

Appendix D: Protected Species Assessment

CAMP HALL RAIL PROJECT



**Palmetto Railways
540 East Bay Street
Charleston, South Carolina**

25 July 2017

July 27, 2017

Mr. Mark Caldwell
U. S. Fish & Wildlife Service
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

**SUBJECT: Protected Species Assessment
23-mile corridor, approximately 866 acres
Pringletown to Cross, Berkeley County, South Carolina**

Dear Mr. Caldwell:

This letter initiates Informal Consultation with the U.S. Fish and Wildlife Service (USFWS), Charleston Field Office, under Section 7 of the Endangered Species Act regarding the project area referenced above.

PROJECT LOCATION AND LIMITS / PROPOSED ACTION

An investigation was conducted on approximately 866 acres located in rural Berkeley County. The corridor is being considered by Palmetto Railways, a division of the SC Department of Commerce, as a route to provide rail service to the new Volvo manufacturing plant. Therefore, Palmetto Railways is conducting necessary due diligence activities. Present owners of the properties that include the route are primarily Weyerhaeuser (previously Plum Creek and MeadWestvaco), Santee Cooper, with smaller parcels owned by additional private entities. The corridor begins at the proposed Volvo Plant in Pringletown, Berkeley County, South Carolina, off of SC HWY 176 and ends near the Cross Generating Station in Cross, Berkeley County, South Carolina. An approximately 200-foot wide area was assessed for the majority of the corridor, plus some expanded areas where minor alternatives in the original alignment may be considered. The proposed action to occur on site is the construction of a new railroad line connecting the Volvo plant to an existing rail line in Cross. The proposed action will include a timber harvest and site preparation, the deposition of fill material, and construction of the rail line. The width of the final impacted area is anticipated to be 42 to 55 feet along most of the corridor except 175 feet on the approaches to the Diversion Canal. In those areas where a secondary track or pull off area is required, the corridor will be wider. The proposed impacts to wetlands will be mitigated in accordance with US Army Corps of Engineers and SC Department of Health and Environmental Control (DHEC) requirements.

HABITAT DESCRIPTION

The railroad corridor consists of **upland pine forest, planted pine forest, upland hardwood forest, gum pond, Carolina bay, bottomland hardwood forested wetlands, open water and agriculture fields**. Age classes for habitat types were based upon observation of tree size and height as well as site index for the area. Increment Borings were not taken.

The **upland pine forest** habitat was characterized by having an overstory composed primarily of loblolly pine (*Pinus taeda*) with some interspersed longleaf pine (*P. palustris*). Cover ranged from 40-70% in the overstory. The upland pine forest habitat found within and immediately adjacent to the corridor ranged from new growth to approximately 50 years old; however, nothing within this habitat type was considered to be old growth. The midstory was composed of loblolly pine, sweetgum (*Liquidambar styraciflua*), and farkleberry (*Vaccinium arboreum*) with a cover ranging from 10-30%. The shrub layer was sparse, with 10-20% cover consisting of wax myrtle (*Morella cerifera*), farkleberry, redbay (*Persea borbonia*) and deerberry (*Vaccinium stamineum*). The herbaceous layer was healthy, at approximately 30-50% cover, and was composed primarily of bracken fern (*Pteridium aquilinum*), broomstraw (*Andropogon virginicus*), longleaf woodoats (*Chasmanthium sessiliflorum*), dogfennel (*Eupatorium capillifolium*), panic grass (*Panicum sp.*), and slender lespedeza (*Lespedeza virginica*). Vines were present in both stages of management with muscadine (*Vitis rotundifolia*), greenbriar (*Smilax sp.*), and sawtooth blackberry (*Rubus argutus*) making up approximately 10% of the cover. This natural upland pine community was only found within areas of Santee-Cooper ownership and on the Cross Generating Station Wildlife Management Area (WMA). This area was characterized by infrequent low-intensity prescribed burns.

The **upland hardwood forest** occupied a small area of the corridor, and was generally found on the ecotone of the project area between uplands and wetland areas. Overstory composition was generally composed of white oak (*Quercus alba*), live oak (*Quercus virginiana*), southern red oak (*Quercus falcata*) and pignut hickory (*Carya glabra*), with water oak (*Quercus nigra*) found on the lower slopes leading to the wetlands. Overstory closure ranged from 40-60%. The age classes found within this habitat type ranged from new growth to approximately 50 years old. No old growth was found within or adjacent to the corridor within this habitat type. The midstory (10-25% cover) consisted of pignut hickory, sweetgum, red oak, red maple (*Acer rubrum*), American hornbeam (*Carpinus caroliniana*), and American holly (*Ilex opaca*). Shrub layers were sparse (0-10% cover), and consisted of redbay (*Persea borbonia*) and wax myrtle. The herbaceous layer was

sparse, approximately 0-10% cover, and was composed primarily of bracken fern, cinnamon fern (*Osmunda cinnamomea*), broomstraw, and longleaf woodoats.

The **planted pine forest** habitat was characterized by an overstory composed primarily of loblolly pine. These areas were intensively managed for silviculture with a first thinning occurring typically at ages 12-15 years old, followed by a clearcut at 25-30 years old. Age classes along the corridor spanned from new growth to approximately 30 years old. These areas were bedded and extensively ditched. The planted pine forest habitat covered 70-80% of the corridor. The corridor spans multiple stands of pines, ranging from open thinned (70-80 Basal Area [BA]) stands to dense, pre-merchantable stands (140 BA). As a result of recent clearcut harvests on site there were areas with no overstory or midstory present. In the thinned pine areas (70-80 BA), there was a midstory of sweet gum and red maple with approximately 10-20% cover. In the denser pine areas (140 BA) there was no midstory or shrub layer due to 90-100% overstory cover. In the open thinned pine stands the shrub layer consisted of wax myrtle, redbay, fetterbush (*Lyonia lucida*), and *Vaccinium*, with 10-30% cover. The herbaceous layer was also somewhat sparse, approximately 0-10% cover, and was composed primarily of dwarf palmetto (*Sabal minor*), longleaf woodoats, plumegrass (*Saccharum giganteum*), switchcane (*Arundinaria tecta*), Virginia chain fern (*Woodwardia virginiana*), cinnamon fern, and netted chain fern (*Woodwardia areolata*). Sphagnum moss (*Sphagnum sp.*) was also present within some of the wetland areas.

Several depressional **gum pond** wetlands were interspersed along the corridor. These wetlands are seasonally inundated and characterized by age classes ranging from new growth to approximately 30 years old. No old growth was found within this habitat type. The overstory was composed of black gum (*Nyssa sylvatica*), laurel oak (*Q. laurifolia*), willow oak (*Q. phellos*), sweet gum, red maple, and in larger gum ponds that were semi-permanently flooded, pond cypress (*Taxodium ascendens*), was found. The overstory cover ranged from 20-40% in the overstory. The midstory was sparse, approximately 10% cover, consisted of black gum, sweet gum, and red maple. The shrub stratum was composed of sweet gallberry (*I. coriacea*), fetterbush, and redbay. The understory cover was variable, ranging from open water to 100% cover. Species in this stratum included smartweed (*Polygonum spp.*), arrowhead (*Sagittaria lancifolia*), soft rush (*Juncus effusus*), switchcane, netted chain fern as well as various other grasses and sedges. Few vines occurred within the gum pond habitat due to periods of inundation, but around the margins some vine species were identified including poison ivy (*Toxicodendron radicans*) and laurel leaf smilax (*Smilax laurifolia*).

A few **Carolina bay** depression wetlands were located within the project corridor. These wetlands are seasonally to perennially inundated based upon their size. The genesis of this depressional habitat has been debated, although Piovani and Hodgeson (2016) found nine distinct qualities were common to all Carolina bays: 1) oval shaped; 2) oriented northwest to southeast; 3) parallelism of the long axis; 4) sand rims above general elevation; 5) interior surface below the general elevation; 6) different soils within sand rim and outside of sand rim; 7) shallow; 8) flat sandy bottom; 9) naturally isolated features. Within the corridor there were five Carolina bays, four of which are named, including Bulltown Bay, Skeleton Bay, Todd Bay, and Beech Island Bay. Much of these areas were ditched and either partially or entirely planted in loblolly pine, which are now approximately 10 to 30 years old. Within the remnant habitat, red maple, swamp tupelo, and pond cypress dominated the overstory at 30-40% cover with the oldest reaching approximately 50 years of age. No areas within this habitat type are considered old growth. The midstory was sparse, consisting of the same species found in the overstory. Within more seasonally wet Carolina bays, a shrub and herbaceous layer was present consisting of redbay, dwarf palmetto, and fetterbush in the shrub layer, with various grasses and sedges making up the herbaceous layer. Perennial flooded bays had no shrub or herbaceous vegetation present.

The **bottomland hardwood forested wetland** habitat was characterized by having an overstory composed of bald cypress (*Taxodium distichum*), water oak, swamp tupelo (*Nyssa biflora*) and swamp chestnut oak (*Quercus michauxii*). Overstory closure ranged from 30-50%, characterized by an age class from 10 to 50 years old. No old growth was found within or immediately adjacent to the project area. The midstory was composed of bald cypress, black gum, sweetgum, and swamp tupelo characterized by having a cover ranging from 10-20%. The shrub and herbaceous layer were also somewhat sparse, approximately 0-10% cover, and was composed primarily of dwarf palmetto, switchcane, sphagnum moss, Virginia chain fern, and cinnamon fern. Standing water was present within most of the bottomland hardwood forest habitats. Defined stream channels occurred in several areas within this habitat. Flow was characterized as relatively permanent, or perennial, flow.

The project corridor crosses **open water** across the diversion canal between the Santee-Cooper lakes. This body of water was excavated in 1941. The canal is 7.5 miles long, approximately 500 feet wide, and approximately 12 feet deep. The bottom consists of sand and clay, with some sediments washed downstream from the Santee River. There is very little organic material or vegetation in this part of the canal and it was last dredged in 2014 to remove accumulated silt and sediments on the Lake Moultrie side of the canal.

The diversion canal was once an important access for inland maritime trade, but today is used primarily for recreational access between the lakes.

Several small **agricultural fields** existed within the project corridor, primarily as wildlife food plots. Common planted vegetation included chufa, wheat, peas and soybeans. In areas that were not planted, a variety of native grasses dominated, including: broomstraw, chalky bluestem (*Andropogon capillipes*), dog fennel, switchgrass (*Panicum virgatum*), and tapered rosette grass (*Dichanthelium acuminatum*). These areas are routinely disked and cultivated.

