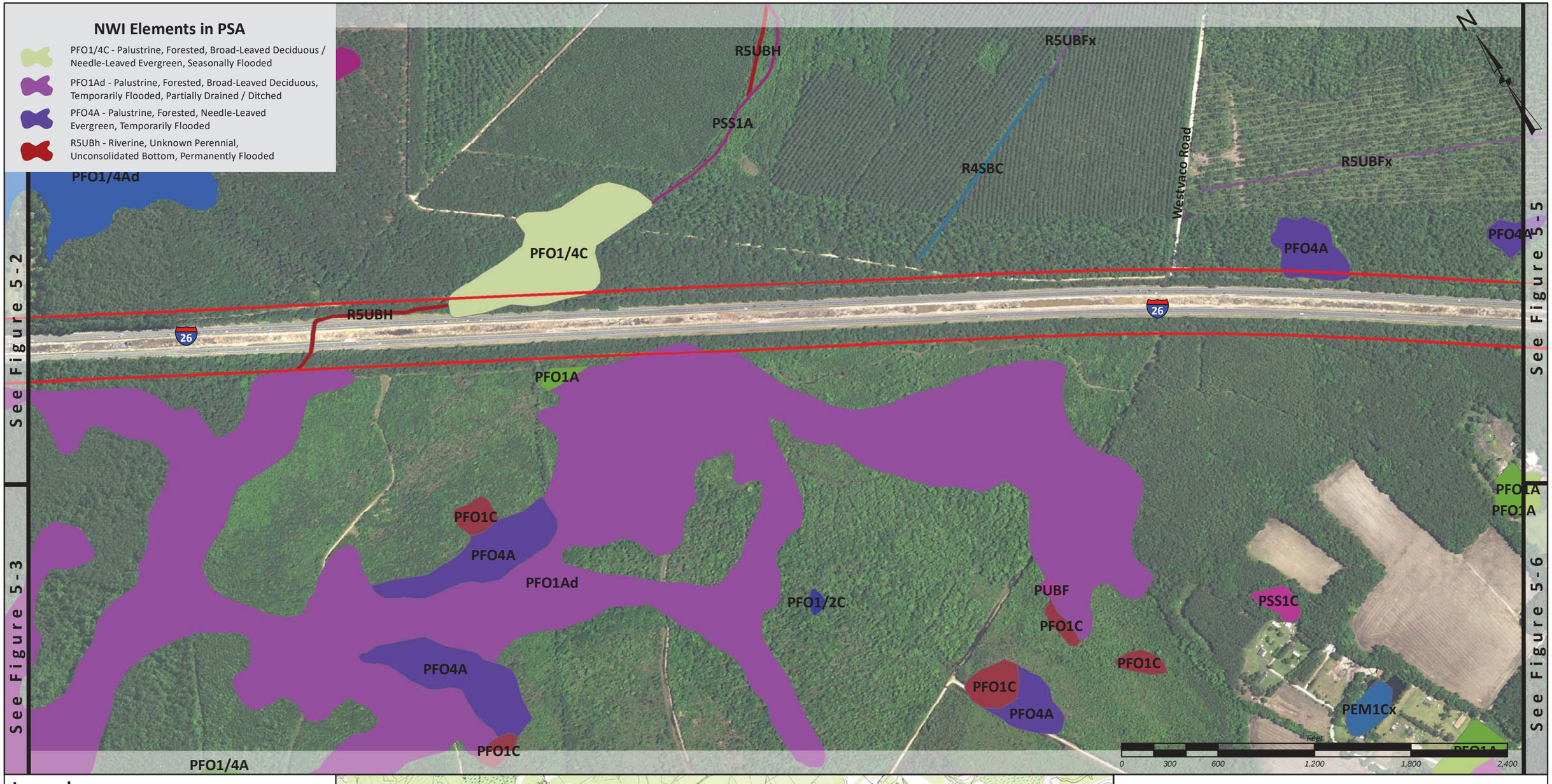
DATE: MAY 2019

FIGURE 5-3

NATIONAL WETLANDS INVENTORY (NWI) MAP

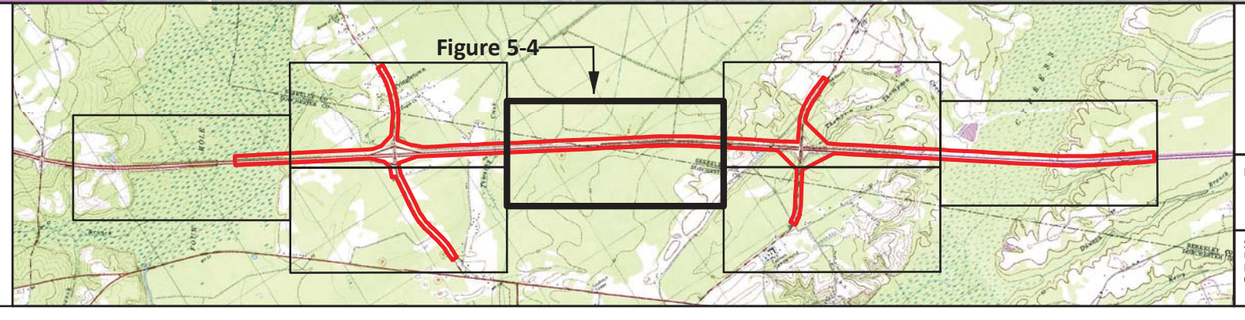
NWI Elements in PSA

- PFO1/4C - Palustrine, Forested, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Seasonally Flooded
- PFO1Ad - Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded, Partially Drained / Ditched
- PFO4A - Palustrine, Forested, Needle-Leaved Evergreen, Temporarily Flooded
- R5UBh - Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded



Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD

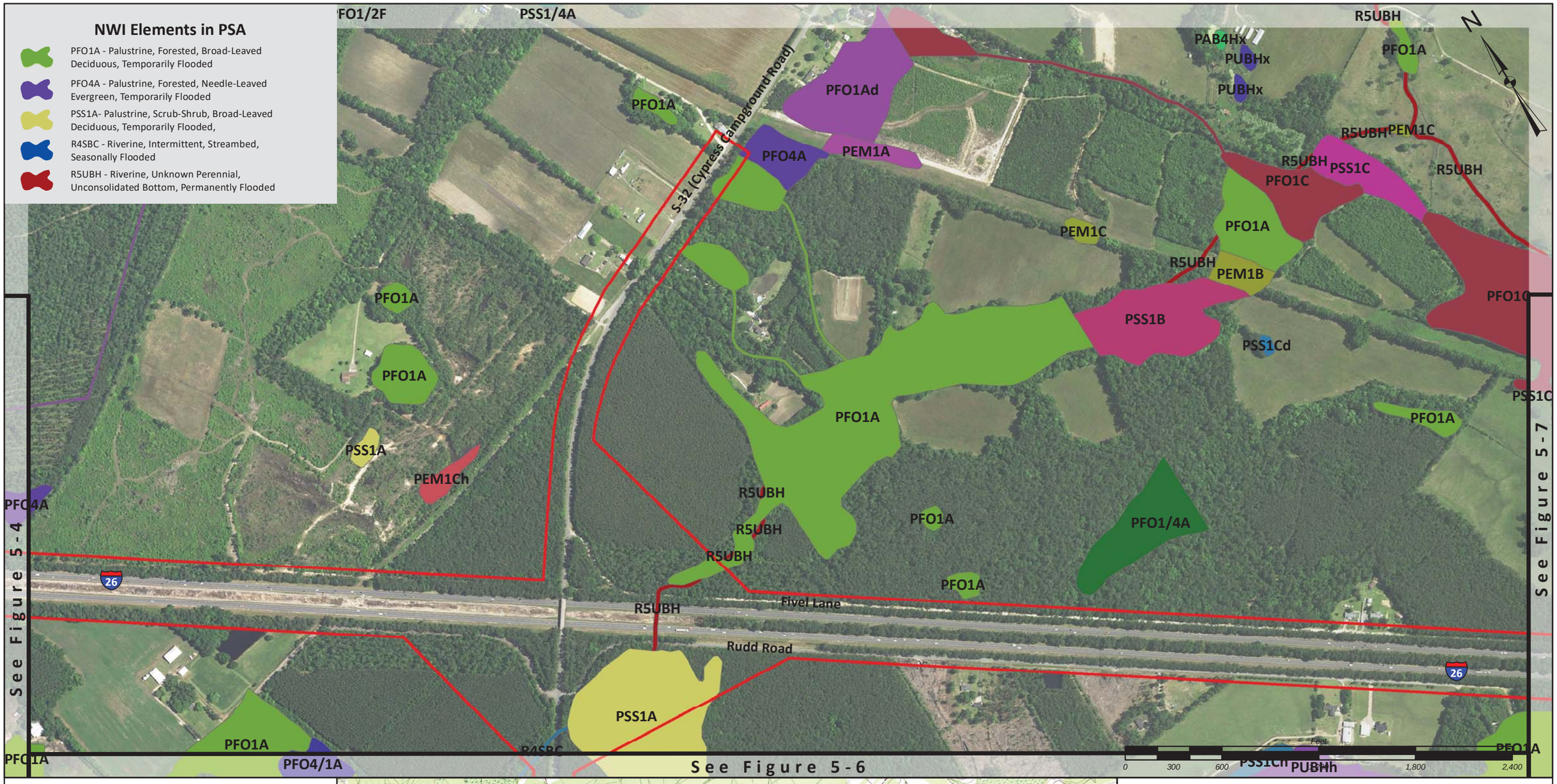
DATE: MAY 2019

FIGURE 5-4

NATIONAL WETLANDS INVENTORY (NWI) MAP

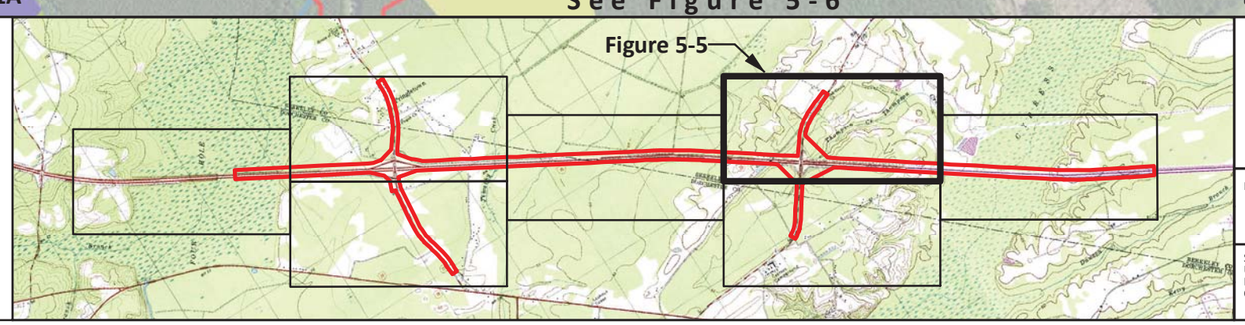
NWI Elements in PSA

- PFO1A - Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded
- PFO4A - Palustrine, Forested, Needle-Leaved Evergreen, Temporarily Flooded
- PSS1A- Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Temporarily Flooded,
- R4SBC - Riverine, Intermittent, Streambed, Seasonally Flooded
- R5UBH - Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded



Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD
DATE: MAY 2019

FIGURE 5-5

NATIONAL WETLANDS INVENTORY (NWI) MAP

See Figure 5-5

See Figure 5-4

See Figure 5-7

PFO1A
PFO1A
PFO4/1A
PFO1A
R4SBC
PSS1A
PSS1Ch
PEM1Ch
PUBHh
PFO1A
PFO4/1A
PFO1C
PEM1C
PFO1A
PSS1A
PFO4/1A
PFO1A
PEM1C
PEM1A
PFO1A
PFO1A
R4SBC
PFO4A
PSS1A
R4SBC
PFO1C
PUBFx
PAB4Hx
PUBFx
PFO1C
PEM1A
R4SBC
PFO1Ad
R4SBC
PUBHh
PFO1A
R4SBC
PFO1A
PFO1C
R4SBC
R4SBC
Sabb Drive
S-32 (Cypress Campground Road)
Red Hill Road
Lucille Road

Feet
0 300 600 1,200 1,800 2,400

NWI Elements in PSA

PSS1A- Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Temporarily Flooded,

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number

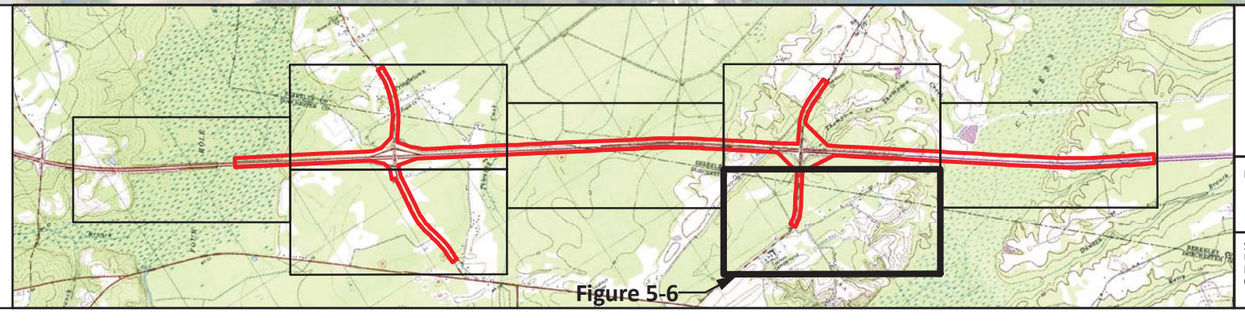


Figure 5-6

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD
DATE: MAY 2019

FIGURE 5-6
NATIONAL WETLANDS INVENTORY (NWI) MAP

N

See Figure 5-5

See Figure 5-6

PFO1C
R5UBH
PSS1C
R5UBH
PFO1C
PEM1C
PUBHx
PEM1Ad
PUBHx
R5UBH
R5UBH
PEM1C
PEM1C
PFO4/1B
PFO1/2F
26
R5UBH
R2UBHx
R4SBC
R2UBHx
PFO1/4A
PFO1C
PFO1C
PFO1/2C
PFO1A
PFO1C
PFO1/2C
PFO1/2F
PFO1/2C
PFO1C
PFO1C
PFO1C
PFO1A
PFO1/2C
PFO1C
PFO1C
PFO1/2F
PFO1/2C
PFO1/2C
PFO1/2F
PFO1/2C
PFO1/2C
PFO1C
PFO1/2C
PFO1C
PFO1/2C
PFO1C
PFO1C
PFO1C
PEM1F
PEM1C
PEM1F
PEM1F
PEM1C
PEM1C
PEM1F
PEM1C
PFO1/2F
PFO1/2C
PFO1/2C
PFO1/2F
PFO1/2C
PFO1C
PFO1C
PFO1/2F
PFO1C
PUBHh
PSS1Cd
PFO1A
26
R5UBH
PFO1A
PFO1A
PFO1A
PFO1B
PFO1A
PFO1/2C
PFO1C