LISTED SPECIES AND HABITAT REQUIREMENTS

Prior to field investigations, we consulted multiple sources including: March 30, 2017 update of the South Carolina List of Endangered, Threatened and Candidate Species for Berkeley County provided to us by the USFWS, the South Carolina Department of Natural Resources (SCDNR) Rare, Threatened & Endangered Species Inventory, the SCDNR Heritage Trust Program, Information Planning and Conservation tool ((IPaC) (Consultation Code: 04ES1000-2017-SLI-0523, Event Code: 04ES1000-2017-E-01064)) and the SCDNR Eagle Nest Survey. Julie Holling, Kathy Boyle, and Caroline Causey of SCDNR were also contacted to determine what protected species may occur on the project site and approximate locations of any red-cockaded woodpecker occurrences nearby. Based on the list for Berkeley County, and multiple site visits dating between April 20, 2016 and June 1, 2017, the list of potentially occurring species was narrowed as follows:

Common Name	Scientific Name	Listing Status
American chaffseed	<i>Schwalbea americana</i>	Federally Endangered
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>	Federally Endangered
Bald eagle	<i>Haliaeetus leucocephalus</i>	B&GEPA
Canby's dropwort	<i>Oxypolis canbyi</i>	Federally Endangered
Frosted flatwoods salamander	<i>Ambystoma cingulatum</i>	Federally Threatened
Pondberry	<i>Lindera melissifolia</i>	Federally Endangered
Red-cockaded woodpecker	<i>Picoides borealis</i>	Federally Endangered
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	Federally Endangered
West Indian manatee	<i>Trichechus manatus</i>	Federally Threatened
Wood stork	<i>Mycteria americana</i>	Federally Threatened

American chaffseed – American chaffseed (*Schwalbea americana*) occurs in sandy, acidic, seasonally moist to dry soils. Habitats where it most commonly occurs include open, moist pine flatwoods, fire-maintained savannas, ecotones between peaty wetlands and xeric sandy soils, and other open grass-sedge systems. American chaffseed is dependent on factors such as fire, mowing, or fluctuating water tables that maintain the open, early successional conditions that it requires (USFWS 1995). Often associated with chaffseed habitat are quail and red-cockaded woodpeckers. The land management necessary to maintain these species benefits chaffseed as well. American chaffseed is not capable of long-term dormancy within the soil which reflects its need for early successional habitat and periodic disturbance that is mimicked by prescribed fire (USFWS 2008).

Atlantic sturgeon – The Atlantic sturgeon (*Acipenser oxyrinchus*) is an anadromous species of fish found on the Atlantic coast of North America. It inhabits marine, estuarine, and freshwater reaches of the major river basins along the Atlantic coast from North Florida to New Brunswick, Canada. Atlantic sturgeons are similar in appearance to shortnose sturgeons; however, differences lie in the larger body size, smaller mouth, and different snout shape of the Atlantic sturgeon. They are bluish-black to olive on the back and white or pale brown underneath. Atlantic sturgeon spawn in moderately flowing water, typically in deep rivers. Preferred spawning habitats include high-gradient rapids-complex river sections with cobble, bedrock, gravel and coarse sand substrates. When not spawning, adults frequent coastal waters and estuaries (NOAA 2012).

Bald eagle - The bald eagle (*Haliaeetus leucocephalus*) was once endangered throughout the 48 contiguous states except for the populations in Washington, Oregon, Minnesota, Wisconsin and Michigan, which were classified as threatened. In 2007, the U.S. Fish and Wildlife Service published a notice of delisting of the bald eagle from the endangered species list. Despite its delisting, the bald eagle remains protected under the Bald and Golden Eagle Protection Act (B&GEPA) and the Migratory Bird Treaty Act. The (B&GEPA) dates to 1940 and provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof". Further, the Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or

3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

(16 U.S.C. 668-668d, 54 Stat. 250).

The bald eagle is primarily associated with coasts, rivers and lakes, usually nesting near bodies of water where it feeds. An opportunistic predator, the bald eagle feeds primarily on fish but also takes a variety of birds, mammals and turtles (both live and as carrion) when fish are not readily available (USFWS 1989).

Canby's dropwort – Canby's dropwort (*Oxypolis canbyi*) is a perennial herb, which grows 0.8 to 1.2 meters tall. The "quill-like" leaves are slender, terete, hollow and septate. The compound umbels of small five parted flowers appear from mid-August to October with white petals and pale green sepals (USFWS 1990). The plant resembles a mature Queen Anne's lace and has a slight dill fragrance.

Typical habitat for Canby's dropwort includes wet meadows, wet pineland savannas, ditches, sloughs, and around the edges of cypress ponds (USFWS 2006). The largest and most vigorous populations have been found to occur in open bays or ponds that are wet throughout most of the year but which have little or no canopy cover. Canby's dropwort occupies sandy loams or acidic peat-mucks, followed by an underlying layer of clay, which results in water retentive habitat. Also, these soils usually contain high organic matter, are poorly drained, and contain a high water table. Water requirements for the plant are very narrow, with too much or too little being detrimental to the plant. Plants seem to be most successful in shallow inundation, with depths from 2 to 12 inches (USFWS 1990).

Frosted flatwoods salamander – The frosted flatwoods salamander (*Ambystoma cingulatum*) is a small (9-13.5 cm total length), elongate species in the mole salamander family (Ambystomatidae), which are characterized as having a biphasic life history. It has a small indistinct head, short legs, and a long, rounded tail. Typical coloration consists of a background of brownish black to purplish black overlaid with narrow gray or silvery white reticulations (net-like markings), bands, or diffuse spotting. The aquatic larvae are distinctly colored, having a series of bold brown and yellow longitudinal stripes (USFWS 2009).

The frosted flatwoods salamander is fossorial, where it spends the majority of its life in refuge underground. Optimum habitat for the frosted flatwoods salamander is open, mesic longleaf/slash pine flatwoods maintained by frequent fires. Breeding sites are ephemeral isolated wetlands, typically composed of pond cypress and/or black tupelo and a diverse understory of native grasses and herbaceous vegetation (USFWS 2009).

Pondberry – Pondberry (*Lindera melissifolia*) is a deciduous, aromatic shrub growing 0.5 to 1.8 meters in height with thin, drooping glabrous or pubescent leaves that smell like sassafras when crushed. Pondberry is a dioecious species, having both male and female plants, and is capable of producing abundant fruits which remain viable for 1-2 years. Pale yellow flowers appear in the spring before the leaves. The bright red 12-millimeter long oval-shaped fruits mature in the fall. However, pondberry is a colonial plant, achieving reproduction primarily through vegetative, asexual production of new shoots. Most of the shrubs in any pondberry population are clones or genets of a much smaller number of genetically unique individuals rather than primarily seed production (USFWS 2010).

Pondberry is primarily found in association with wetland habitats (USFWS 1992). In South Carolina, pondberry is associated with the margins of seasonally flooded sinks, ponds, and depression in pinelands (USFWS 1993). Fire and flooding reduce pondberry's competition, allowing it to reproduce from rhizospheres in the soil.

Red-cockaded woodpecker – The red-cockaded woodpecker (RCW) (*Picoides borealis*) is a black and white woodpecker approximately 18 centimeters long. The bird displays black and white horizontal stripes on its back. The cheeks and underparts are white and the sides are streaked with black. The cap and stripe on the throat and neck are black. The male has a small red spot on each side of the black cap. The males also display a red crown patch after the first post-fledgling molt.

Typical nesting habitat for red-cockaded woodpeckers consists of open stand of pines with an age of 80 to 120 years (USFWS 1992), although nesting occasionally occurs in younger trees. Nests may be found in many species of pine. Stands that are primarily hardwood or that have a dense hardwood understory are usually avoided. Foraging habitat usually consists of pine or pine-hardwood stands at least 30 years old (USFWS 2003).

Shortnose sturgeon – The shortnose sturgeon (*Acipenser brevirostrum*) is an anadromous fish approximately 41 to 91 centimeters long, inhabiting marine, estuarine, and freshwater reaches of the major river basins along the Atlantic coast from North Florida to New Brunswick, Canada. The fish is brown to gray or black on the back, turning gold or yellow on the sides, and to white underneath. The blunt snout and 11 dorsal plates are distinctive characteristics of this sturgeon (NOAA 2010).

Shortnose sturgeon ascend rivers to spawn in late winter to early spring, historically migrating inland through the fall line zone to the Piedmont prior to construction of dams. Preferred spawning habitats include high-gradient rapids-complex river sections with cobble,

bedrock, gravel and coarse sand substrates. In most Atlantic Coast river basins, rapids-complex habitats are no longer accessible due to blockage, restricting sturgeon to coastal plain river reaches. Coastal plain spawning habitats include gravel bars and bedrock outcrops, and woody debris in accessible main-stem and tributary rivers. Shortnose sturgeon egg and larval stages are highly susceptible to turbidity and sedimentation effects. Adults and juveniles congregate during summer months in lower river areas but may move upstream during all months of the year. Upstream movements to cooler water refuge areas may occur during summer (NOAA 1998).

West Indian manatee – The West Indian manatee (*Trichechus manatus*) is a large marine mammal with no rear flippers and a flattened rounded tail. The manatee is normally associated with brackish water estuaries, shallow lagoons and coastal rivers. Manatees have been reported to occur along the southeastern coastline with the greatest number of individuals inhabiting the coastal water of Florida (USFWS 1980). A subpopulation of manatees frequents the South Carolina and Georgia coasts, with occurrences up to Rhode Island documented. The primary habitat for manatees includes shallow grass beds with ready access to deep water and fresh water sources near the mouths of coastal river systems, particularly estuarine systems (Deutsch et al. 2008).

American Wood stork – The American wood stork (*Mycteria americana*) is a large wading bird approximately 127 centimeters tall, with a wingspan of 1 to 1.5 meters. The wood stork was downlisted from Endangered to Threatened in 2014 (USFWS 2014). Wood storks are highly colonial, usually nesting in large rookeries and feeding in flocks. Their plumage is generally white, with black primary and secondary wing feathers and a short black tail. The head displays a prominent bill that is slightly decurved, thick at the base and black.

Wood storks are typically associated with freshwater and brackish wetlands. Most nesting colonies in the southeast are located in woody vegetation, such as bald cypress, over standing water, or on islands surrounded by open water. Foraging habitat may include freshwater marshes, flooded pastures and flooded ditches (USFWS 1992). Foraging sites are often in areas of fish concentrations due to either local reproduction or drying.

EVALUATION CRITERIA AND RESULTS

An examination of the SCDNR Rare, Threatened and Endangered Species Inventory, SCDNR Heritage Trust Program, and SCDNR Bald Eagle Nest Locator indicated that there are no documented occurrences of any federally listed or protected species within or immediately adjacent to the proposed project area. On April 20 - June 3, 2016, September 16 – 29, 2016, and April 28 - May 3, 2017, field investigations were conducted and consisted of pedestrian surveys

with the purpose of identifying potential habitat for the species referenced above. USFWS identifies optimal survey windows for each species, however, the due diligence window to conduct field work for the proposed action did not allow for surveying all species at their optimal times. The goal of the protected species assessment is to identify potential habitat that could support threatened or endangered species in order to determine the likelihood of the occurrence of the identified species within the project area. Due to access constraints, the only observations outside the corridor on adjacent properties were within line of sight and any vocalizations observed. Our investigations led to the following conclusions regarding habitat suitability for the species referenced above:

American chaffseed – Due to past use of prescribed fire on the landscape, habitat requirements for American chaffseed were marginal within the Cross Generating Station WMA; however, it had been some time since a prescribed burn was conducted as evidenced by the presence of the extensive shrub layer and woody cover. In addition, only faint evidence of burn scars was present on larger pine trees. Other areas of the corridor were comprised of industrial timberland that were extensively ditched and disturbed. Early successional habitat was not present except for within clear cut areas, ditch banks, and roadsides. The clearcut areas were treated with herbicide during site preparation to reduce competition and promote the survivability of the loblolly pine seedlings. Herbicide was applied to roadways to maintain the right of ways. Ditches appeared to be routinely cleaned out, placing new spoil material on the banks. Due to the history of industrial forestry within the corridor and infrequent burning on the Cross WMA, and lack of suitable quality habitat, it is our opinion that the project may effect, but is not likely to adversely affect American chaffseed. There are no documented occurrences of American chaffseed within the project area. Coordination with SCDNR and USFWS did not identify any populations near the project area.

Atlantic sturgeon – The habitat requirements for Atlantic sturgeon are met within the diversion canal connecting the Santee-Cooper lakes; however, due to the construction of dams built in conjunction with the re-diversion project, the sturgeon can no longer migrate to historic spawning grounds in the upper Santee River. The shortnose sturgeon has been known to migrate into the lakes through the fish lift and dam locks, but Atlantic sturgeon have not been documented to navigate the dams, nor have they been documented occupying the Santee-Cooper lakes. There are few documentations of tagged Atlantic sturgeon reaching the dam in a presumptive spawning run, and turning around or attempting to spawn at the dam itself. Atlantic sturgeons are known to spend much of their time in brackish and saline systems, and migrate to the inland freshwater reaches for spawning. The proposed rail line will bridge the diversion canal and will likely require supports to be built in the canal. Due to the fragmentation of historic spawning routes through the construction of dams and the re-diversion project, the proposed

action will have no effect on the Atlantic sturgeon. The Atlantic sturgeon are accustomed to navigation traffic and primarily use deep channel habitats. If Atlantic sturgeon are in the Santee-Cooper Lakes, it is unlikely they will enter and reside in and around the waters of the project construction site. If they do enter the area, the noise caused by pile-driving during construction is expected to discourage sturgeon from approaching the construction site. In addition, there are no documented occurrences of Atlantic sturgeon within the project area.

Bald eagle – Areas within the railroad corridor could provide potential foraging and nesting habitat for bald eagles. SCDNR's Bald Eagle nest location database was used to identify documented nests in proximity to the corridor, with the closest nest being over 1/3 mile away within a large wetland area (see attached map), outside of the 660-foot secondary zone outlined in the National Bald Eagle Management Plan (USFWS 2007). Intensive silviculture is practiced throughout the project corridor, preventing timber from growing to the size required for nest trees. The past mechanical disturbance associated with silvicultural practices could have acted as a deterrent to bald eagles nesting along the project corridor. Adjacent properties that were not as intensively managed for silviculture could provide nesting and foraging habitat. The corridor crosses the diversion canal between the Santee-Cooper Lakes, which are known foraging habitat for bald eagles. The bridge could potentially provide roost or nesting habitat to bald eagles or other birds of prey. Due to past and present land uses and management, the proposed action may affect, but is not likely to "disturb" bald eagles as defined within the B&GEPA. There are no documented occurrences of bald eagles within the project area, or within 660 feet of the project area.

Canby's dropwort - Due to the extensive ditching and water management on industrial forestlands, the narrow wetland parameters Canby's dropwort requires are likely non-existent within the project corridor. Any open shallow wetland areas were previously ditched and loblolly pine was planted immediately adjacent to the wetland areas. Besides the Cross Generating Station WMA, which had evidence of a past prescribed fire, there were no other areas with a history of prescribed fire within the project area. There is a historic documented occurrence (last observed in 1987) outside the project limits (approximately 700 feet outside project limits) within a power line right of way (see attached map). However, there are no documented occurrences of Canby's dropwort within the project corridor. Due to the lack of suitable quality habitat, the proposed activity may affect, but is not likely to adversely affect Canby's dropwort.

Frosted flatwoods salamander – Habitat for the frosted flatwoods salamander was not observed within the project corridor. Frosted flatwoods salamanders require fire maintained ephemeral wetlands for breeding and fire maintained open pine forests during the remainder of their life cycle. The gum ponds and Carolina bays observed within the project corridor are

ditched, altering the hydrology of the system. The adjacent habitat to these areas are commercial timberlands, with high levels of soil disturbance from logging and bedding practices and no observed prescribed burning regimen. A historic population exists within the designated critical habitat south of Huger within the Francis Marion National Forest, approximately 25 miles away from the corridor, with the last documented occurrence of the species being documented in 2010. Due to the lack of suitable quality habitat, the proposed action will have no effect on frosted flatwoods salamanders. Also, there are no documented occurrences of frosted flatwoods salamanders within the project corridor.

Pondberry - Due to the extensive ditching and water management on industrial forestlands, the wetland parameters pondberry requires are likely absent within the project corridor. Any open shallow wetland areas were previously ditched and the loblolly pine was planted immediately adjacent to the wetland areas, leaving little transition zone or intact undisturbed wetlands. Prescribed fire has been removed from the landscape through a majority of the corridor, which historically would have maintained an open understory allowing for pondberry to grow. Pondberry is not likely to occur within the project corridor due to the degraded wetlands, extensive ditching and disturbance, as well as lack of fire on the landscape. Due to the lack of suitable quality habitat, the proposed action will have no effect on pondberry. There are no documented occurrences of pondberry within the project corridor, and only five populations exist within Berkeley County, all within the Francis Marion National Forest (USFWS 2010). Coordination with SCDNR and USFWS did not identify any populations near the project area.

Red-cockaded woodpecker - No nesting or foraging habitat for red-cockaded woodpeckers (RCW) occurred within the project corridor. Due to the industrial forest management practices along the corridor, final harvest of planted loblolly occurs at 25-30 years old. This does not allow for the trees to grow old enough (60+ years) in order to develop heart rot or other characteristics making trees suitable for RCW nesting. Not only are the trees not reaching the age class to be suitable habitat, but the BA of the planted pine forest are also much greater at 80-140 BA compared to suitable habitat at 40-70 BA. The planted pine forest habitat covered 70-80% of the corridor, with the other corridor areas being composed of wetlands and natural pine stands of unsuitable habitat due to heavy midstory and lack of prescribed fire. There are few documented populations of RCWs nearby, with the closest population to the corridor over two miles away on Oakland Plantation, and other populations in Orangeburg County approximately five miles away (see attached map). Adjacent property habitat management and site conditions were observed when visible from the corridor and staff listened for vocalizations during field work. Otherwise these areas were remotely assessed due to project and access issues. One adjacent area was observed to have suitable foraging habitat, but not nesting habitat. During

a site visit, a single potential RCW vocalization was heard from this adjacent property but was not confirmed. Multiple site visits back to this area did not identify (audible or visual) evidence of RCWs, indicating that either the field biologist did not hear a RCW on the single occasion or it was a foraging RCW. The proposed action will have no effect on RCWs because of the absence of suitable foraging or nesting habitat within the corridor, and the absence of documented occurrences of RCW within or immediately adjacent to the project area.

Shortnose sturgeon – The habitat requirements for shortnose sturgeon are met within the diversion canal connecting the Santee-Cooper lakes. The shortnose sturgeon has occasionally been reported in the reservoirs themselves, and in fact there is a known historical occurrence of shortnose sturgeon in Lake Moultrie (see attached map). An isolated population of shortnose sturgeon has been reported to occur within Lake Marion and its tributaries, yet there is little evidence of their migration downstream into the lower reservoir (Collins et al 2003). Shortnose sturgeon are known to spend more time in freshwater or brackish systems than Atlantic sturgeon. The area below the dam in the Tailrace Canal and near the head of the West Branch of the Cooper River is a known breeding area for shortnose sturgeon that cannot migrate through the fish lift and locks. The proposed rail line will bridge the diversion canal and will likely require supports to be built in the canal. Best management practices (BMP's) for avoidance and minimization of listed species for in-water construction are attached in Appendix A (see attached). Shortnose sturgeon are accustomed to navigation traffic and primarily use deep channel habitats; therefore, it is unlikely they will enter and reside in and around the waters of the project construction site. If they do enter the area, the noise caused by pile-driving during construction is expected to discourage sturgeon from approaching the construction site. With BMP's for avoidance and minimization as well as the fragmentation of historic spawning routes through the construction of dams and the re-diversion project, and other reasons listed above, the proposed action will have no effect on shortnose sturgeon. There are no documented occurrences of shortnose sturgeon within the project area.

West Indian manatee - West Indian manatees have rarely made their way through the locks into the Santee-Cooper Lakes. When they are identified, they are captured and removed as the manatees often become trapped and cannot survive winters in the lake as the water temperatures become too cold. West Indian manatees are a seasonal visitor to the lowcountry of South Carolina, where they can be found in many of the estuaries where freshwater rivers meet the Atlantic Ocean. Migration into interior reaches of freshwater rivers has been documented, but is not common. The proposed rail line will bridge the diversion canal and will likely require supports to be built in the canal following best management practices (Appendix A). Due to the rarity of West Indian manatees successfully navigating the locks and entering the Santee-Cooper

lakes, the proposed action will have no effect on West Indian manatees. There are no documented occurrences of West Indian manatees within the project area.

American Wood stork – Potential foraging or nesting habitat for American wood storks exists within some of the wetland areas within the project corridor, specifically the larger gum and cypress ponds as well as bottomland hardwood forests. The corridor will span the diversion canal between the Santee-Cooper Lakes, which are potential foraging and nesting habitat for American wood storks. Due to the availability of alternative foraging and nesting habitat outside of the corridor and on adjacent properties, the proposed action may affect, but is not likely to adversely affect wood storks. No wood storks or wood stork rookeries were observed within or immediately adjacent to the project corridor. Coordination with SCDNR and USFWS did not identify any rookeries near the project area.

DETERMINATION OF EFFECT

Based on our findings, we believe that the proposed action (1) “may affect, but is not likely to adversely affect” American chaffseed, Canby’s dropwort, and American wood stork, (2) will have no effect on Atlantic sturgeon, flatwoods salamanders, pondberry, red-cockaded woodpeckers, Shortnose sturgeon and West Indian manatees, and (3) will not likely disturb bald eagles. Direct and indirect impacts from past silviculture activity, ditching, dam construction and a lack of prescribed fire within the project area are the primary factors that likely negate the presence of any of the above listed species. The impacted area of the proposed action will be an approximately 50-foot wide right of way that will be located within the 200-foot wide study area, plus some expanded areas where minor alternatives in the original alignment may be considered.

We request your written concurrence with these findings. If you have questions or comments, please contact me at (843) 871-5383. Thank you for your assistance.

Sincerely,

Robert C. Strange
Sabine & Waters, Inc.

Enclosures

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Appendix E: Phase I Cultural Resources Survey

CAMP HALL RAIL PROJECT



**540 East Bay Street
Charleston, South Carolina**

25 July 2017

Appendix F: Preliminary Assessment of Existing Utilities

CAMP HALL RAIL PROJECT



**540 East Bay Street
Charleston, South Carolina**

25 July 2017

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1. Executive Summary

A preliminary utility report for the planning of the Camp Hall Railway Build-In has been performed. The current and preferred alignment of the rail project consists of approximately 23 miles of proposed track in Berkeley County, South Carolina. The proposed track line is mostly in rural areas, but its proposed alignment will cross or run parallel to several utilities. These proposed track alignment has the potential to affect existing utilities along the project corridor.