Feet
0 300 600 1,200 1,800 2,400

NWI Elements in PSA

- PFO1A - Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded
- PFO1C - Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded
- PFO1/2C - Palustrine, Forested, Broad-leaved Deciduous, Needle-leaved Deciduous, Seasonally Flooded
- PFO1/2F - Palustrine, Forested, Broad-leaved Deciduous, Needle-leaved Deciduous, Semipermanently Flooded
- PFO1/4A - Palustrine, Forested, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Temporarily Flooded
- PFO4/1B - Palustrine, Forested, Needle-Leaved Evergreen, Broad-Leaved Deciduous, Seasonally Saturated
- R2UBHx - Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, Excavated
- R4SBC - Riverine, Intermittent, Streambed, Seasonally Flooded
- R5UBH - Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded

Legend

- Project Study Area (~492 acres)
- 83 Exit Location/Number

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
USFWS CONUS WETLAND DATA [STATEWIDE, SOUTH CAROLINA (2017)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 5-7

NATIONAL WETLANDS INVENTORY (NWI) MAP

N

Freshwater Wetland 59
Continued on 6-2
(1.071 acres)

186

26

26

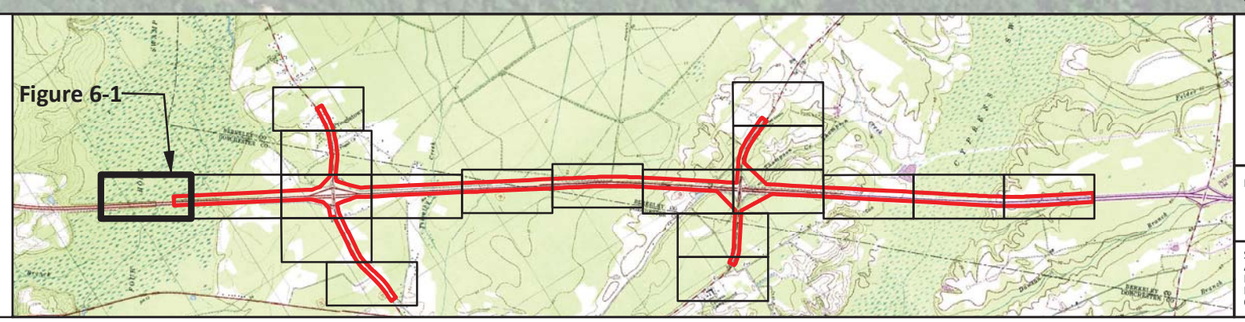
Freshwater Wetland 60
Continued on 6-2
(1.276 acres)

See Figure 6-2

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (2.347 acres)
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

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QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-1

DELINEATED WATERS OF THE U.S. MAP

Freshwater Wetland 59
Continued from 6-1
(1.928 acres)

Freshwater Wetland 61
(0.015 acre)

Freshwater Wetland 62
(0.212 acre)

Freshwater Wetland 1
(0.380 acre)

Freshwater Wetland 60
Continued from 6-1
(2.352 acres)

See Figure 6-1

See Figure 6-3

26

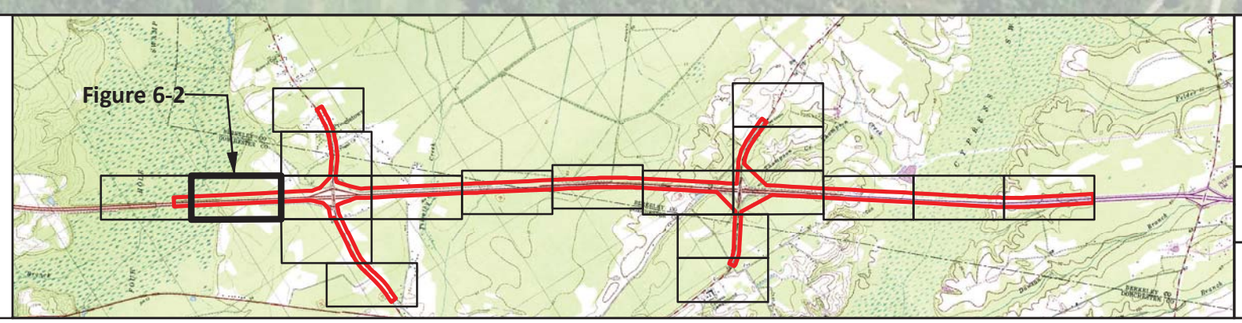
26

N

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (4.887 acres)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-2

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-6

See Figure 6-2

See Figure 6-8

Freshwater Wetland 2
(0.237 acre)

Freshwater Wetland 3
(0.305 acre)

Freshwater Wetland 4
(1.315 acres)

Freshwater Wetland 5
(0.554 acre)

Freshwater Wetland 9
(0.063 acre)

Freshwater Wetland 11
(0.092 acre)

Freshwater Wetland 12
(0.070 acre)
Continued on 6-8

Freshwater Wetland 8
(0.606 acre)

Ridgeville Road

Non-Aquatic Feature; Ditch 1

Freshwater Wetland 10
(1.903 acres)
Continued on 6-8

Freshwater Wetland 6
(0.467 acre)

Freshwater Wetland 63
(0.093 acre)

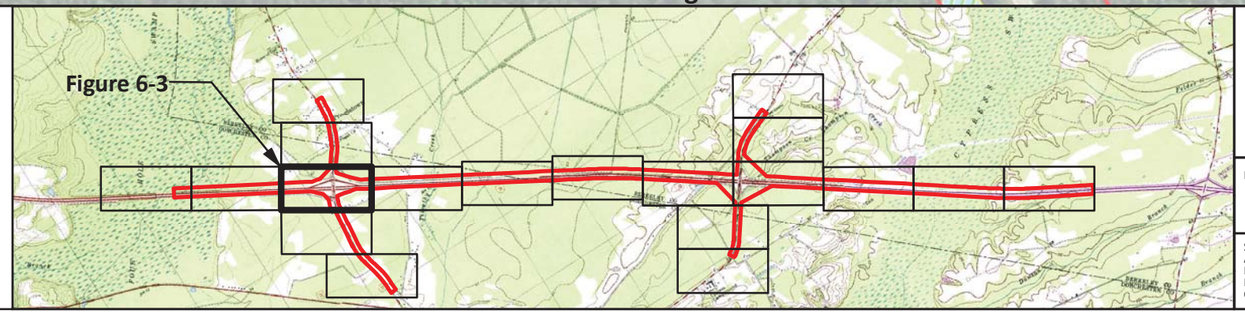
Freshwater Wetland 7
(0.484 acre)
Continued on 6-4

Feet
0 125 250 500 750 1,000

See Figure 6-4

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (6.189 acres)
- Streams & Ditches in PSA
- 83 Exit Location/Number
- Culvert/Pipe
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

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SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

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QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-3

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-3

Freshwater Wetland 7
(0.311 acre)
Continued from 6-3

Freshwater Wetland 13
(0.123 acre)

Freshwater Wetland 15
(0.348 acre)
Identified as 'Wetland F'
per the SC Highway 27 Widening
Project by Dorchester County

Freshwater Wetland 17
(0.738 acre)
Identified as 'Wetland E'
per the SC Highway 27 Widening
Project by Dorchester County
Continued on 6-5

Non-Aquatic Feature; Ditch 2

Freshwater Wetland 14
(0.193 acre)
Identified as 'Wetland G'
per the SC Highway 27 Widening
Project by Dorchester County

Freshwater Wetland 16
(0.560 acre)
Identified as 'Wetland H'
per the SC Highway 27 Widening
Project by Dorchester County

Ridgeville Road

27

27

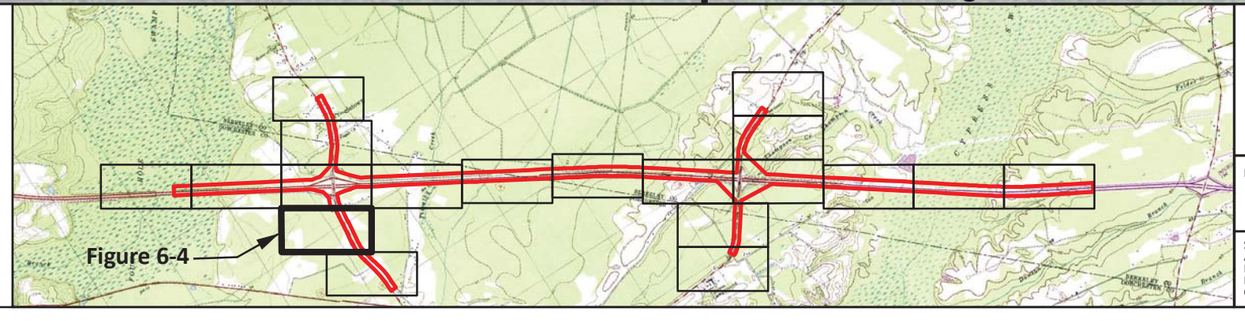
N

Feet
0 125 250 500 750 1,000

See Figure 6-5

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (2.273 acres)
- Streams & Ditches in PSA



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

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SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-4

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-4

Freshwater Wetland 17
(0.106 acre)
per the SC Highway 27 Widening
Project by Dorchester County
Continued from 6-4

Freshwater Wetland 18
(0.260 acre)
Identified as 'Wetland D'
per the SC Highway 27 Widening
Project by Dorchester County

Freshwater Wetland 19
(0.068 acre)

Freshwater Wetland 20
(0.145 acre)
Identified as 'Wetland C'
per the SC Highway 27 Widening
Project by Dorchester County

Non-Aquatic Feature; Ditch 3

Freshwater Wetland 21
(0.460 acre)
Identified as 'Wetland B'
per the SC Highway 27 Widening
Project by Dorchester County

Ridgeville Road

27

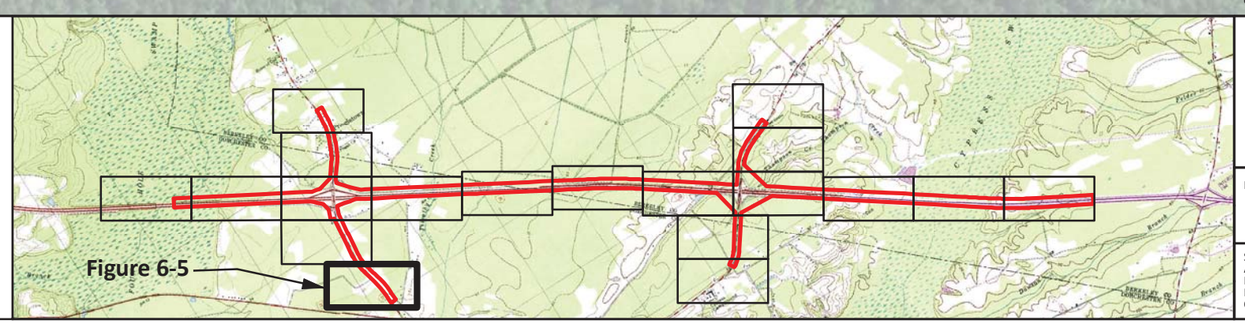
27

N

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (1.039 acres)
- Streams & Ditches in PSA
- Culvert/Pipe



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

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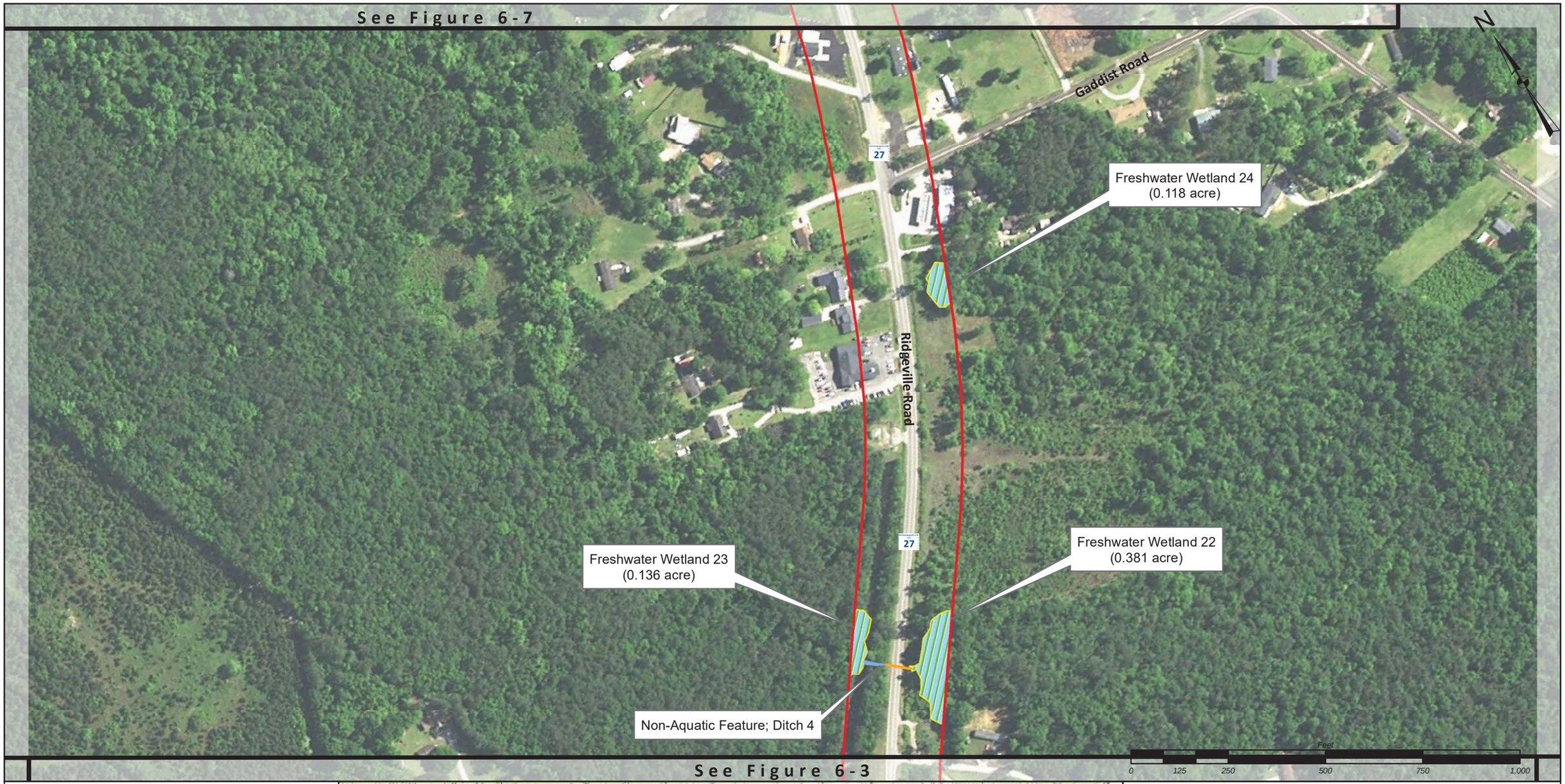
DATE: MAY 2019