In order to facilitate the planning for the Camp Hall Rail project, field visits were completed and utility owners within the proposed project corridor were identified. Consistent with the level of effort for a planning-level preliminary utilities assessment, identified and collected utility records from owners within the project corridor were identified, however, additional utilities may exist within the project area. Additionally, the accuracy and locations of the existing utilities depicted in this assessment cannot be guaranteed. Due to the preliminary nature of the collected records, the utilities identified in this assessment should be used for planning purposes only.

The preliminary utilities assessment identified a number of existing utilities that may encroach upon the proposed railroad right of way.

In this report, the utility records serve as a planning tool that compared features of the proposed rail project to the existing utilities. Six (6) possible utility owners were identified within the proposed project corridor (See Table 1-1 below for a summary of the owners identified. For a more detailed listing of the utility owners' info, please Table 3-1 in Section 3.).

Table 1-1: Preliminary listing of utility owners

Preliminary Listing of Utility Owners^{1,2}
1) Santee Cooper Electrical Transmission
2) Berkeley Electric Cooperative Electrical Distribution
3) Santee Cooper Electrical Distribution
4) Home Telephone Company (Telephone, cable and fiber optic)
5) Berkeley County Water and Sanitation
6) TDS Telecom (Telephone, cable and fiber optic)

Notes:

- 1) Utility owners listed above in Table 1-1 were identified by conducting field visits, by identifying the utilities in the field, and by contacting with the utility owners. Therefore, the utilities, their locations, and any mention thereof in this report, are approximate and not deemed as complete (including exhibits and locations of utilities). The list of the utilities in Table 1-1 is for basic planning purposes only.
- 2) Gas mains within the proposed project corridor were not identified during initial field investigations.

Available utility records from the utility owners identified in Table 1-1 were collected and compared against the proposed Camp Hall Rail project, and identified areas of potential conflicts between the rail project and the existing utilities (See Table 1-2 below for a brief synopsis of the utility locations. For a more detailed listing of the locations, please see Table 3-1 in Section 3. For a set of basic set of exhibits depicting the approximate location of the utilities, see the Exhibits at the end of this report.).

Table 1-2: Preliminary listing of utility owners and approximate locations of utilities

Preliminary Listing of Utility Owners ¹	Approximate Locations of Utilities ²
Santee Cooper Electrical Transmission³	Santee Cooper has several Electrical Overhead Transmission lines that intersect the proposed rail alignment: 1) 0.83 mile NE of US 176 along the railroad alignment at coordinates 33°12'30.0" N 80°14'05.3" W; 2) 2.32 miles NE of US 176 along the railroad alignment at coordinates 33°13'28.0" N 80°13'00.2" W; 3) 0.96 mile south from SC 6 along the meandering railroad alignment at coordinates 33°16'04.2" N 80°10'28.3" W; 4) 440 feet NW of SC 311 along the railroad alignment at coordinates 33°17'00.0" N 80° 10' 24.1" W; 5) 0.64 mile east of Ranger Drive along the power line at coordinates 33°21'39.9" N 80° 07' 30.9" W 0.45 mile south from Springwood Road along the power line at coordinates 33°23'59.6" N 80° 06' 07.5" W . 6) 0.45 mile south from Springwood Road along the power line at coordinates 33°23'59.6" N 80° 06' 07.5" W
Berkeley Electric Cooperative (BEC) Electrical Distribution	1) Fish Road (S-8-309); 2) State Road (US 176); 3) Mudville Road (S-8-135); 4) SC 311; 5) Mikey Road; 6) Short Cut Road (S-8-60); 7) Old Highway 6; 8) Ranger Drive/Hwy 6 (S-8-132); and 9) Viper Road (S-8-708).
Santee Cooper Electrical Distribution	1) South of Springwood Road parallel to the existing railroad.
Home Telephone Company (Hometelco)⁴	1) Fish Road (S-8-309); 2) State Road (US 176); 3) Mudville Road (S-8-135); 4) SC 311; 5) Mikey Road; 6) Short Cut Road (S-8-60); 7) Old Highway 6; 8) Ranger Drive/Hwy 6 (S-8-132); and 9) Viper Road (S-8-708).
Berkeley County Water and Sanitation (BCW&S)	1) Mudville Road (S-8-135); 2) SC 311; 3) Short Cut Road (S-8-60); 4) Old Highway 6; and 5) Ranger Drive/Hwy 6 (S-8-132).

Notes:

- 1) Utility owners listed above in Table 1-2 were identified by field visits, identifying the utilities in the field, and contacting the utility owners.
- 2) Subsequent to performing a preliminary discovery of the utility owners, utility records were obtained from the utility owners. The information summarized in Table 1-1 and Table 1-2 above are preliminary in nature. Therefore, the utility owners, the utilities, their locations, and any mention thereof in this report, are approximate and not deemed complete (including exhibits and other tables).
- 3) Due to the complex nature of overlap between the existing Santee Cooper Electrical Overhead Transmission lines and the proposed rail line, please see Santee Cooper Electrical Transmission Exhibits 1 through 3 for additional clarification.
- 4) Hometelco's facilities are buried unless otherwise noted along the nine roadways in Table 1-2.
- 5) Gas mains within the proposed project corridor were not identified during initial field investigations.

Following collection of utility records, field reviews were conducted within the proposed rail corridor to identify the pertinent features associated with the Camp Hall Rail project. In order to complete the comparisons of the existing utilities with the proposed Camp Hall Rail project, meetings with the utility owners and the project design professionals will be conducted. At these meetings, the attendees will discuss potential crossings with the existing utilities and any possible encroachments of the utilities into the right-of-way of the proposed track system. Attendees must discuss any planned utility improvements for the proposed project area and site (e.g., extensions to existing waterlines or other utilities to the site, upgrading pipe sizes or materials, etc.).

Palmetto Railways utility surveying subconsultant will conduct these meetings with the utility owners and project designers. Subsequent to these meetings, a preliminary report will be prepared to summarize the extent of conflicts, the extent of prior rights, and available alternatives for conflict resolution and recommendations for relocation design. This preliminary information will be utilized to provide a recommendation concerning the locations and quality levels of subsurface utility engineering (SUE) needed.

In order to conduct these meetings with the utility owners, prepare a preliminary report and recommend levels/limits of SUE, Palmetto Railways should provide the following information to the SUE and UC team:

- ▶ The required minimum depth by Palmetto Railways for utilities going underneath their rail systems;
- ▶ Casing requirements for all utility crossings (e.g.: water, sewer, communications, electrical, etc.);
- ▶ The minimum vertical clearance for aerial lines crossing the track;
- ▶ The minimum horizontal clearance for utility lines running parallel to the track right of way;
- ▶ The width of the track right of way;
- ▶ Variations of right of way width;
- ▶ The depth of track subgrade below the track;
- ▶ If the depth of subgrade varies, please provide these areas;
- ▶ Track elevation changes (e.g.: bridge tie-ins) and the proposed profiles in these areas;
- ▶ Proposed track cross sections;
- ▶ The estimated construction start date; and
- ▶ Electronic files for the line coordinates of the proposed track line.

2. Introduction to the Camp Hall Rail project

Currently, Palmetto Railways is in the planning stages for developing the Camp Hall Rail project. The Camp Hall Rail project will be an industrial rail line system to serve the Camp Hall Commerce Park in Berkeley County, South Carolina. The proposed Camp Hall Rail project will connect to an existing railroad right-of-way near Santee Cooper's Cross Generating Station in Berkeley County.

Figure 2-1 below provides a preliminary project map depicting Santee Cooper's Cross Generating Station, the Camp Hall Commerce Park and the initial study area.



Figure 2-1: Planning process study map for the Camp Hall Rail project

2.1 Preliminary alignment of Camp Hall Rail project and preliminary utilities

Palmetto Railways will construct, own, operate and maintain the rail system for the Camp Hall Rail project. The preliminary preferred alignment of the industrial rail system will be approximately 23-miles long, and will mostly traverse rural areas, rural roads, wooded areas, wetlands and the Diversion Canal near SC Hwy. 45.

Using the proposed project corridor of the Camp Hall Rail project, a utility coordination team (UC team) gathered preliminary utility information from utility owners within the area of the project. After gathering the preliminary utility info, the UC team compiled a list of utilities along the route of the rail system. These utilities are the primary focus of this report. Some of the major utilities include Santee Cooper's Electrical Transmission lines and Berkeley Electric Cooperative's Distribution lines. In Section 3, findings are outlined concerning the gathering of preliminary utility information.

3. Preliminary identification of utilities

In order to identify the utilities within the Camp Hall Rail project limits, the UC Team conducted site visits. The UC Team also contacted six (6) utility owners to gather record drawings, as-built drawings and GIS information.

The UC Team obtained information from the following utility owners:

- ▶ Santee Cooper Electrical Transmission;

- ▶ Berkeley Electric Cooperative (BEC) Electrical Distribution;
- ▶ Santee Cooper Electrical Distribution;
- ▶ Home Telephone Company (Hometelco) - (Telephone, cable and fiber optic);
- ▶ Berkeley County Water and Sanitation (BCW&S); and
- ▶ TDS Telecom (TDS) - (Telephone, cable and fiber optic).

The UC Team assembled Table 3-1 below to identify approximate locations of the infrastructure belonging to the six (6) utility owners along the Camp Hall Rail project. Table 3-2 found below identifies the utility owners contacted as part of this investigation.

This is not an exhaustive identification of utilities and there may be other facilities within the project limits. Additionally, the locations of the identified utilities are approximate, not accurate and be used for planning purposes. Section 3.2 addresses the data collected to date concerning additional and future utilities.

Additionally, the records and maps collected from the utility owners were mostly rudimentary in nature. The utility owner's information is contained in preliminary exhibits in this report. The exhibits are for reference purposes only.