FIGURE 6-5

DELINEATED WATERS OF THE U.S. MAP

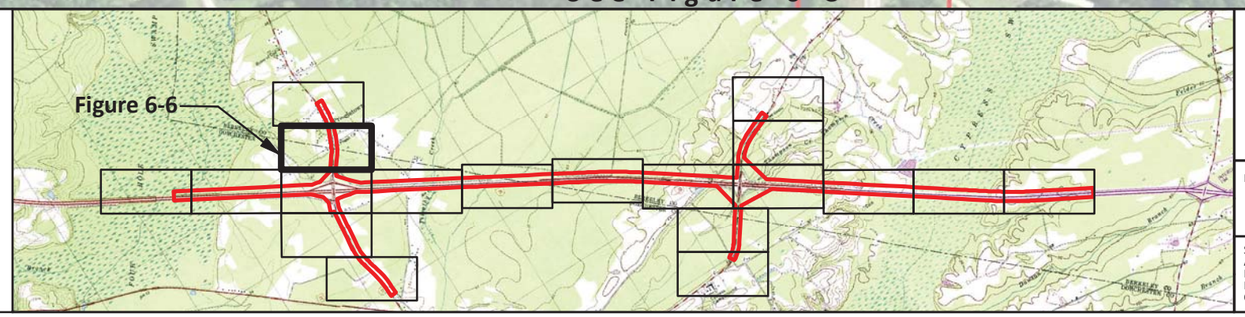
See Figure 6-7



See Figure 6-3

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (0.635 acre)
- Streams & Ditches in PSA
- Culvert/Pipe



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
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SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-6

DELINEATED WATERS OF THE U.S. MAP

N

Ridgeville Road

27

27

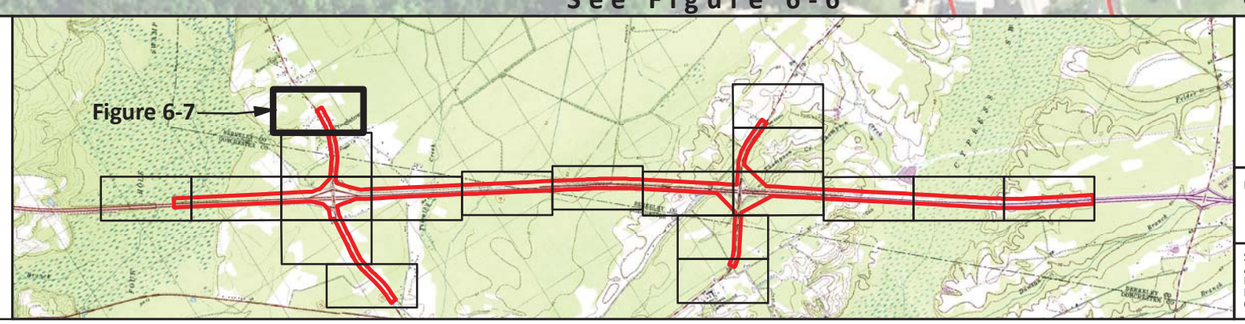
Feet

0 125 250 500 750 1,000

See Figure 6-6

Legend

Project Study Area (~492 acres)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
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SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-7

DELINEATED WATERS OF THE U.S. MAP

Freshwater Wetland 12
(0.218 acre)
Continued from 6-3

Freshwater Wetland 25
(0.336 acre)

Non-Aquatic Feature; Ditch 1

Freshwater Wetland 26
(0.344 acre)

Stream 1
aka Timothy Creek
(171 lf; 0.091 acre)

Freshwater Wetland 29
(0.258 acre)

Freshwater Wetland 31
(0.117 acre)

Angie Drive

188

26

26

Freshwater Wetland 10
(0.638 acre)
Continued from 6-3

Freshwater Wetland 27
(1.020 acres)

Freshwater Wetland 28
(0.535 acre)

Freshwater Wetland 30
(2.014 acres)

Sampson Road

See Figure 6-3

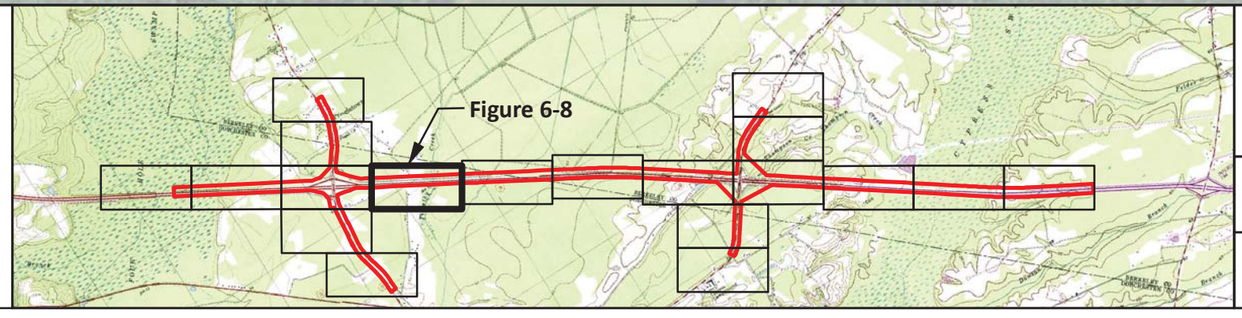
See Figure 6-9

N

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (5.480 acres)
- Streams & Ditches in PSA (171 lf; 0.091 acre)
- Culvert/Pipe
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

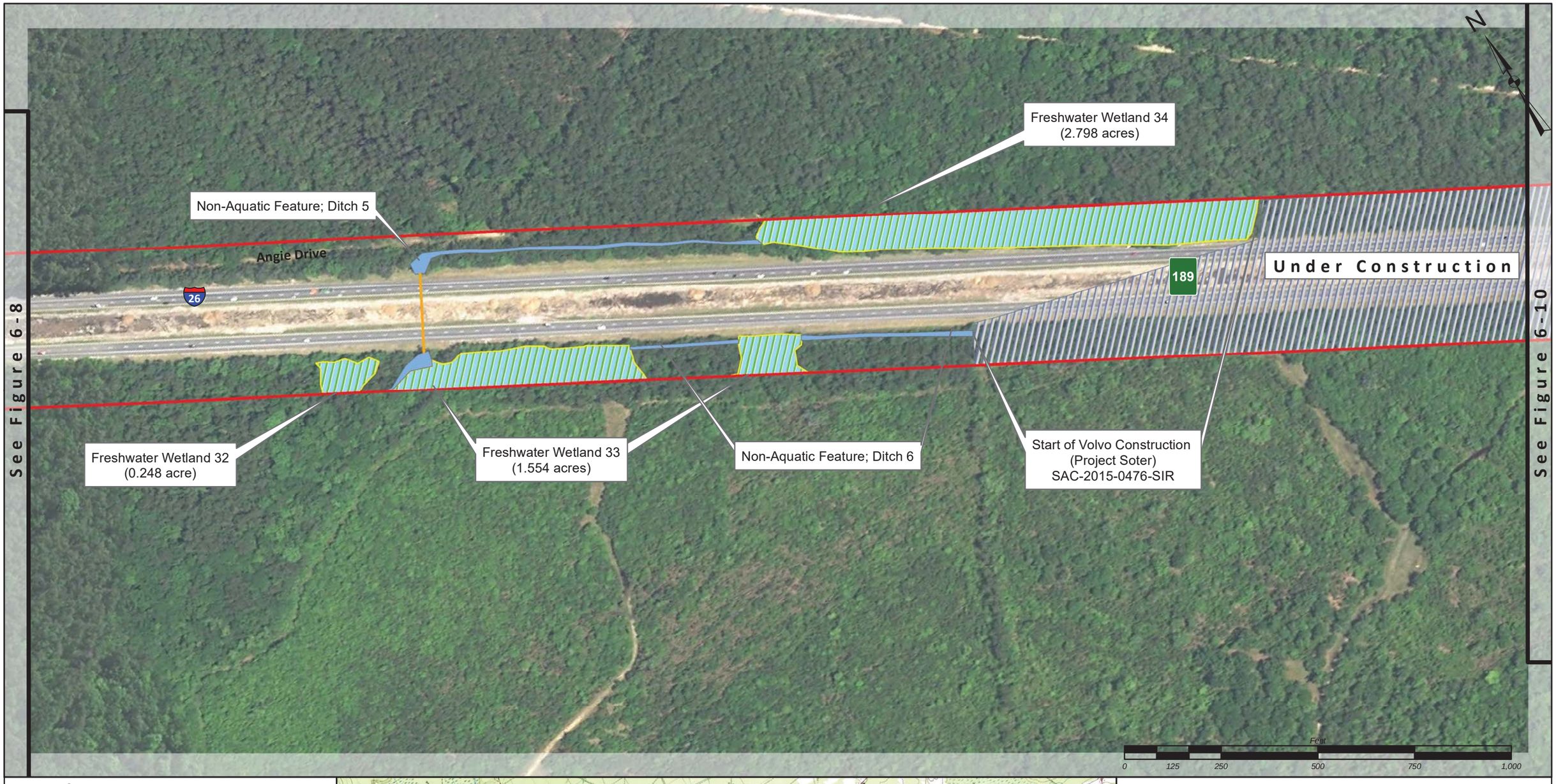
SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

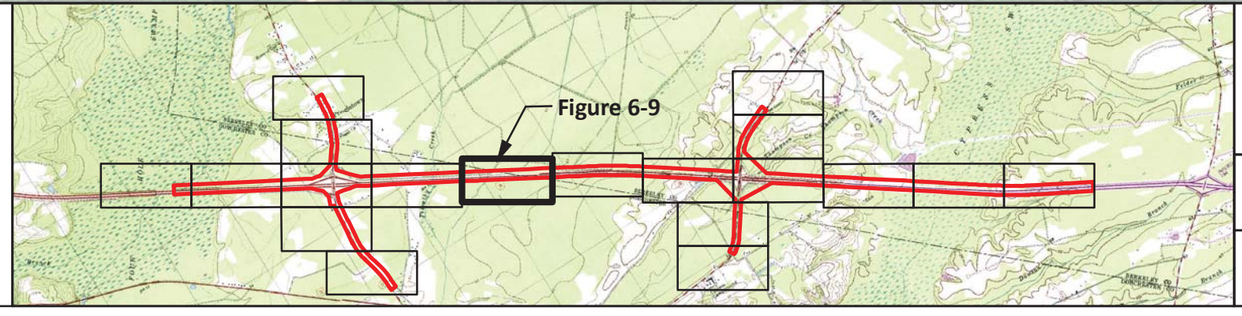
FIGURE 6-8

DELINEATED WATERS OF THE U.S. MAP



Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (4.600 acres)
- Streams & Ditches in PSA
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-9

DELINEATED WATERS OF THE U.S. MAP

N

Volvo Cars Drive

Under Construction

26

26

See Figure 6-9

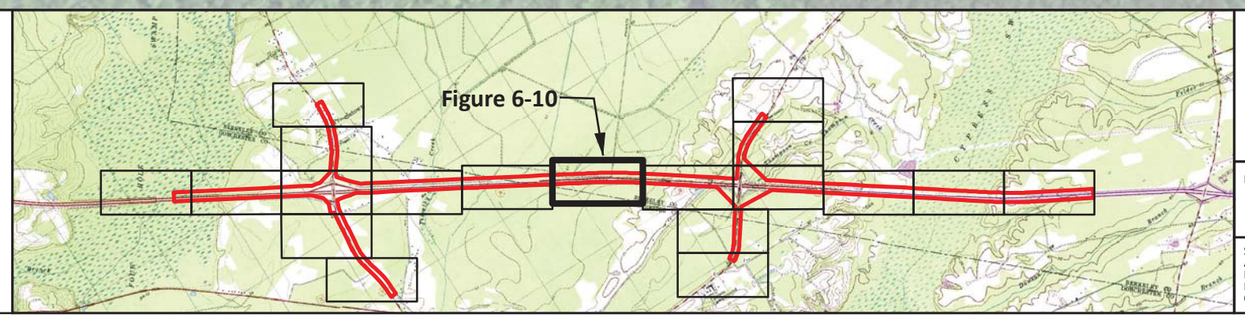
See Figure 6-11

Feet

0 125 250 500 750 1,000

Legend

Project Study Area (~492 acres)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

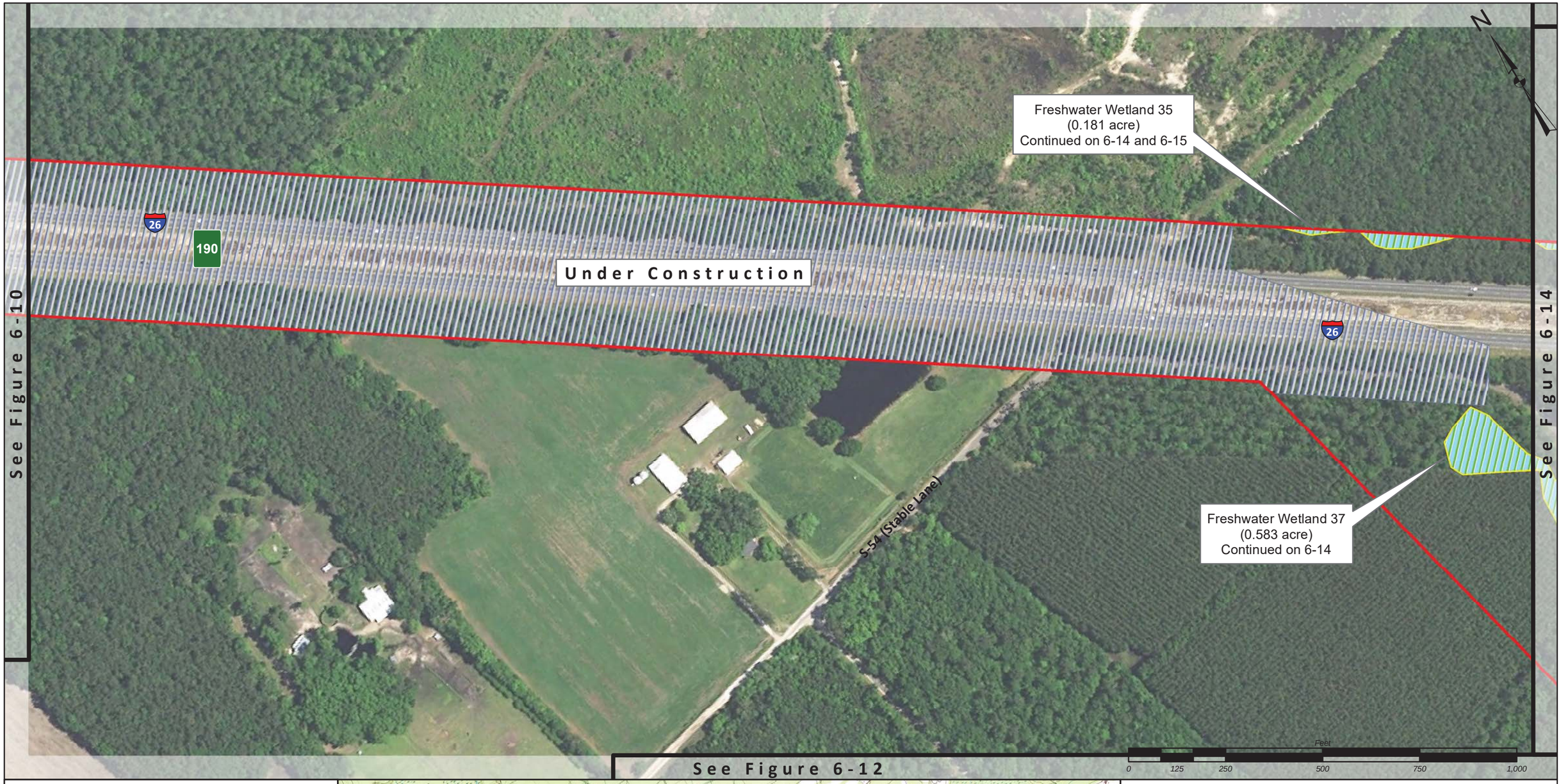
SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

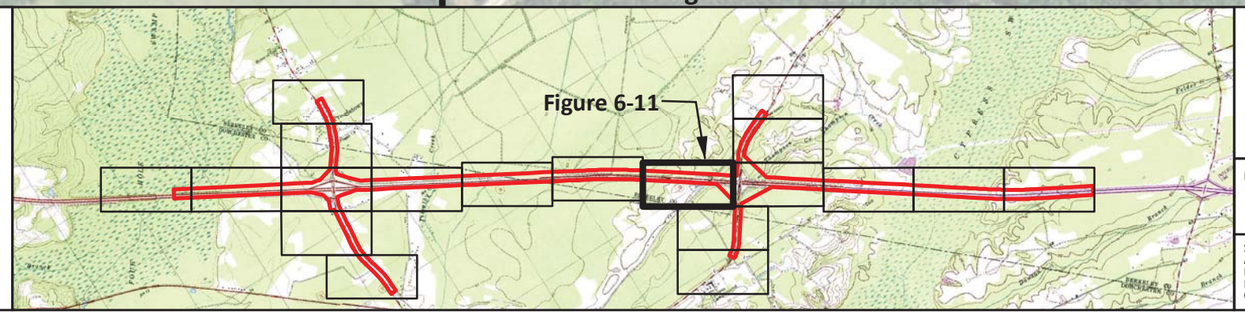
FIGURE 6-10

DELINEATED WATERS OF THE U.S. MAP



Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (0.764 acre)
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-11

DELINEATED WATERS OF THE U.S. MAP

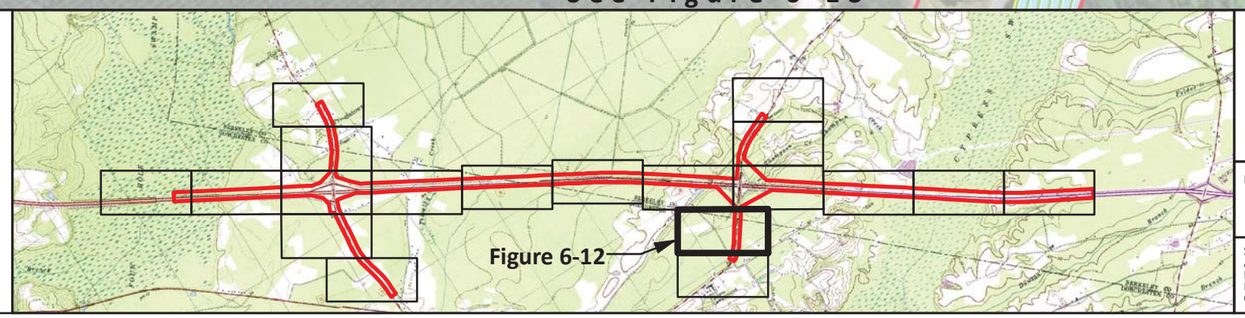
See Figure 6-11

See Figure 6-14

See Figure 6-13

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (0.459 acre)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-12

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-12

Sabb Drive

Red Hill Road

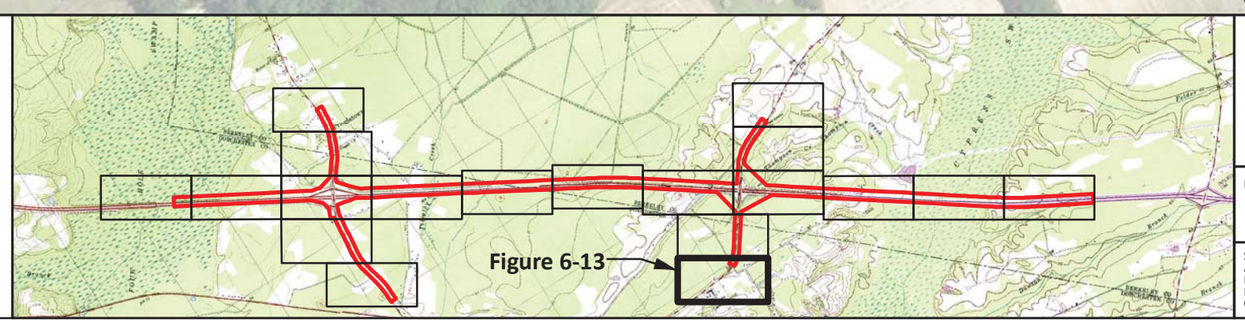
S-32 (Meyers Mayo Road)

Freshwater Wetland 36
(0.578 acre)
Continued from 6-12

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (0.578 acre)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-13

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-15

See Figure 6-11

See Figure 6-17

See Figure 6-12

Freshwater Wetland 64
(1.516 acre)
Continued on 6-15

Freshwater Wetland 35
(0.684 acre)
Continued from 6-11
Continued on 6-15

Freshwater Wetland 41
(0.774 acre)

Freshwater Wetland 42
(0.202 acre)

Freshwater Wetland 44
(0.056 acre)

Stream 2
aka Thompson Creek
(1,486 lf; 0.267 acre)

Freshwater Wetland 43
(0.356 acre)

Freshwater Wetland 40
(0.035 acre)

Pond 1
(0.024 acre)

Freshwater Wetland 39
(0.255 acre)

Freshwater Wetland 37
(0.978 acre)
Continued from 6-11

S-32 (Cypress Campground Road)

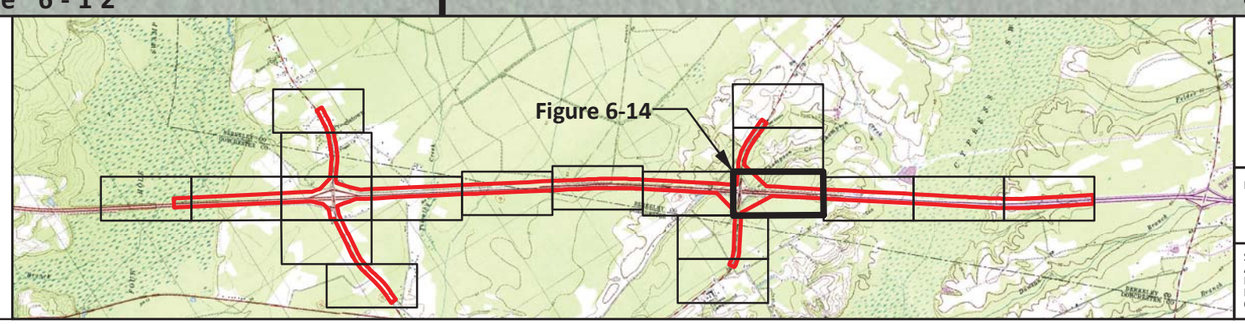
26

191

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Ponds in PSA (0.024 acre)
- Wetlands in PSA (4.856 acres)
- Streams & Ditches in PSA (1,486 lf; 0.267 acre)
- Culvert/Pipe
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-14

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-16

S-32 (Cypress Campground Road)

Freshwater Wetland 47
(0.339 acre)
Continued on 6-16

Freshwater Wetland 46
(0.514 acre)

Freshwater Wetland 45
(0.234 acre)

Freshwater Wetland 38
(0.290 acres)

Freshwater Wetland 35
(1.486 acres)
Continued from 6-11 and 6-14

Freshwater Wetland 64
(0.169 acres)
Continued from 6-14

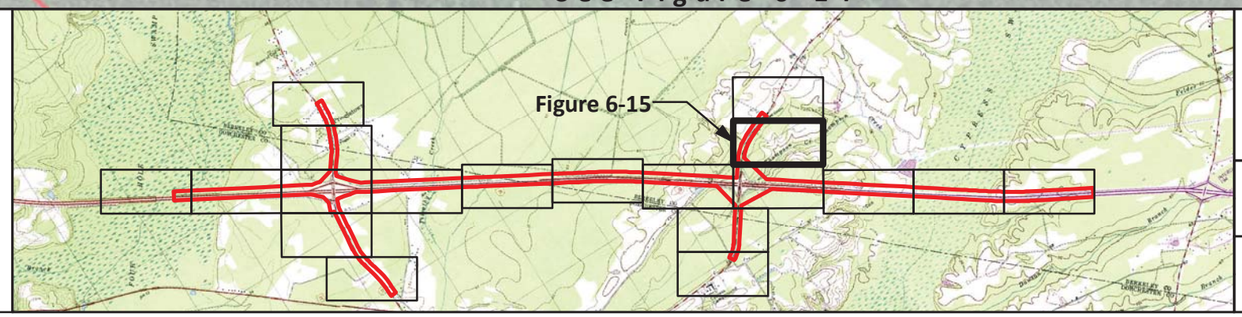
N

Feet
0 125 250 500 750 1,000

See Figure 6-14

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (3.032 acres)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

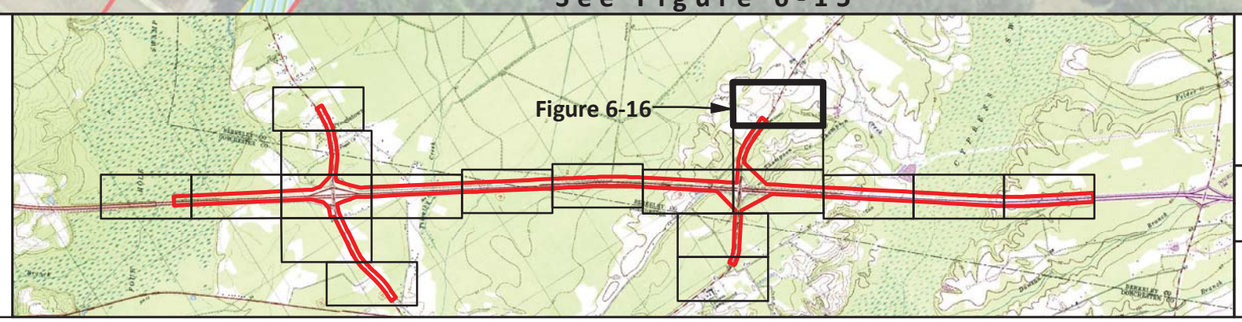
DATE: MAY 2019

FIGURE 6-15

DELINEATED WATERS OF THE U.S. MAP

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (0.402 acre)



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-16

DELINEATED WATERS OF THE U.S. MAP

Freshwater Wetland 48
(0.128 acre)
Identified as 'Wetland MM'
on SAC 2013-265

Freshwater Wetland 51
(0.363 acre)