Table 3-1: Existing utility data identified¹

Utility Owners	Approximate Locations of Utility Impacts
Santee Cooper Electrical Transmission	The following is the info gathered relating to Santee Cooper's Overhead Transmission lines: 1) 0.83 mile NE of US 176 along the railroad alignment at coordinates 33°12'30.0" N 80°14'05.3" W (See Santee Cooper Electrical Transmission—Exhibit 1); 2) 2.32 miles NE of US 176 along the railroad alignment at coordinates 33°13'28.0" N 80°13'00.2" W (See Santee Cooper Electrical Transmission—Exhibit 1); 3) 0.96 mile south from SC 6 along the meandering railroad alignment at coordinates 33°16'04.2" N 80°10'28.3" W (See Santee Cooper Electrical Transmission—Exhibit 2); 4) 440 feet NW of SC 311 along the railroad alignment at coordinates 33°17'00.0" N 80° 10' 24.1" W (See Santee Cooper Electrical Transmission—Exhibit 2); 5) 0.64 mile east of Ranger Drive along the power line at coordinates 33°21'39.9" N 80° 07' 30.9" W (See Santee Cooper Electrical Transmission—Exhibit 3); and 6) 0.45 mile south from Springwood Road along the power line at coordinates 33°23'59.6" N 80° 06' 07.5" W (See Santee Cooper Electrical Transmission—Exhibit 3).
BEC Electrical Distribution BEC Electrical Distribution (Cont.)	The following is the info gathered relating to BEC's Distribution lines: 1) <u>Fish Road (S-8-309)</u>: There is a single-phase power line on south side of road with pole line terminating about 150 feet west of the proposed railroad. There are no communication attachments on this power line. There is a service drop to a construction office (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 1); 2) <u>State Road (US 176)</u>: There is a three-phase power line along the south side of the roadway with the nearest pole about 150 feet east of the proposed railroad. There are no communication attachments on this power line; (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 1);

	3) <u>Mudville Road (S-8-135)</u>: There is a three-phase power line along the north side of the roadway with the nearest pole about 110 feet east of the proposed railroad. There are no communication attachments on this power line; (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 2); 4) <u>SC 311</u>: There is a three-phase power line along the north side of the roadway with the nearest pole about 50 feet west of the proposed railroad. There are no communication attachments on this power line; (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 2); 5) <u>Mikey Road</u>: There is a single-phase power line located about 315 feet north of Mikey Road and approximately parallel to Mikey Road. The nearest power pole is 112 feet east of the proposed railroad. There are no communication attachments on this power line; (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 2); 6) <u>Short Cut Road (S-8-60)</u>: There is a single-phase power line along the east side of the roadway with the nearest pole about 75 feet south of the proposed railroad. There are no communication attachments on this power line; (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 2); 7) <u>Old Highway 6</u>: There is a three-phase power line along the north side of the roadway with the nearest pole about 50 feet west of the proposed railroad. There is a Home Telephone Company (Hometelco) attachment on the poles associated with the power line; (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 3); 8) <u>Ranger Drive/Hwy 6 (S-8-132)</u>: There is a three-phase power line along the east side of the roadway with the nearest pole about 125 feet north of the proposed railroad. There is a Hometelco attachment on the poles associated with the power line. (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 3); and 9) <u>Viper Road (S-8-708)</u>: There is a three-phase power line along the south side of the roadway with the nearest pole about 200 feet west of the proposed railroad. There is a Hometelco attachment on the poles associated with the power line. (See Berkeley Electric Cooperative Electrical Distribution – Exhibit 3).
Santee Cooper Electrical Distribution	The following is the info gathered relating to Santee Cooper's Distribution's lines: 1) Santee Cooper has a 34 kV three-phase power line located 30 feet west and parallel to existing railroad south of Springwood Road. There may be three to four poles impacted by the proposed railroad (See Santee Cooper Electrical Distribution – Exhibit 1).
Hometelco Hometelco (Cont.)	The following is the info gathered relating to Hometelco's Facilities²: 1) <u>Fish Road (S-8-309)</u>: There is a 200 pair copper and a 20-strand fiber on the north side of the road. There is a 100 pair copper, a 144-strand fiber and a spare 1¼" PVC duct on the south side of the road. There is a traffic resistant hand hole on the south side that may be impacted by the proposed railroad; (See Home Telephone Company– Exhibit 1); 2) <u>State Road (US 176)</u>: There is a 100 pair copper, a 48-strand fiber and a spare 1¼" PVC duct on the north side of the road. There are two 200 pair copper cables and a 10-strand fiber on the south side of the road; (See Home Telephone Company– Exhibit 1);

	3) <u>Mudville Road (S-8-135)</u>: There is a single 50 pair copper on the north side of the road. There is a 50 pair copper and a 10-strand fiber on the south side of the road; (See Home Telephone Company– Exhibit 2); 4) <u>SC 311</u>: There is a 100 pair copper and an 8-strand fiber on the north side of the road. There is a 600 pair copper, a 48-strand fiber and a spare 1¼" PVC duct on the south side of the road; (See Home Telephone Company– Exhibit 2); 5) <u>Mikey Road</u>: There is a single 2 pair copper on the north side of the road; (See Home Telephone Company– Exhibit 2); 6) <u>Short Cut Road (S-8-60)</u>: There is a single 50 pair copper on the east side of the road; (See Home Telephone Company– Exhibit 2); 7) <u>Old Highway 6</u>: There is a 22 pair copper, a 100 pair copper and a 12-strand fiber on the north side of the road. There is also coax aerial attachment on the power poles on the north side. There is a 75 pair copper, a 300 pair copper and a 200 pair copper on the south side of the road; (See Home Telephone Company– Exhibit 3); 8) <u>Ranger Drive/Hwy 6 (S-8-132)</u>: There is a single 100 pair copper on the east side of the road. There is also a coax aerial attachment on the power poles on the east side of the road. There is a 100 pair copper and a 24-strand fiber on the west side of the road; (See Home Telephone Company– Exhibit 3); and 9) <u>Viper Road (S-8-708)</u>: There is a 24-strand fiber and coax aerial attachments on the power poles on the south side of the road. (See Home Telephone Company– Exhibit 3).
Berkeley County Water and Sanitation (BCW&S)	The following is the info gathered relating to BCW&S' Water Main: 1) <u>Mudville Road (S-8-135)</u>: There is a 6" PVC water main on the north side of the roadway. There is a hydrant approximately 280 feet east of the proposed railroad; (See Berkeley County Water & Sanitation – Exhibit 1); 2) <u>SC 311</u>: There is a 12" PVC water main on the south side of the roadway. There is a hydrant approximately 285 feet west of the proposed railroad; (See Berkeley County Water & Sanitation – Exhibit 1); 3) <u>Short Cut Road (S-8-60)</u>: There is a 12" PVC water main on the west side of the roadway. There is a hydrant approximately 500 feet north of the proposed railroad; (See Berkeley County Water & Sanitation – Exhibit 1); 4) <u>Old Highway 6</u>: There is a 12" PVC water main on the south side of the roadway. There is a hydrant approximately 210 feet east of the proposed railroad; (See Berkeley County Water & Sanitation – Exhibit 2); and 5) <u>Ranger Drive/Hwy 6 (S-8-132)</u>: There is an 8" PVC water main on the east side of the roadway. There is a hydrant approximately 425 feet south of the proposed railroad. (See Berkeley County Water & Sanitation – Exhibit 2).
TDS Telecom (TDS)	The following is the info gathered relating to TDS' Buried Facilities: 1) <u>Viper Road (S-8-708)</u>: There is a single 50 pair cable on the north side of the road and, a 50 pair cable, a 200 pair cable and a 24-strand fiber on the south side of the road. (See TDS Telecom – Exhibit 1)

Notes:

- 1) All utility locations above are from records supplied by utility owners, are approximate, and cannot be deemed as complete. The locations are for basic planning purposes only.
- 2) Hometelco's facilities are buried unless otherwise noted along the nine roadways in Table 3-1.

- 3) There were no natural gas facilities found within the project limits.

Table 3-2: Contact info of utility owners

Utility Owner	Contact Name & Address	Phone #	Email
Santee Cooper Electrical Transmission	Teresa Hensley One Riverwood Drive P.O. Box 2946101 Moncks Corner, SC 29461-2901	843-761-8000 Ext. 7207	teresa.hensley@santeecooper.com
BEC Electrical Distribution	John Hall 551 Rembert C. Dennis Blvd. P.O. Box 1234 Moncks Corner, SC 29461	843-559-2458	johnh@bec.coop
Santee Cooper Electrical Distribution	John Ackerman One Riverwood Drive P. O. Box 2946101 Moncks Corner, SC 29461-2901	843-351-4586 Ext. 6276	john.ackerman@santeecooper.com
Hometelco	Steve Cooper 579 Stoney Landing Rd Moncks Corner, SC 29461	843-761-9541	steve.cooper@hometelco.com
BCW&S	Joshua Hawkins 212 Oakley Plantation Drive Moncks Corner, SC 29461	843-719-2313	joshua.hawkins@berkeleycountysc.gov
TDS Telecom	Kevin Barnette Manager of NC & SC Field Services St. Stephens, SC	843-567-3122	kevin.barnette@tdstelecon.com

3.1 Preliminary identification of future utilities

Utility owners and other infrastructure providers were contacted to determine if there is any future infrastructure planned for the Camp Hall Commerce Park, or in and around the Camp Hall Rail project limits. This was a preliminary contact and analysis performed by the project team to gather the info.

The following projects are planned for the area:

► **Transportation – Roadways:**

- Volvo Car Drive (north): Under Construction between Fish Drive and US 176; and
- Railway Crossover – Volvo Car Drive: Approximately 2,375' from Fish Road.

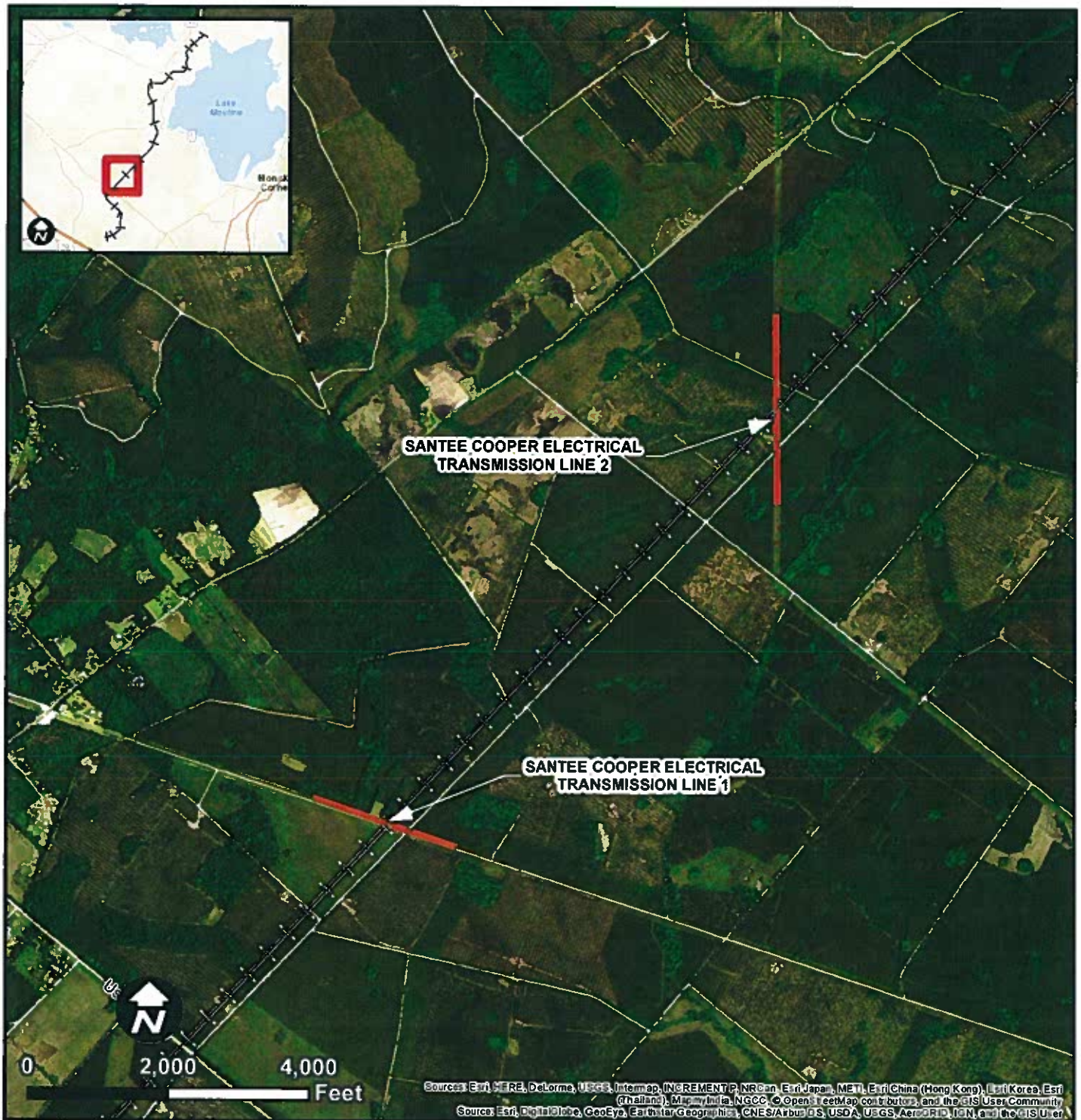
► **Water and Sewer Service:**

- Water main is under construction on the north for Volvo Car Plant and will be installed on the west side of Volvo Car Drive. Berkeley County Water and Sanitation will furnish water in a 12" PVC main. There will be a potential conflict about 2,390' from Fish Road; and

- ▶ Sewerage will be out of the south side of the Volvo Car Plant via a pipeline by I-26 and treated either in Summerville or Goose Creek.
- ▶ Natural Gas:
 - ▶ SCE&G will furnish natural gas via a high-pressure main from at Ridgeville and installed near SC 27, then under I-26 to the south side of the Volvo Car Plant.
- ▶ Electrical Power Distribution:
 - ▶ Berkeley Electric Cooperative will furnish power via a 25 kV underground power line from US 176 to the Volvo Car Plant. This underground power line will be installed on the east side of Volvo Car Drive. There will be a potential conflict about 2,360' from Fish Road.
- ▶ Electrical Power Transmission:
 - ▶ Santee Cooper will furnish power via their Pringletown - Wassamasaw transmission line to the north side of the Volvo Car Plant.

Santee Cooper Electrical
Transmission
Exhibits

**Santee Cooper Electrical
Transmission
Exhibit 1**



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LEGEND

- Santee Cooper Transmission Line
- + + Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY SANTEE COOPER ELECTRICAL TRANSMISSION - EXHIBIT 1 Camp Hall Commerce Park Rail Spur Berkeley County, South Carolina

Job No. 6250160108

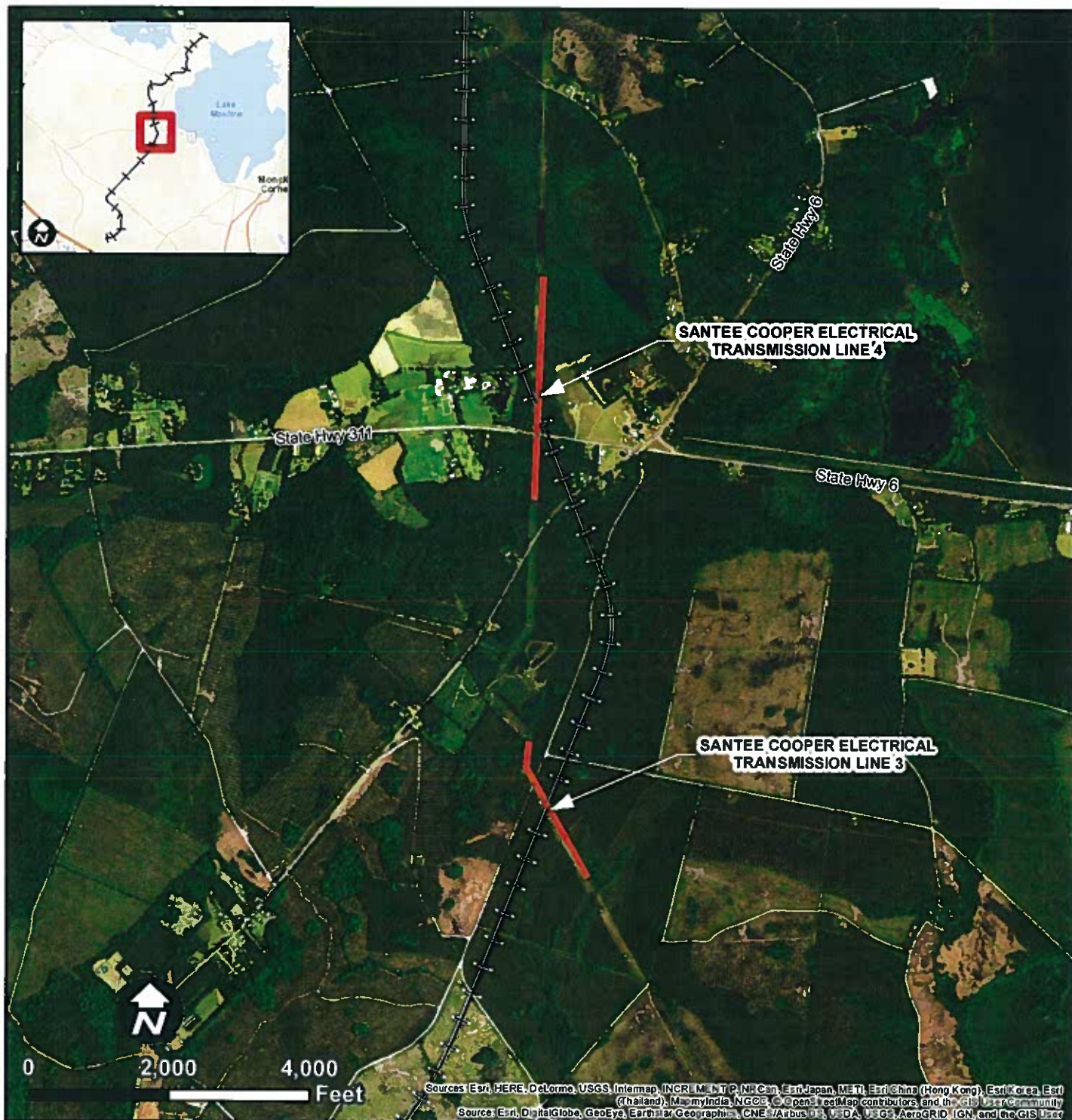
Drawn By: JMS

Reviewed By: BWS

Date: 5/2/2017

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Santee Cooper Electrical Transmission Exhibit 2



Document Path: F:\AMEC_Projects\2016CampHallRail\GIS\MapX\DWG\MapX\MapX_Santee_Transmission_Exhibit2.mxd



LEGEND

- Santee Cooper Transmission Line
- + + Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY SANTEE COOPER ELECTRICAL TRANSMISSION - EXHIBIT 2 Camp Hall Commerce Park Rail Spur Berkeley County, South Carolina

Job No. 6250160108

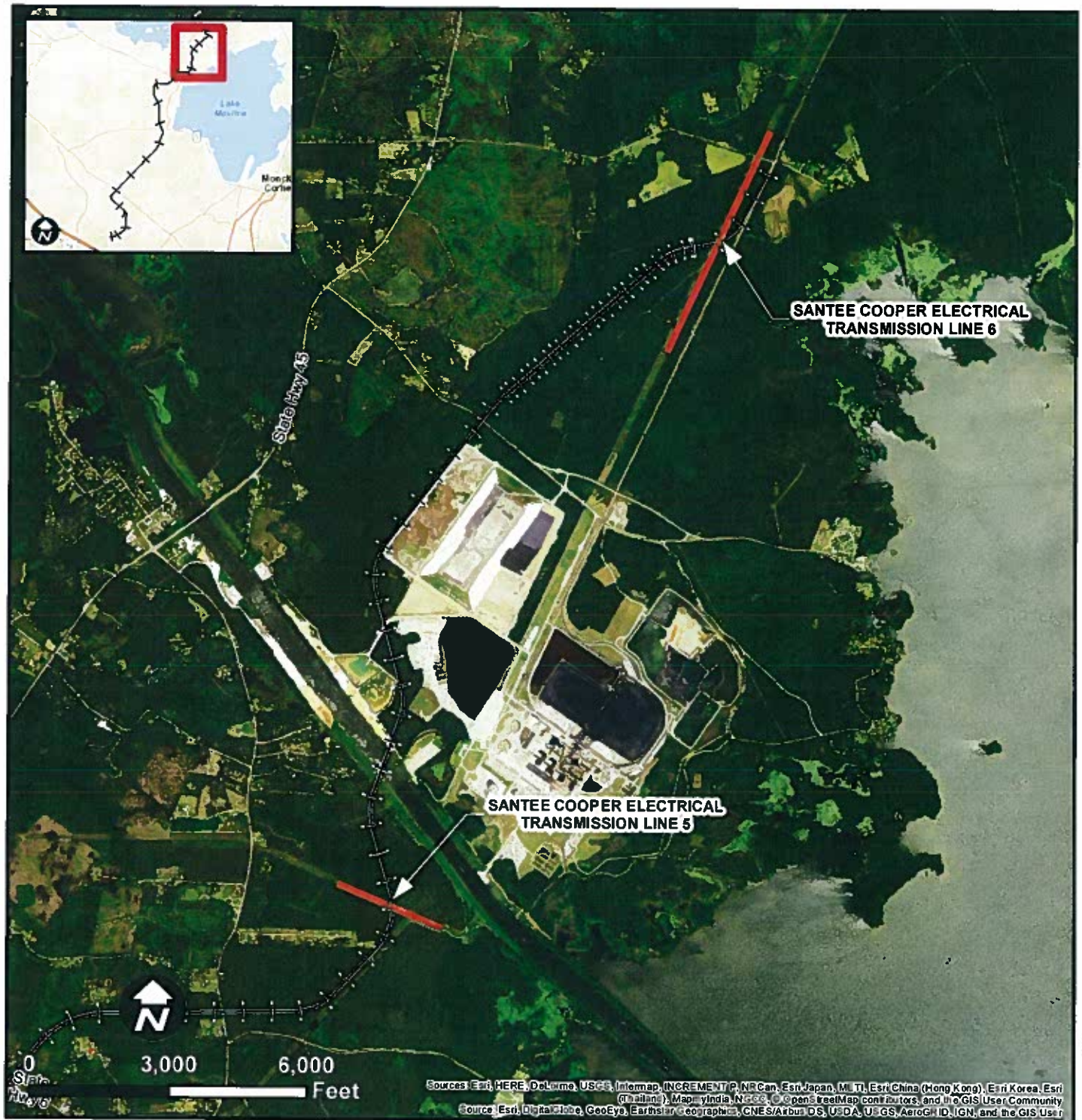
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Reviewed By: BWS

Date: 5/2/2017

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**Santee Cooper Electrical
Transmission
Exhibit 3**



Document Path: F:\AMEC_Projects\2016\CampHallRailLine\GIS\MapDocs\MapLayout\Santee_Transmission_Exhibits.mxd



LEGEND

- Santee Cooper Transmission Line
- +— Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY Santee Cooper ELECTRICAL TRANSMISSION - EXHIBIT 3 Camp Hall Commerce Park Rail Spur Berkeley County, South Carolina

Job No. 6250160108

Drawn By: JMS

Reviewed By: BWS

Date: 5/2/2017

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Berkeley Electric
Cooperative Electrical
Distribution
Exhibits

**Berkeley Electric Cooperative
Electrical Distribution
Exhibit 1**



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Legend

- Power Line
- +— Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY BERKELEY ELECTRIC COOPERATIVE ELECTRICAL DISTRIBUTION - EXHIBIT 1 Camp Hall Commerce Park Rail Spur Berkeley County, South Carolina