Freshwater Wetland 52
(0.098 acre)
Continued on 6-18

Freshwater Wetland 50
(0.345 acre)
Identified as 'Wetland NN'
on SAC 2013-265

Freshwater Wetland 49
(0.749 acre)
Continued on 6-18

See Figure 6-14

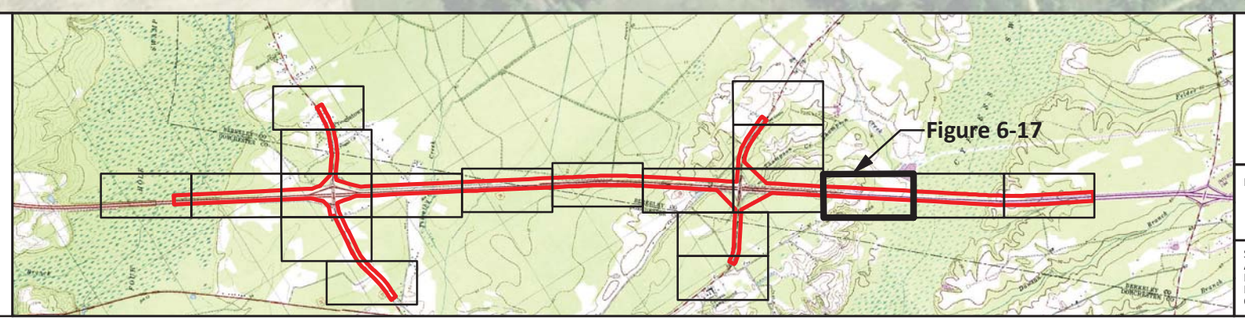
See Figure 6-18

N

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (1.683 acres)
- 0 Mile Marker



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

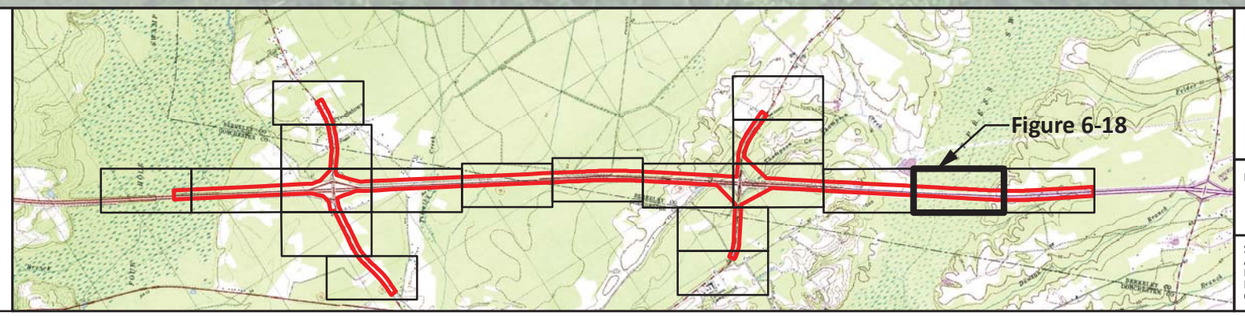
DATE: MAY 2019

FIGURE 6-17

DELINEATED WATERS OF THE U.S. MAP

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (10.769 acres)
- Streams & Ditches in PSA (824 lf; 1.563 acres)
- Culvert/Pipe



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-18

DELINEATED WATERS OF THE U.S. MAP

See Figure 6-18

Freshwater Wetland 56
(0.052 acre)

Freshwater Wetland 57
(0.556 acre)

Freshwater Wetland 58
(0.424 acre)

26

193

26

N

Feet
0 125 250 500 750 1,000

Legend

- Project Study Area (~492 acres)
- Wetlands in PSA (1.032 acres)
- 0 Mile Marker

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

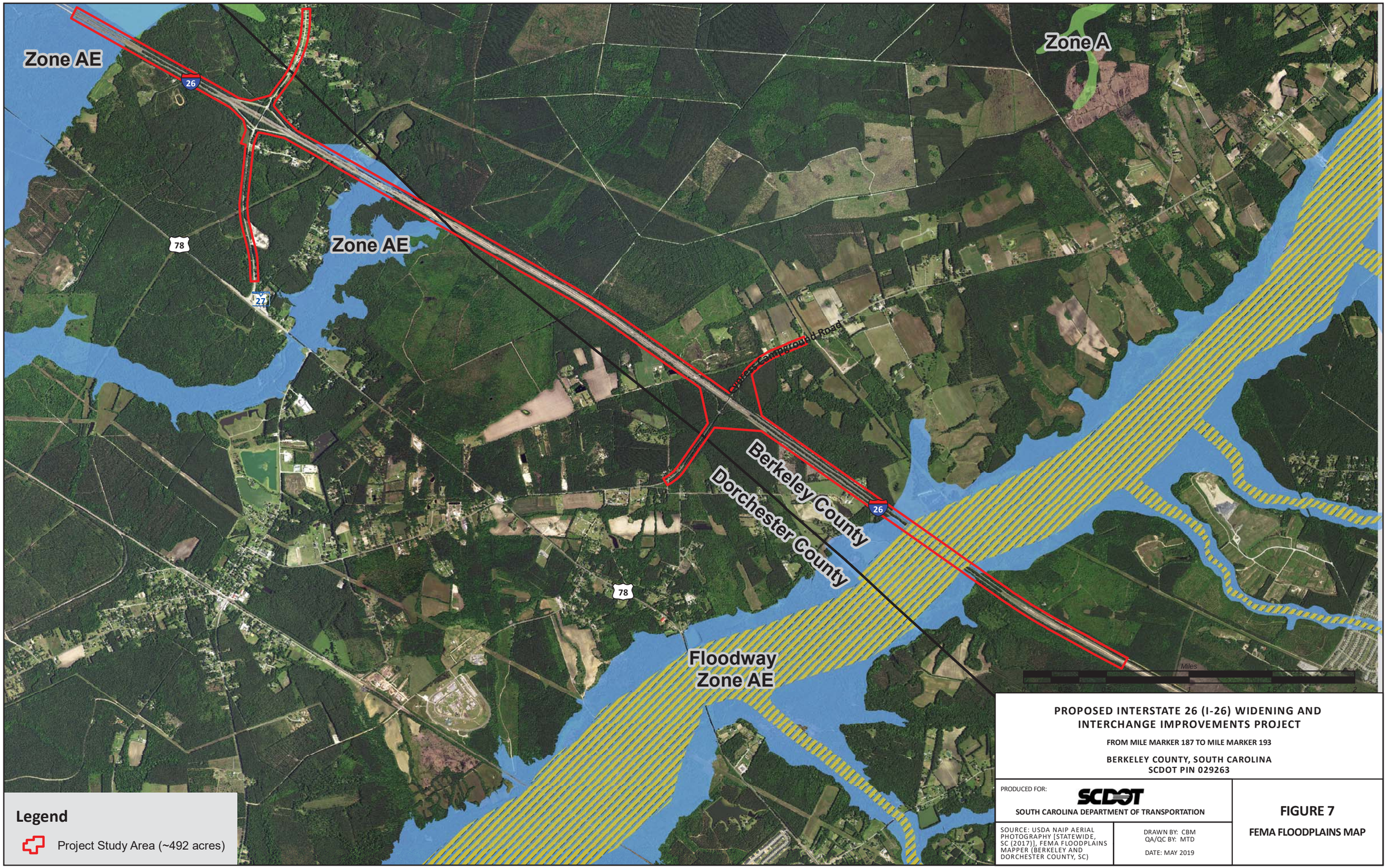
SOURCE: USDA NATIONAL AGRICULTURE IMAGREY PROGRAM (NAIP) AERIAL PHOTOGRAPHY [BERKELEY COUNTY, SC (2015)]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 6-19

DELINEATED WATERS OF THE U.S. MAP



PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

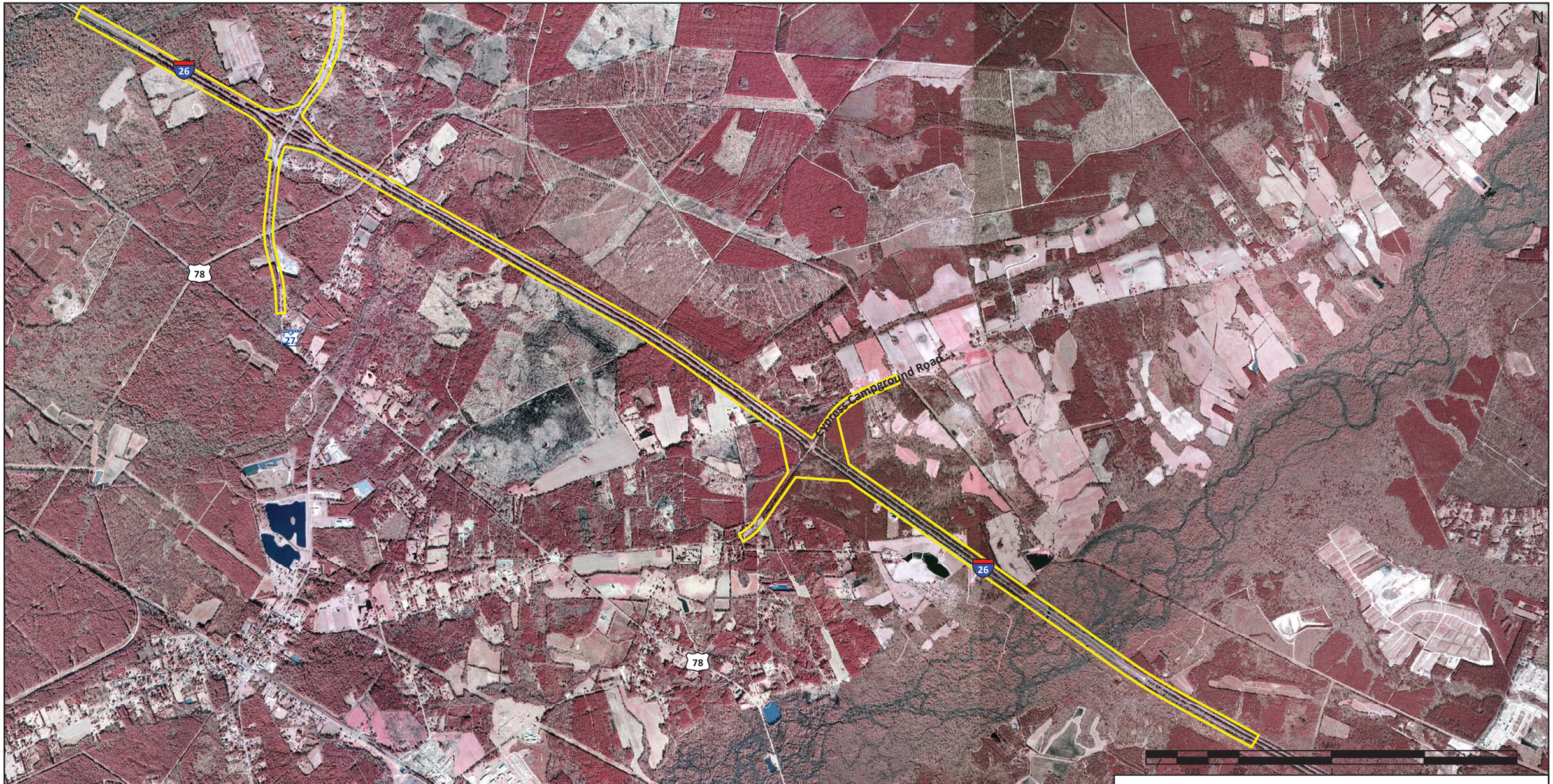
SOURCE: USDA NAIP AERIAL PHOTOGRAPHY [STATEWIDE, SC (2017)], FEMA FLOODPLAINS MAPPER (BERKELEY AND DORCHESTER COUNTY, SC)

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 7

FEMA FLOODPLAINS MAP



Legend

Project Study Area (~492 acres)

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE: SCDNR INFRARED AERIAL IMAGEREY [(RIDGEVILLE, SUMMERVILLE, PRINGLETOWN, SUMMERVILLE NW) 2006]

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2019

FIGURE 8

INFRARED AERIAL MAP

APPENDIX B

NORTHERN LONG-EARED BAT COORDINATION

Conor Makepeace

From: Altman, Ann-Marie <AltmanAM@scdot.org>
Sent: Monday, March 11, 2019 10:03 AM
To: Kelly, David P.
Cc: Conor Makepeace; Matt DeWitt
Subject: RE: NLEB 4(d) submittal

No- if it's been 30 days with no response then we are good to go.

Ann-Marie

From: Kelly, David P.
Sent: Monday, March 11, 2019 9:59 AM
To: Altman, Ann-Marie
Cc: Conor Makepeace; Matt DeWitt
Subject: RE: NLEB 4(d) submittal

Hello Ann-Marie—

Did anything ever come back from USFWS or is this a "default concurrence by lack of response" situation?

Please reply to all.

Thanks—

David

From: Matt DeWitt [mailto:matt.dewitt@meadhunt.com]
Sent: Monday, March 11, 2019 8:47 AM
To: Kelly, David P.
Cc: Conor Makepeace
Subject: RE: NLEB 4(d) submittal

Hey David,
I hope you a good weekend! Have you heard anything about the NLEB concurrence for the I-26 Widening? AA submitted the concurrence request while the USFWS was shut down, but it's been roughly 45 days now.
Thanks,

Matt DeWitt | Environmental Services Supervisor
Mead & Hunt | 878 South Lake Drive | Lexington, SC 29072
Main: 803-996-2900 | Direct: 803-520-2837 | Mobile: 864-201-8446
matt.dewitt@meadhunt.com | www.meadhunt.com
LinkedIn

From: Kelly, David P. <KellyDP@scdot.org>
Sent: Wednesday, January 23, 2019 12:00 PM
To: Matt DeWitt <matt.dewitt@meadhunt.com>
Subject: FW: NLEB 4(d) submittal

FYI

From: Altman, Ann-Marie
Sent: Wednesday, January 23, 2019 11:11 AM
To: charleston_regulatory@fws.gov
Cc: Kelly, David P.
Subject: NLEB 4(d) submittal

Please see attached 4(d) form and map for SCDOT's proposed interstate widening and interchange improvements along I-26 in Berkeley and Dorchester Counties.