Job No. 6250160108

Drawn By: BWS

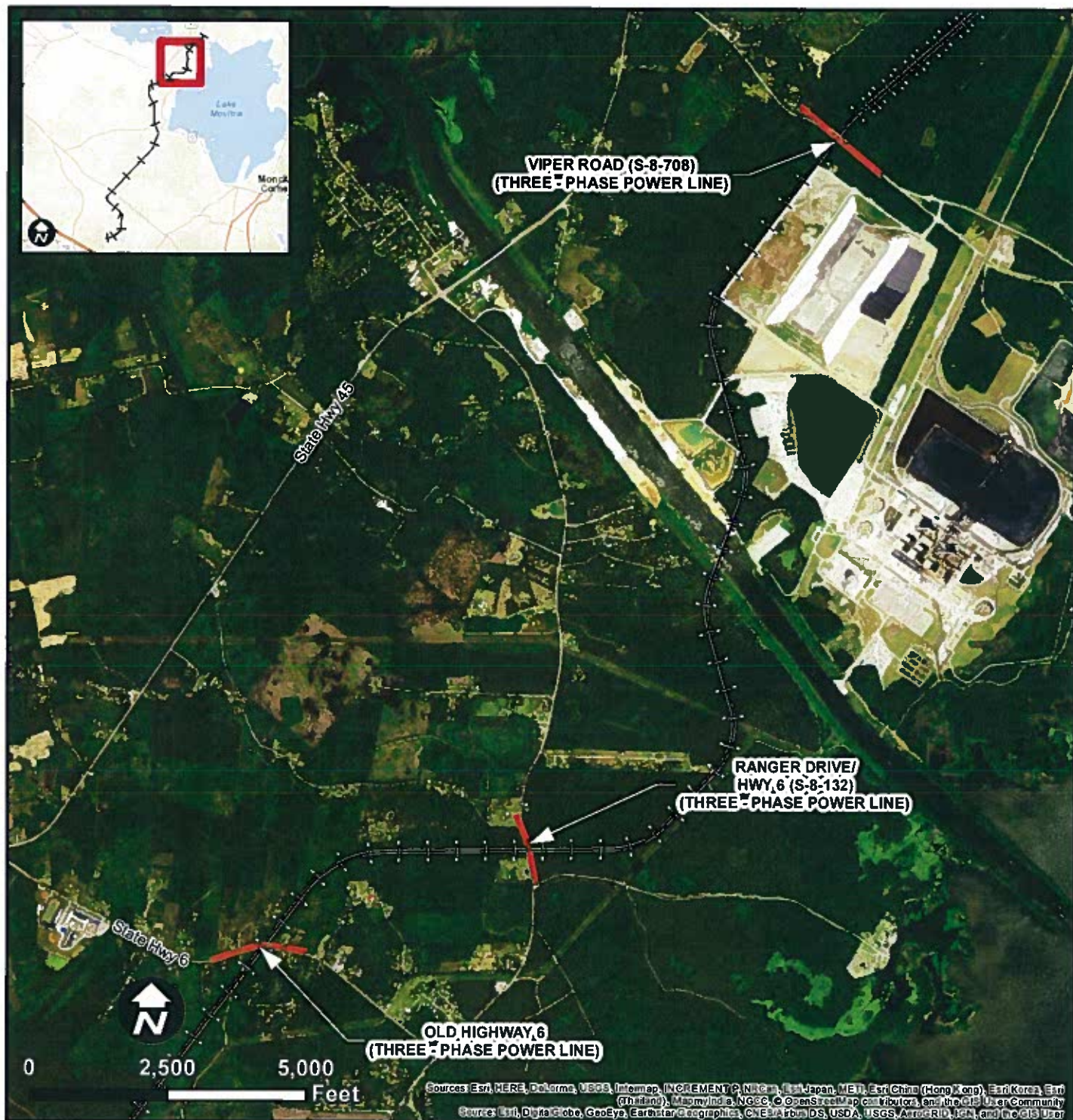
Reviewed By: AWC

Date: 6/28/2017

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**Berkeley Electric Cooperative
Electrical Distribution
Exhibit 2**

**Berkeley Electric Cooperative
Electrical Distribution
Exhibit 3**



Document Path: F:\AMEC_Projects\2016\CampHallRail\GIS\Map\NewMapLayout\BCEXHIBIT_3.mxd



LEGEND

— Power Line

+ + Proposed Railroad

**CAMP HALL RAIL LINE EXISTING UTILITY
BERKELEY ELECTRIC COOPERATIVE
ELECTRICAL DISTRIBUTION - EXHIBIT 3**
Camp Hall Commerce Park Rail Spur
Berkeley County, South Carolina

Job No.	6250160108
Drawn By:	JMS
Reviewed By:	BWS
Date:	5/2/2017

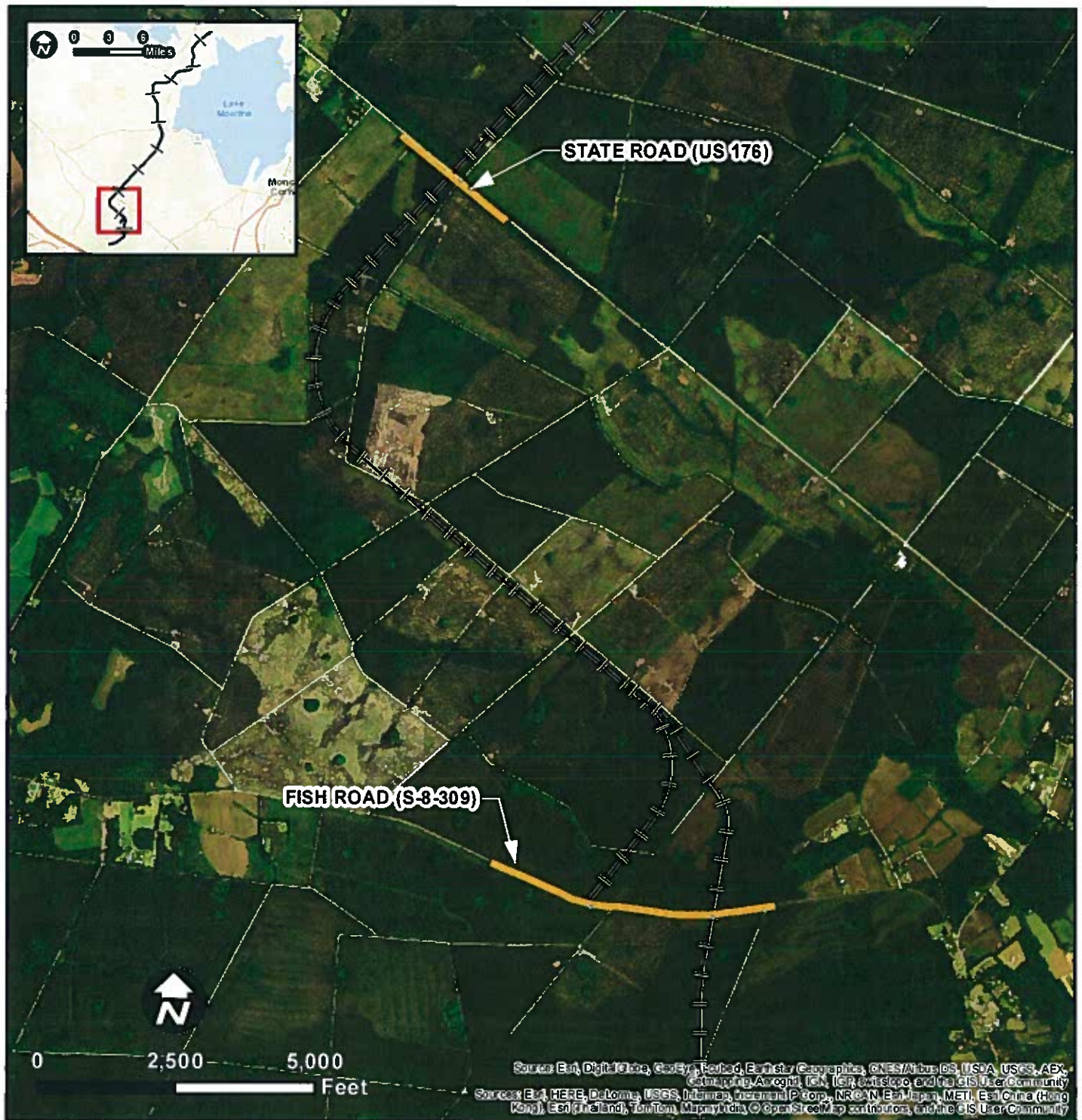
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Santee Cooper Electrical
Distribution
Exhibit

**Santee Cooper
Electrical Distribution
Exhibit 1**

Home Telephone Company **Exhibits**

Home Telephone Company Exhibit 1



Document Path: P:\Environmental\2012 + Project\0108 - Palmetto Railways - Camp Hall Buried in Utility\GIS\WTC E-1.mxd



Legend

- Telecom Line (Buried)
- +— Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY HOME TELEPHONE COMPANY