Thanks,
Ann-Marie

Ann-Marie Altman
Permits Manager-RPG 4 (Upstate)/Biologist
SCDOT Environmental Services
803-737-0946 (office)

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	☑
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	☑	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	☑
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	☑
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	☑
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	☑

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Lead Federal Agency: U.S. Federal Highway Administration

Applicant[3] (Name, Email, Phone No.): SCDOT

Attn: Ann-Marie Altman

Project PIN/Project Number: P029263

Project County: Berkeley and Dorchester

Project Name: Proposed Interstate 26 (I-26) Widening and Interchange Improvements Project

Project Location (include coordinates if known): Interstate 26 (I-26), from SC 27 (Exit 187) to mile marker 193. The project also includes portions of SC 27 and Cypress Campground Road. The project is approximated by the following coordinates: (33.141868, -80.3188692) , (33.089779, -80.221639)

Basic Project Description (provide narrative below or attach additional information):

The project will consist of the following elements: adding a travel lane in each direction of I-26, median clearing and cable guardrail installation, improving the Exit 187 interchange and ramps, replacing the I-26 mainline dual bridges over Cypress Swamp, potential replacement of Cypress Campground Road bridge over I-26, and drainage improvements.

---

[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf

[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html

[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	YES	NO
Does the project occur within 0.25-mile of a known hibernaculum?	☐	☑
Does the project occur within 150 feet of a known maternity roost tree?	☐	☑
Does the project include forest conversion[4]? (if yes, report acreage below)	☐	☐
Estimated total acres of forest conversion		
If known, estimated acres[5] of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31[6]		
Does the project include timber harvest? (if yes, report acreage below)		✓
Estimated total acres of timber harvest	N/A	
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)		✓
Estimated total acres of prescribed fire	N/A	
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)		✓
Estimated wind capacity (MW)	N/A	

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: Ann-Marie Altman Digitally signed by Ann-Marie Altman DN: cn=Ann-Marie Altman, o, ou, email=altmanam@scdot.org, c=US Date: 2019.01.23 11:08:59 -05'00' Date Submitted: 1/23/2019

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

N

Dorchester County

Berkeley County

Walnut Branch

East Main Street

Timothy Creek

Exit 187

Ongoing Volvo
Construction Site

Cypress Campground Road

Sandy Run

Thompson Creek

Cypress Swamp

Four Hole Swamp

Ridgeville

Berkeley County

Dorchester County

Captain's Creek

Miles
0 0.5 1 2 3 4

Legend

- Project Study Area (~453 acres)
- Major Creeks and Rivers
- Municipality
- County Boundary

PROPOSED INTERSTATE 26 (I-26) WIDENING AND INTERCHANGE IMPROVEMENTS PROJECT

FROM MILE MARKER 187 TO MILE MARKER 193

BERKELEY COUNTY, SOUTH CAROLINA
SCDOT PIN 029263

PRODUCED FOR:
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION

SOURCE:
TIGER 2010 ROAD,
COUNTY, AND MUNICIPALITY DATA

DRAWN BY: CBM
QA/QC BY: MTD

DATE: MAY 2018

FIGURE 1

SITE LOCATION MAP

APPENDIX C

REPRESENTATIVE PHOTOGRAPHS

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 1

Description: View of Freshwater Wetland 1. This photograph was taken facing east.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 2

Description: View of Freshwater Wetland 2. This photograph was taken facing east.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 3

Description: View of Freshwater Wetland 3. This photograph was taken facing north.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 4

Description: View of Freshwater Wetland 4. This photograph was taken facing west.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 5

Description: View of Freshwater Wetland 5. This photograph was taken facing north.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 6

Description: View of Freshwater Wetland 6. This photograph was taken facing southeast.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 7

Description: View of Freshwater Wetland 6. This photograph was taken facing east.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 8

Description: View of Freshwater Wetland 7. This photograph was taken facing south.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 9

Description: View of Freshwater Wetland 8. This photograph was taken facing northwest.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 10

Description: View of Freshwater Wetland 9. This photograph was taken facing north.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 11

Description: View of Freshwater Wetland 10. This photograph was taken facing east.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 12

Description: View of Freshwater Wetland 10. This photograph was taken facing southeast.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 13

Description: View of one of the upland hummocks within Freshwater Wetland 10. The hummock is shown on the right side of the photograph. This photograph was taken facing southeast.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 14

Description: View of Freshwater Wetland 11. This photograph was taken facing east.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 15

Description: View of a clearcut portion of Freshwater Wetland 12. This photograph was taken facing southeast.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 16

Description: View of Ditch 1 which parallels the westbound side of I-26. This photograph was taken facing southeast.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 17

Description: View of Freshwater Wetland 13. This photograph was taken facing south.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 18

Description: View of Freshwater Wetland 14. This photograph was taken facing east.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 19

Description: View of Freshwater Wetland 15. This photograph was taken facing west.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 20

Description: View of the northern forested section of Freshwater Wetland 16. This photograph was taken facing east.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 21

Description: View of the southern section of Freshwater Wetland 16 within the powerline easement. This photograph was taken facing north.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 22

Description: View of Freshwater Wetland 17 within the powerline ROW. This photograph was taken facing southwest.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 23

Description: View of Ditch 2. This photograph was taken facing west.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 24

Description: View of Freshwater Wetland 18. This photograph was taken facing west.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 25

Description: View of Freshwater Wetland 19. This photograph was taken facing southwest.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 26

Description: View of Freshwater Wetland 20. This photograph was taken facing southwest.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 27

Description: View of Freshwater Wetland 21. This photograph was taken facing southwest.

Date: 06/27/2018

Taken By: Conor Makepeace

Photograph 28

Description: View of Ditch 3 (obscured by vegetation). This photograph was taken facing southeast.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 29

Description: View of Freshwater Wetland 22. This photograph was taken facing south.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 30

Description: View of Freshwater Wetland 23 within the powerline easement. This photograph was taken facing northeast.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 31

Description: View of Freshwater Wetland 24. This photograph was taken facing east.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 32

Description: View of Ditch 4. This photograph was taken facing northwest.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 33

Description: View of Freshwater Wetland 25. This photograph was taken facing northwest.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 34

Description: View of Freshwater Wetland 26. This photograph was taken facing north.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 35

Description: View of Freshwater Wetland 27. This photograph was taken facing southeast.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 36

Description: View of Freshwater Wetland 28. This photograph was taken facing south.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 37

Description: View of Freshwater Wetland 29. This photograph was taken on the north side of Stream 1, facing northeast.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 38

Description: View of Freshwater Wetland 29. This photograph was taken on the south side of Stream 1, facing east.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 39

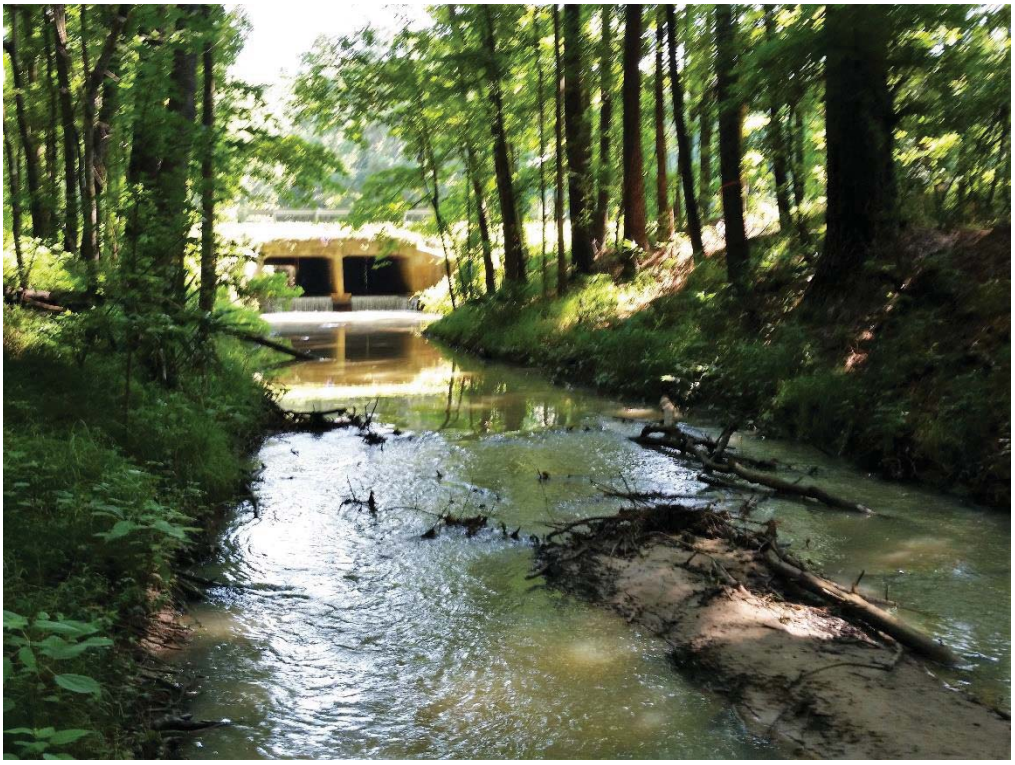
Description: View of Freshwater Wetland 30. This photograph was taken facing southeast.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 40

Description: View of Freshwater Wetland 31. This photograph was taken facing northeast.



Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 41

Description: View of Stream 1, aka, Timothy Creek. This photograph was taken facing northeast (upstream).

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 42

Description: View of Stream 1, aka, Timothy Creek from the top of the box culvert west of I-26. This photograph was taken facing southwest (downstream).

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 43

Description: View of Freshwater Wetland 32. This photograph was taken facing southeast.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 44

Description: View of Freshwater Wetland 33. This photograph was taken facing southwest.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 45

Description: View of Freshwater Wetland 34 which ends at active construction and associated stormwater detention basins. This photograph was taken facing east.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 46

Description: View of Ditch 5 where it enters a box culvert under I-26. This photograph was taken facing south.

Date: 06/19/2018

Taken By: Conor Makepeace

Photograph 47

Description: View of Ditch 5 where it emerges from a box culvert under I-26. This photograph was taken facing east.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 48

Description: View of Ditch 5 where it parallels I-26 to the north of the roadway. This photograph was taken facing southeast.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 49

Description: View of Ditch 6. This photograph was taken facing northwest.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 50

Description: View of Ditch 6 at its origin point where it emerges from a stormwater detention basin associated with the construction of the Volvo Project. This photograph was taken facing northwest.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 51

Description: View of Freshwater Wetland 35. This photograph was taken in the southern portion of the wetland, facing northwest.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 52

Description: View of Freshwater Wetland 36. This photograph was taken in the northern portion of the wetland, facing south.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 53

Description: View of Freshwater Wetland 36. This photograph was taken in the southern portion of the wetland, facing northeast.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 54

Description: View of Freshwater Wetland 37. This photograph was taken facing southwest.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 55

Description: View of Freshwater Wetland 64. This photograph was facing east.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 56

Description: View of Freshwater Wetland 39. This photograph was taken facing southwest.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 57

Description: View of Freshwater Wetland 40. This photograph was taken facing northwest.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 58

Description: View of Freshwater Wetland 41. This photograph was taken facing southeast.

	Date: 06/26/2018
	Taken By: Conor Makepeace
	Photograph 59
	Description: View of Freshwater Wetland 42. This photograph was taken facing north.

	Date: 06/20/2018
	Taken By: Conor Makepeace
	Photograph 60
	Description: View of Freshwater Wetland 43. This photograph was taken facing southeast.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 61

Description: View of Freshwater Wetland 44. This photograph was taken facing north.

Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 62

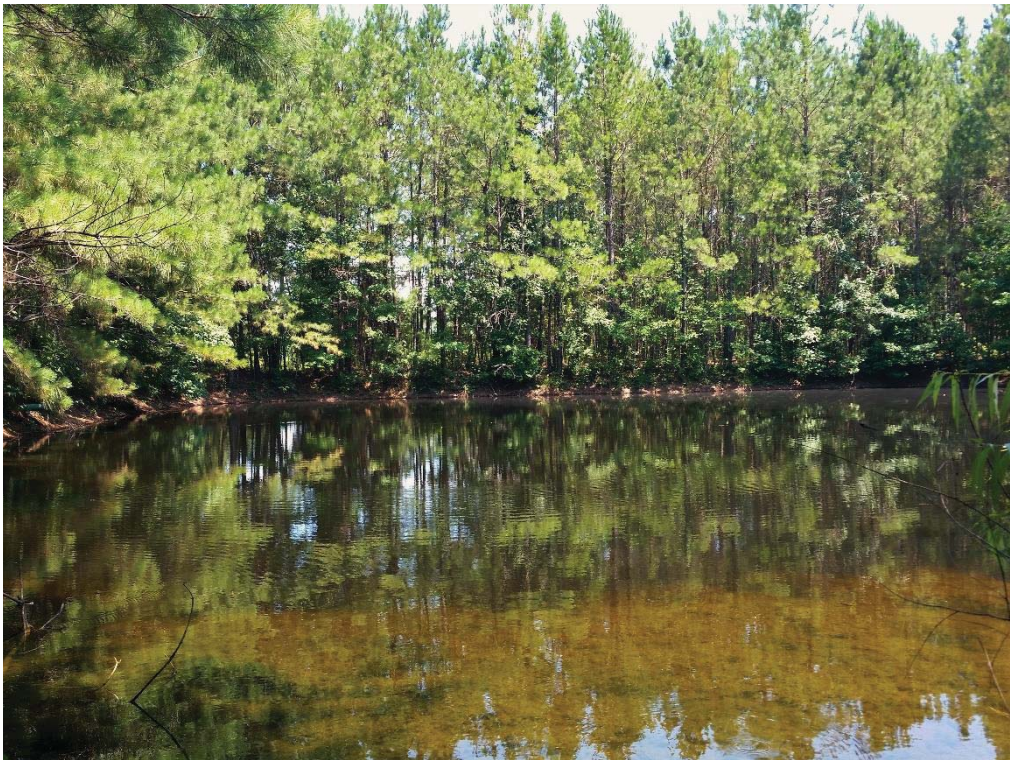
Description: View of Stream 2, aka, Thompson Creek. This photograph was taken from the box culvert outlet south of I-26, facing southwest (downstream).

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 63

Description: Description: View of Stream 2, aka, Thompson Creek. This photograph was taken from the box culvert inlet north of I-26, facing northeast (upstream).



Date: 06/20/2018

Taken By: Conor Makepeace

Photograph 64

Description: View of Pond 1. This photograph was taken facing southeast.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 65

Description: View of Freshwater Wetland 35. This photograph was taken in the northern portion of the wetland, that has been clearcut, facing southwest.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 66

Description: View of Freshwater Wetland 38. This photograph was taken in the northern portion of the wetland, that has been clearcut, facing south.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 67

Description: View of Freshwater Wetland 45. This photograph was taken facing southeast.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 68

Description: View of Freshwater Wetland 46. This photograph was taken facing south.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 69

Description: View of Freshwater Wetland 47. This photograph was taken facing southeast.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 70

Description: View of Freshwater Wetland 48. This photograph was taken facing southeast.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 71

Description: View of Freshwater Wetland 49. This photograph was taken in the northernmost portion of the wetland, facing west.

Date: 07/03/2018

Taken By: Conor Makepeace

Photograph 72

Description: View of Freshwater Wetland 50. This photograph was taken facing southeast.

Date: 06/25/2018

Taken By: Conor Makepeace

Photograph 73

Description: View of Freshwater Wetland 51. This photograph was taken facing northeast.

Date: 06/25/2018

Taken By: Conor Makepeace

Photograph 74

Description: View of Freshwater Wetland 52. This photograph was taken facing southeast.

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 75

Description: View of Freshwater Wetland 49. This photograph was taken in the southern portion of the wetland, near Stream 3, aka, Cypress Swamp, facing southwest.

Date: 06/25/2018

Taken By: Conor Makepeace

Photograph 76

Description: View of Freshwater Wetland 52. This photograph was taken facing southeast.

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 77

Description: View of Freshwater Wetland 53. This photograph was taken in the northern portion of the wetland, facing west.

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 78

Description: View of Freshwater Wetland 53. This photograph was taken in the southern portion of the wetland, facing west.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 79

Description: View of Freshwater Wetland 54. This photograph was taken in the northern portion of the wetland, facing east.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 80

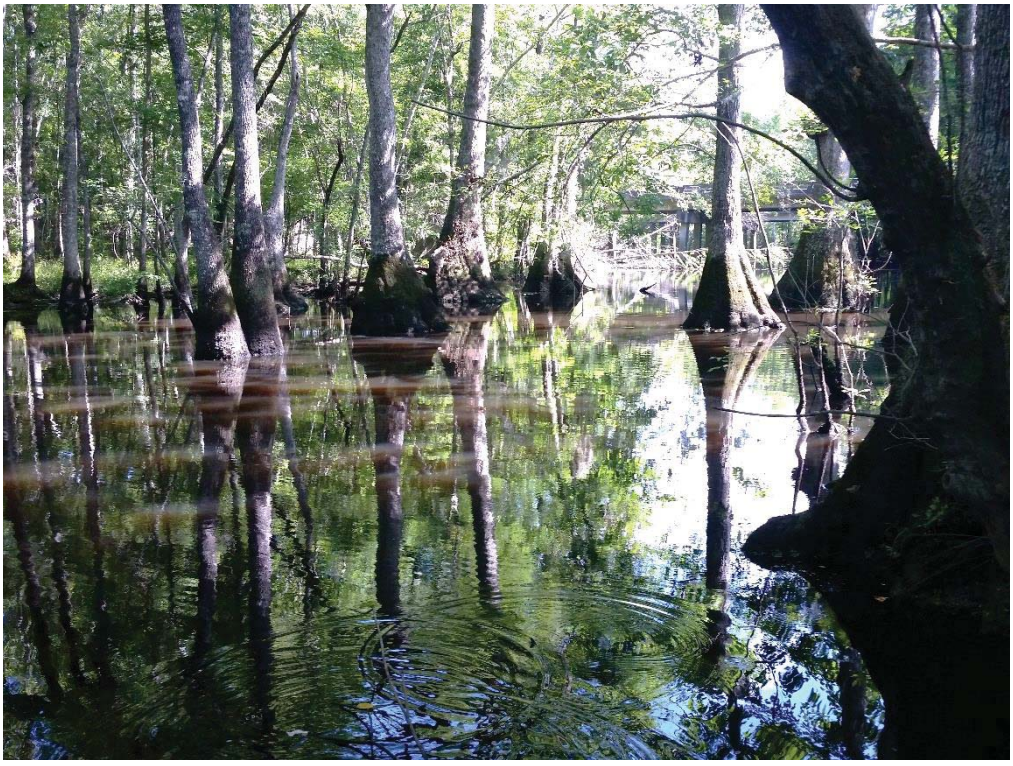
Description: View of Freshwater Wetland 54. This photograph was taken in the southern portion of the wetland, facing northeast.

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 81

Description: View of Freshwater Wetland 55. This photograph was taken facing south.



Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 82

Description: View of Stream 3, aka, Cypress Swamp. This photograph was taken on the south side of I-26 facing north (upstream).

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 83

Description: View of Stream 3, aka, Cypress Swamp. This photograph was taken on the south side of I-26 looking at the eastbound bridge, facing east.

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 84

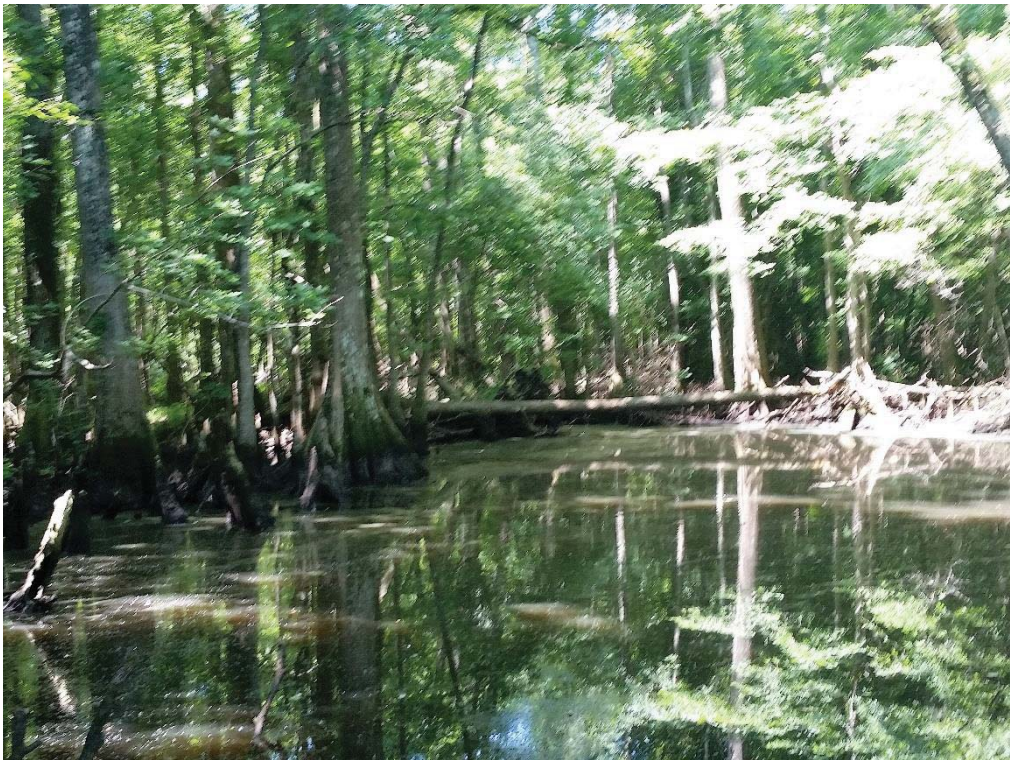
Description: View of Stream 3, aka, Cypress Swamp. This photograph was taken on the north side of I-26 looking at the westbound bridge facing west (downstream).

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 85

Description: View of Stream 3, aka, Cypress Swamp. This photograph was taken on the north side of I-26, facing east (downstream).



Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 86

Description: View of Stream 4. This photograph was taken on the north side of I-26, facing southwest (downstream).

	Date: 06/21/2018 Taken By: Conor Makepeace Photograph 87 Description: View of Stream 4. This photograph was taken from the box culvert on the eastbound side of the median, facing northeast (upstream).
	Date: 06/26/2018 Taken By: Conor Makepeace Photograph 88 Description: View of Stream 4. This photograph was taken on the east side of I-26, where the stream flows out of Freshwater Wetland 54, facing northeast (upstream).

Date: 06/26/2018

Taken By: Conor Makepeace

Photograph 89

Description: View of Stream 5. This photograph was taken on the north side of I-26, facing north (upstream).

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 90

Description: View of Stream 5. This photograph was taken on the south side of I-26, facing east (upstream).

Date: 06/25/2018

Taken By: Conor Makepeace

Photograph 91

Description: View of Freshwater Wetland 56. This photograph was taken facing east.

Date: 06/25/2018

Taken By: Conor Makepeace

Photograph 92

Description: View of Freshwater Wetland 57. This photograph was taken facing south.

Date: 06/21/2018

Taken By: Conor Makepeace

Photograph 93

Description: View of Freshwater Wetland 58. This photograph was taken facing northwest.

Date: 05/16/2019

Taken By: Veronica Miller

Photograph 94

Description: View of Freshwater Wetland 59. This photograph was taken from the eastern edge of the wetland facing north.

Date: 05/16/2019

Taken By: Veronica Miller

Photograph 95

Description: View of Freshwater Wetland 59. This photograph was taken from the southwestern edge of the wetland, facing northeast.

Date: 05/16/2019

Taken By: Veronica Miller

Photograph 96

Description: View of Freshwater Wetland 60. This photograph was taken from the northern edge of the wetland, facing southwest.

Date: 05/16/2019

Taken By: Veronica Miller

Photograph 97

Description: View of Freshwater Wetland 61 showing a non-functioning pipe. This photograph was taken from the southern edge of the wetland, facing northeast.

Date: 05/16/2019

Taken By: Veronica Miller

Photograph 98

Description: View of Freshwater Wetland 62. This photograph was taken from the northwestern edge of the wetland, facing northeast.

Date: 05/16/2019

Taken By: Veronica Miller

Photograph 99

Description: View of Freshwater Wetland 63. This photograph was taken from the southeast edge of the wetland, facing northwest.

Date: 05/15/2019

Taken By: Veronica Miller

Photograph 100

Description: Updated view of Freshwater Wetland 64. This photograph was taken from the southeastern edge of the wetland, facing west. See Photograph 55 for an additional view.

APPENDIX D

WATERSHED AND WATER QUALITY INFORMATION

2/12/2019

Watershed and Water Quality Information

Genaral Information

Applicant Name:	SCDOT	**Permit Type:**	Construction
Latitude:	33.1435	**Longitude:**	-80.3233
MS4 Designation:	Not in designated area	**Monitoring Station:**	E-100
Within Coastal Critical Area:	NO	**Water Classification (Provisional):**	
Waterbody Name:		**Entered Waterbody Name:**	

Parameter Descriptions

NH3N	Ammonia	FC	Fecal Coliform
CR	Chromium	FCB	Fecal Coliform (Shellfish)
CU	Copper	BIO	Macroinvertebrates (Bio)
HG	Mercury	TP	(Lakes) Phosphorus
NI	Nickel	TN	(Lakes) Nitrogen
PB	Lead	CHLA	(Lakes) Chlorophyll a
ZN	Zinc	ENTERO	(Beach) Enterococcus
DO	Dissolved Oxygen	HGF	Mercury (Fish)
PH	pH	PCB	PCB (Fish)

Impaired Status (downstream sites)

Station	NH3N	CR	CU	HG	NI	PB	ZN	DO	PH	TURBIDITY	ECOLI	FCB	BIO	TP	TN	CHLA	ENTERO	HGF	PCB
E-100	X	X	X	X	X	X	X	X	X	X	N	A	X	X	X	X	X	X	X
E-015A	F	F	F	F	F	X	F	F	F	F	A	A	X	X	X	X	X	X	X

F = Standards Fully Supported
N = Standards Not Supported
A = Assessed at Upstream Station
X = Parameter Not Assessed at Station
T = Within TMDL Approved Watershed

Parameters to be addressed (those not supporting standards)

ECOLI

Fish Consumption Advisory

TMDL Information - TMDL Parameters to be addressed

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

6/27/2019

Watershed and Water Quality Information

Genaral Information

Applicant Name:	SCDOT	**Permit Type:**	Construction
Latitude:	33.0979	**Longitude:**	-80.2370
MS4 Designation:	Not in designated area	**Monitoring Station:**	CSTL-102
Within Coastal Critical Area:	NO	**Water Classification (Provisional):**	
Waterbody Name:		**Entered Waterbody Name:**	Ashley River

Parameter Descriptions

NH3N	Ammonia	FC	Fecal Coliform
CR	Chromium	FCB	Fecal Coliform (Shellfish)
CU	Copper	BIO	Macroinvertebrates (Bio)
HG	Mercury	TP	(Lakes) Phosphorus
NI	Nickel	TN	(Lakes) Nitrogen
PB	Lead	CHLA	(Lakes) Chlorophyll a
ZN	Zinc	ENTERO	(Beach) Enterococcus
DO	Dissolved Oxygen	HGF	Mercury (Fish)
PH	pH	PCB	PCB (Fish)

Impaired Status (downstream sites)

Station	NH3N	CR	CU	HG	NI	PB	ZN	DO	PH	TURBIDITY	ECOLI	FCB	BIO	TP	TN	CHLA	ENTERO	HGF	PCB
CSTL-102	F	F	F	F	F	X	F	T	F	F	F	A	X	X	X	X	N	X	X

F = Standards Fully Supported
N = Standards Not Supported
A = Assessed at Upstream Station
X = Parameter Not Assessed at Station
T = Within TMDL Approved Watershed

Parameters to be addressed (those not supporting standards)

DO

ENTERO

Fish Consumption Advisory

TMDL Information - TMDL Parameters to be addressed

In TMDL Watershed:	Yes	**TMDL Site:**	CSTL-102
TMDL Report No:	0506-13	**TMDL Parameter:**	DO
TMDL Document Link:	http://www.scdhec.gov/sites/default/files/docs/HomeAndEnvironment/Docs/Chas_Hbr_DO_TMDL.pdf		

APPENDIX E

PROTECTED SPECIES LIST

South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species - Berkeley County

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
Amphibian	Frosted flatwoods salamander (T, CH)	*Ambystoma cingulatum*	January 1-April 30	Larvae present in breeding ponds
	Gopher frog (ARS)	*Lithobates capito*	Breeding: October-March	Call survey: February-April
Bird	American wood stork (T)	*Mycteria americana*	February 15-September 1	Nesting season
	Bald eagle (BGEPA)	*Haliaeetus leucocephalus*	October 1-May 15	Nesting season
	Red-cockaded woodpecker (E)	*Picoides borealis*	March 1-July 31	Nesting season
	Saltmarsh sparrow (ARS)	*Ammospiza caudacuta*	Fall/winter	Fall/winter surveys
Crustacean	None Found			
Fish	Atlantic sturgeon* (E)	*Acipenser oxyrinchus**	February 1-April 30	Spawning migration
	Shortnose sturgeon* (E)	*Acipenser brevirostrum**	February 1-April 30	Spawning migration
Insect	Frosted elfin (ARS)	*Callophrys irus*	March - June	
	Monarch butterfly (ARS)	*Danaus plexippus*	August-December	Overwinter population departs: March-April
Mammal	Northern long-eared bat (T)	*Myotis septentrionalis*	Year round	Winter surveys not as successful
	Tri-colored bat (ARS)	*Perimyotis subflavus*	Year round	Found in mines and caves in the winter
	West Indian manatee (T)	*Trichechus manatus*	May 15-October 15	In coastal waters
Mollusk	None Found			
Plant	American chaffseed (E)	*Schwalbea americana*	May-August	1-2 months after a fire
	Boykin's lobelia (ARS)	*Lobelia boykinii*	May-July/August	
	Canby's dropwort (E)	*Oxypolis canbyi*	Mid-July-September	
	Carolina-birds-in-a-nest (ARS)	*Macbridea caroliniana*	July-November	
	Ciliate-leaf tickseed (ARS)	*Coreopsis integrifolia*	August-November	
	Pondberry (E)	*Lindera melissifolia*	February-March	
	Raven's seedbox (ARS)	*Ludwigia ravenii*	June-October	
	Sun-facing coneflower (ARS)	*Rudbeckia heliopsidis*	July-September	
Reptile	Eastern diamondback rattlesnake (ARS)	*Crotalus adamanteus*	Most of the year	Peak: April-November
	Southern hognose snake (ARS)	*Heterodon simus*	Most of the year	
	Spotted turtle (ARS)	*Clemmys guttata*	February-mid April	

South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species - Berkeley County

*	Contact National Marine Fisheries Service (NMFS) for more information on this species
**	The U.S. Fish and Wildlife Service (FWS) and NMFS share jurisdiction of this species
ARS	Species that the FWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.
ARS*	Species that are either former Candidate Species or are emerging conservation priority species
BGEPA	Federally protected under the Bald and Golden Eagle Protection Act
C	FWS or NMFS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species
CH	Critical Habitat
E	Federally Endangered
P or P - CH	Proposed for listing or critical habitat in the Federal Register
S/A	Federally protected due to similarity of appearance to a listed species
T	Federally Threatened

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

For a list of State endangered, threatened, and species of concern, please visit https://www.dnr.sc.gov/species/index.html.

Rare, Threatened, and Endangered Species of South Carolina - by County

The lists below indicate what species have been reported to the Heritage Trust Program as occurring in each county. They are not a complete listing of what actually exists, as no complete survey of the state has ever been done.

Berkeley County

Animals

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Acipenser brevirostrum	Shortnose Sturgeon	LE: Endangered	SE: Endangered	G3	S3
Acipenser oxyrinchus	Atlantic Sturgeon	LE: Endangered	--	G3	S3
Alligator mississippiensis	American Alligator	LT: Threatened	ST: Threatened	G5	S5
Alosa aestivalis	Blueback Herring	ARS*: Risk, priority	--	G3G4	S5
Ambystoma cingulatum	Frosted Flatwoods Salamander	LT: Threatened	SE: Endangered	G2	S1
Ambystoma tigrinum tigrinum	Eastern Tiger Salamander	--	--	G5	S2S3
Ammodramus maritimus macgillivraii	MacGillivray's Seaside Sparrow	ARS*: Risk, priority	--	G4	SNR
Callophrys irus	Frosted Elfin	ARS*: Risk, priority	--	G3	SNR
Clemmys guttata	Spotted Turtle	ARS*: Risk, priority	ST: Threatened	G5	S5
Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	--	SE: Endangered	G3G4	S2
Crotalus adamanteus	Eastern Diamondback Rattlesnake	ARS*: Risk, priority	--	G4	S3
Danaus plexippus	Monarch Butterfly	ARS*: Risk, Priority	--	G4	SNR
Elanoides forficatus	American Swallow-tailed Kite	--	SE: Endangered	G5	S2
Haliaeetus leucocephalus	Bald Eagle	--	ST: Threatened	G5	S2
Heterodon simus	Southern Hognose Snake	ARS*: Risk, priority	ST: Threatened	G2	SNR
Lithobates capito	Gopher Frog	ARS*: Risk, priority	SE: Endangered	G3	S1
Micrurus fulvius	Eastern or Harlequin Coral Snake	--	--	G5	S2
Mycteria americana	Wood Stork	LT: Threatened	SE: Endangered	G4	S1S2
Myotis austroriparius	Southeastern Bat	--	--	G4	S1S2
Myotis septentrionalis	Northern Long-eared Bat	LT: Threatened	--	G1G2	S1
Neotoma floridana haematoreia	Eastern Woodrat	--	--	G5T4Q	S3S4
Nerodia floridana	Florida Green Water Snake	--	--	G5	S2
Perimyotis subflavus	Tricolored Bat	ARS*: Risk, priority	--	G2G3	S1S2
Picoides borealis	Red-cockaded Woodpecker	LE: Endangered	SE: Endangered	G3	S2
Pituophis melanoleucus	Pine or Gopher Snake	--	--	G4	S3S4
Seminatrix pygaea	Black Swamp Snake	--	--	G5	SNR

Sterna antillarum	Least Tern	--	ST: Threatened	G4	S3
Trichechus manatus	Florida Manatee	LT: Threatened	SE: Endangered	G2	S1S2

Plants

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Agalinis aphylla	Coastal Plain False-foxglove	--	--	G3G4	S1
Agalinis linifolia	Flax Leaf False-foxglove	--	--	G4?	SNR
Agrimonia incisa	Incised Groovebur	--	--	G3	S2
Amphicarpum muehlenbergianum	Blue Maiden-cane	--	--	G4	S2S3
Andropogon gyrans var. stenophyllus	Elliott's Bluestem	--	--	G5T4	S1
Andropogon mohrii	Broomsedge	--	--	G4?	S2
Anthaenantia rufa	Purple Silkyscale	--	--	G5	S2
Aristida beyrichiana	Beyrich's Three-awn	--	--	G5?	SNR
Aristida condensata	Piedmont Three-awned Grass	--	--	G4?	S2
Asplenium heteroresiliens	Wagner's Spleenwort	--	--	G2	S1
Asplenium resiliens	Black-stem Spleenwort	--	--	G5	S1
Bacopa cyclophylla	Coastal-plain Water-hyssop	--	--	G3G5	S1
Burmannia biflora	Northern Burmannia	--	--	G4G5	S2
Calopogon barbatus	Bearded Grass-pink	--	--	G4?	S2
Calopogon multiflorus	Many-flower Grass-pink	--	--	G2G3	S1
Carex basiantha	Widow Sedge	--	--	G5	S2
Carex chapmanii	Chapman's Sedge	--	--	G3	S1
Carex crus-corvi	Ravenfoot Sedge	--	--	G5	S2
Carex elliottii	Elliott's Sedge	--	--	G4?	S1
Carex granularis	Meadow Sedge	--	--	G5	S2
Carya myristiciformis	Nutmeg Hickory	--	--	G4	S2
Castilleja coccinea	Scarlet Indian-paintbrush	--	--	G5	S2
Chamaedaphne calyculata	Leatherleaf	--	--	G5	SNR
Coreopsis gladiata	Southeastern Tickseed	--	--	G4G5	SNR
Coreopsis integrifolia	Ciliate-leaf Tickseed	ARS*: Risk, priority	--	G1G2	S1
Eleocharis robbinsii	Robbins Spikerush	--	--	G4G5	S2
Eleocharis tricostata	Three-angle Spikerush	--	--	G4	S2?
Epidendrum conopseum	Green-fly Orchid	--	--	G4	S3?
Eryngium aquaticum var. ravenelii	Ravenel's Eryngo	--	--	G4T2T3	S1
Eupatorium recurvans	Coastal-plain Thorough-wort	--	--	G3G4Q	S1?
Habenaria quinqueseta	Long-horn Orchid	--	--	G4G5	S1
Helenium pinnatifidum	Southeastern Sneezeweed	--	--	G4	S2
Iris hexagona	Walter's Iris	--	--	G4G5	S1
Lachnocaulon minus	Small's Bog Button	--	--	G3G4	S1
Liatris gracilis	Slender Gayfeather	--	--	G5	S1
Lindera melissifolia	Pondberry	LE: Endangered	--	G3	S2
Listera australis	Southern Twayblade	--	--	G4	S2
Litsea aestivalis	Pondspice	--	--	G3?	S3
Lobelia boykinii	Boykin's Lobelia	ARS*: Risk, priority	--	G2G3	S3

Ludwigia lanceolata	Lance-leaf Seedbox	--	--	G3	S1
Ludwigia ravenelii	Raven's Seedbox	ARS*: Risk, priority	--	G1G2	S1
Lysimachia hybrida	Lance-leaf Loosestrife	--	--	G5	S1
Macbridea caroliniana	Carolina Bird-in-a-nest	ARS*: Risk, priority	--	G2G3	S3
Melanthium virginicum	Virginia Bunchflower	--	--	G5	S2
Menispermum canadense	Canada Moonseed	--	--	G5	S2S3
Myriophyllum laxum	Piedmont Water-milfoil	--	--	G3	S2
Narthecium americanum	Bog Asphodel	ARS*: Risk, priority	--	G2	SH
Ophioglossum petiolatum	Longstem Adder's-tongue Fern	--	--	G5	S1
Oxypolis canbyi	Canby's Dropwort	LE: Endangered	--	G2	S2
Paspalum bifidum	Bead-grass	--	--	G5	S2
Peltandra sagittifolia	Spoon-flower	--	--	G3G4	S2
Physostegia leptophylla	Slender-leaved Dragon-head	--	--	G4?	SNR
Pilea fontana	Springs Clearweed	--	--	G5	SNR
Plantago sparsiflora	Pineland Plantain	--	--	G3	S2
Platanthera integra	Yellow Fringeless Orchid	--	--	G3G4	S1
Platanthera lacera	Green-fringe Orchis	--	--	G5	S2
Ponthieva racemosa	Shadow-witch Orchid	--	--	G4G5	S2
Pteroglossaspis ecristata	Crestless Plume Orchid	--	--	G2G3	S2
Quercus similis	Bottom-land Post Oak	--	--	G4	S1
Rhexia aristosa	Awned Meadowbeauty	--	--	G3G4	S3
Rhynchospora breviseta	Short-bristle Baldrush	--	--	G3G4	S1
Rhynchospora careyana	Horned Beakrush	--	--	G4?Q	S3
Rhynchospora cephalantha var. attenuata	Pocosin Beaksedge	--	--	G5T3?	S1
Rhynchospora harperi	Harper Beakrush	--	--	G4?	S1
Rhynchospora inundata	Drowned Hornedrush	--	--	G4?	S2?
Rhynchospora oligantha	Few-flowered Beaked-rush	--	--	G4	S2
Rhynchospora pleiantha	Brown Beaked-rush	--	--	G2G3	S1
Rhynchospora scirpoides	Long-beaked Baldrush	--	--	G4	S1
Rhynchospora stenophylla	Chapman Beakrush	--	--	G4	S2
Rhynchospora tracyi	Tracy Beakrush	--	--	G4	S3
Rudbeckia heliopsidis	Sun-facing Coneflower	ARS*: Risk, priority	--	G2	S1S2
Sarracenia rubra	Sweet Pitcher-plant	--	--	G4	S3S4
Schwalbea americana	Chaffseed	LE: Endangered	--	G2G3	S2
Scleria baldwinii	Baldwin Nutrush	--	--	G4	S2
Smilax biltmoreana	Biltmore Greenbrier	--	--	G4	S2
Spiranthes laciniata	Lace-lip Ladies'-tresses	--	--	G4G5	S1S2
Sporobolus curtissii	Pineland Dropseed	--	--	G3	S1
Sporobolus pinetorum	Carolina Dropseed	--	--	G3	S2
Thalictrum subrotundum	Reclined Meadow-rue	--	--	GUQ	S1S2
Tridens carolinianus	Carolina Fluff Grass	--	--	G3G4	S1
Trillium pusillum var. pusillum	Least Trillium	--	--	G3T2Q	S1
Triphora trianthophora	Nodding Pogonia	--	--	G3G4	S2
Utricularia macrorhiza	Greater Bladderwort	--	--	G5	S1
Xyris brevifolia	Short-leaved Yellow-eyed Grass	--	--	G4G5	S1

Xyris difformis var. floridana	Florida Yellow-eyed Grass	--	--	G5T4T5	S2
Xyris elliottii	Elliott Yellow-eyed Grass	--	--	G4	S2
Xyris flabelliformis	Savannah Yellow-eyed Grass	--	--	G4	S1

For additional information about rare, threatened, and endangered species or questions about these lists, please contact Anna Smith.

Environmental Review

- Office of Environmental Programs
- Bald Eagle Nest Data
- Planning & Conservation

APPENDIX F

QUALIFICATIONS OF CONTRIBUTORS

Investigator:	Matt DeWitt
Education:	B.S. Environmental and Natural Resources Management; Clemson University, 2007.
Experience:	Over ten years' experience in environmental consulting, Environmental Services Supervisor at Mead & Hunt.
Investigator:	Conor Makepeace
Education:	Masters of Environmental Management; Duke University, 2017 B.S. Environmental Science / Law; Bryant University, 2015
Experience:	Environmental Scientist, Mead & Hunt 2017-Present Biologist, US Army Corps of Engineers 2015-2017
Investigator:	Veronica Miller
Education:	M.S. Environmental Science; Florida Gulf Coast University, 2018 B.S. Biology; The University of Scranton, 2015
Experience:	Environmental Planner, Mead & Hunt 2018-Present Environmental Intern, Hertz Corporation 2017-2018