EXHIBIT 1

Camp Hall Commerce Park Rail Spur
Berkeley County, South Carolina

Job No. 6250160108

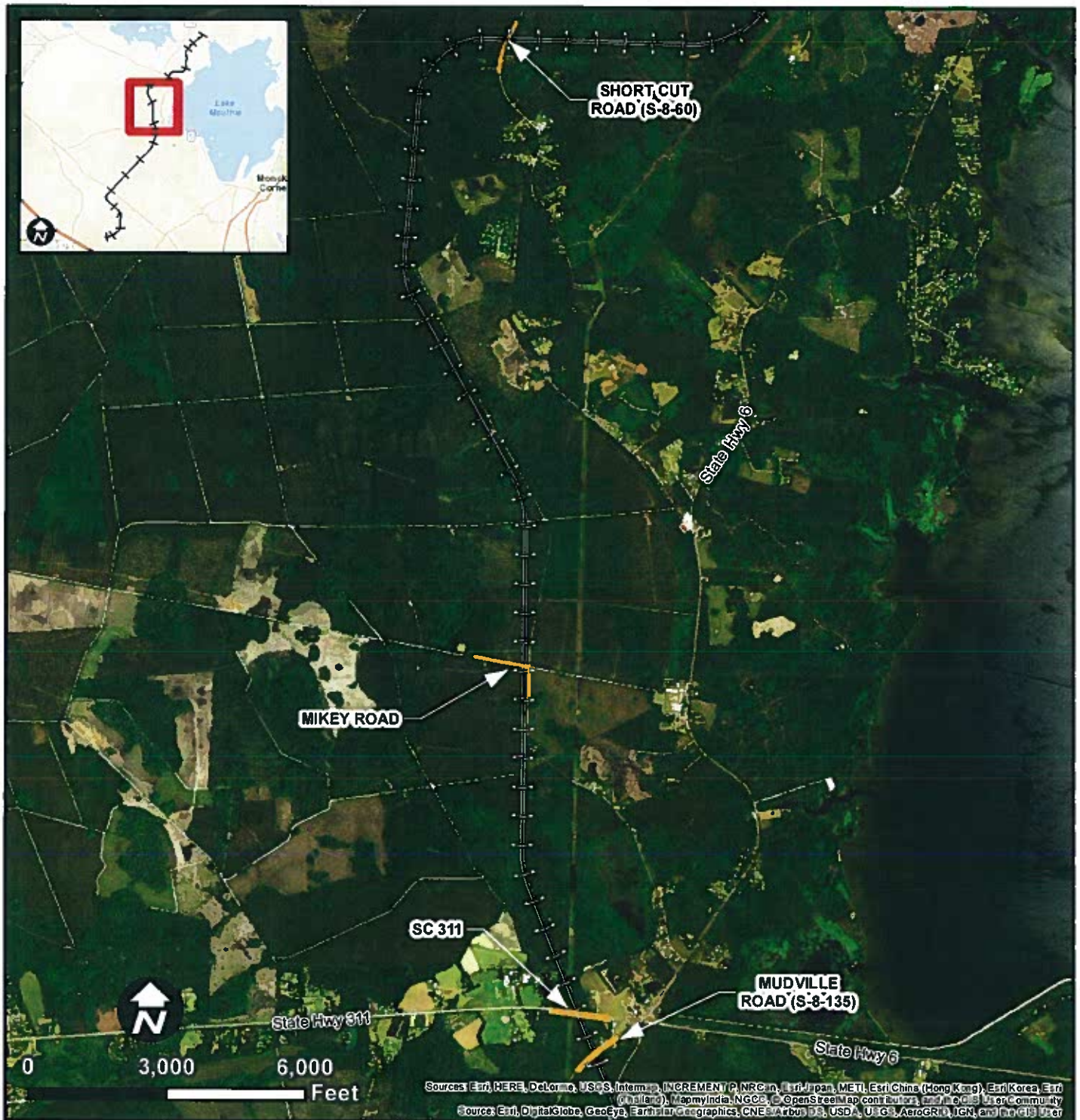
Drawn By: BWS

Reviewed By: AWC

Date: 6/28/2017

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Home Telephone Company Exhibit 2



Document Path: F:\AMEC\Projects\2016\CampHallRailLine\GIS\MapXD\NewMap\yourHEMETELCO_EXHIBIT2.mxd



LEGEND

- Telecom Line (Buried)
- + + Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY HOME TELEPHONE COMPANY EXHIBIT 2

Camp Hall Commerce Park Rail Spur
Berkeley County, South Carolina

Job No. 6250160108

Drawn By: JMS

Reviewed By: BWS

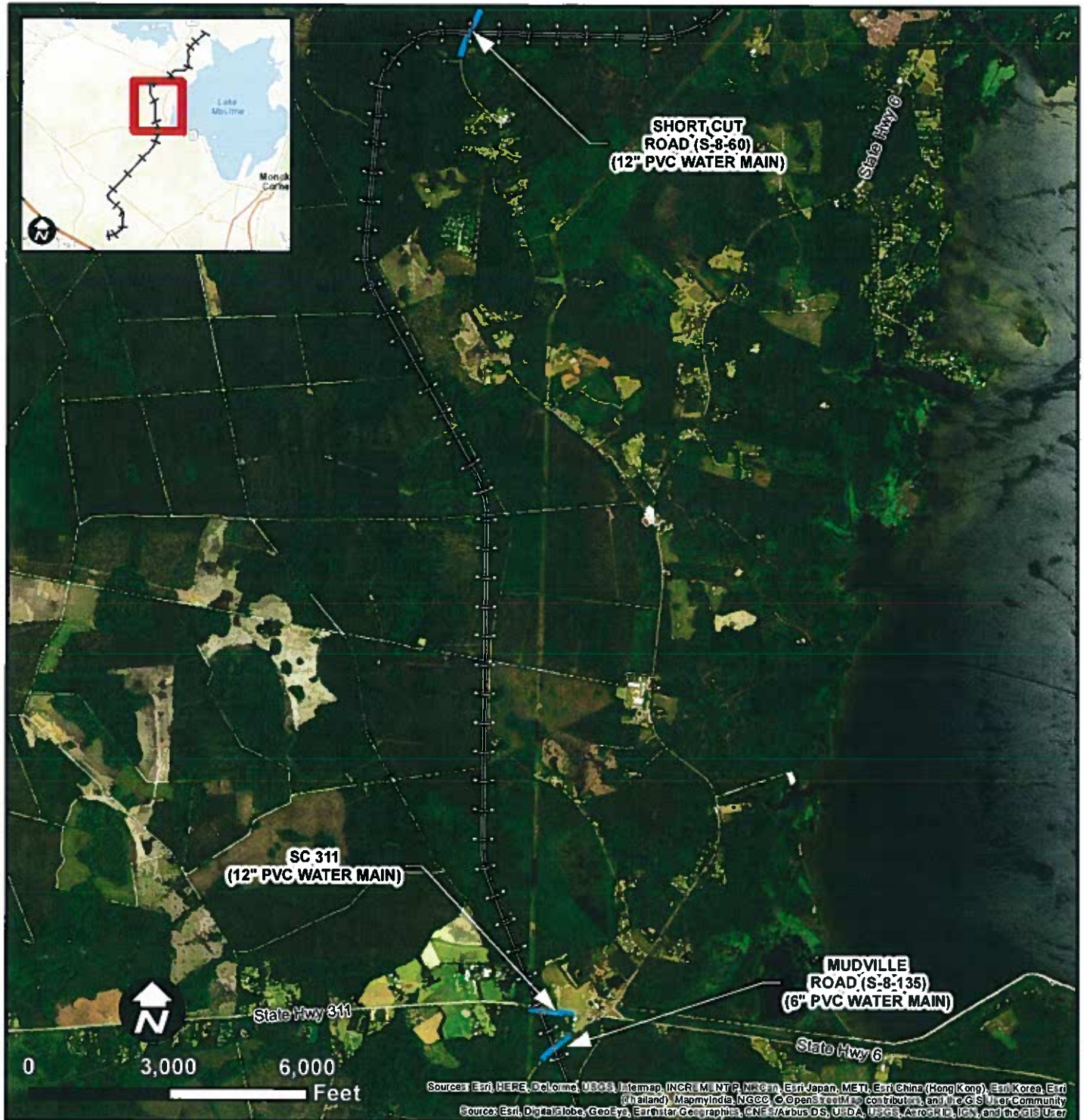
Date: 5/2/2017

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Home Telephone Company Exhibit 3

Berkeley County
Water & Sanitation
Exhibits

**Berkeley County
Water & Sanitation
Exhibit 1**



Document Path: F:\AMEC_Projects\2016\CampHallRail\in\GIS\MapDocs\NewMapLayout\BCWS_EXHIBIT1.mxd



LEGEND

- Water Main
- + + Proposed Railroad

CAMP HALL RAIL LINE EXISTING UTILITY BERKELEY COUNTY WATER & SANITATION EXHIBIT 1

Camp Hall Commerce Park Rail Spur
Berkeley County, South Carolina

Job No. 6250160108

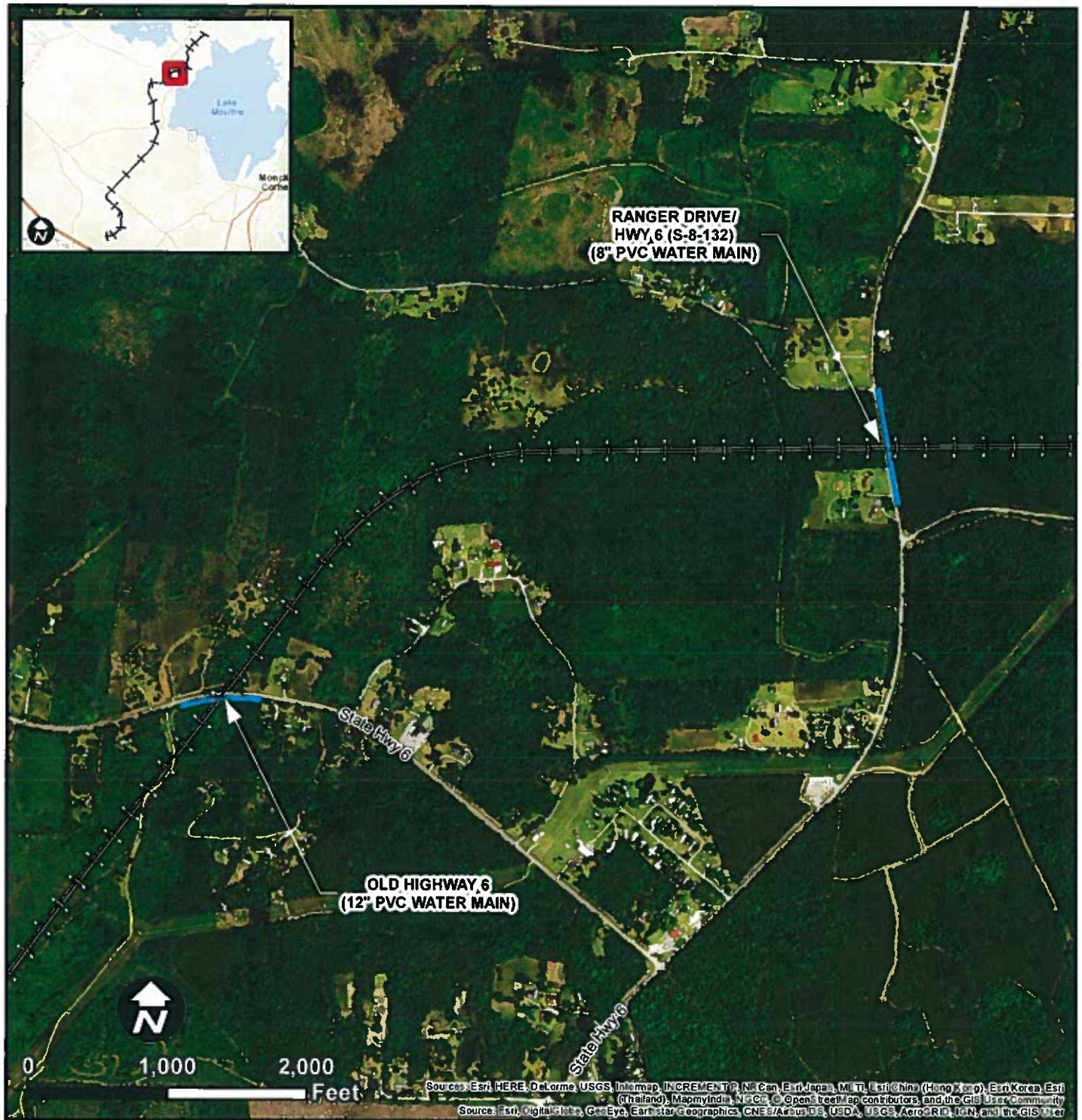
Drawn By: JMS

Reviewed By: BWS

Date: 5/2/2017

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**Berkeley County
Water & Sanitation
Exhibit 2**



Document Path: F:\AMEC_Projects\2016\CampHallRail\GIS\MapDocs\NewMapLayout\BCW&S_EXHIBIT2.mxd



LEGEND

——— Water Main

+ + + Proposed Railroad

**CAMP HALL RAIL LINE EXISTING UTILITY
BERKELEY COUNTY WATER & SANITATION
EXHIBIT 2**

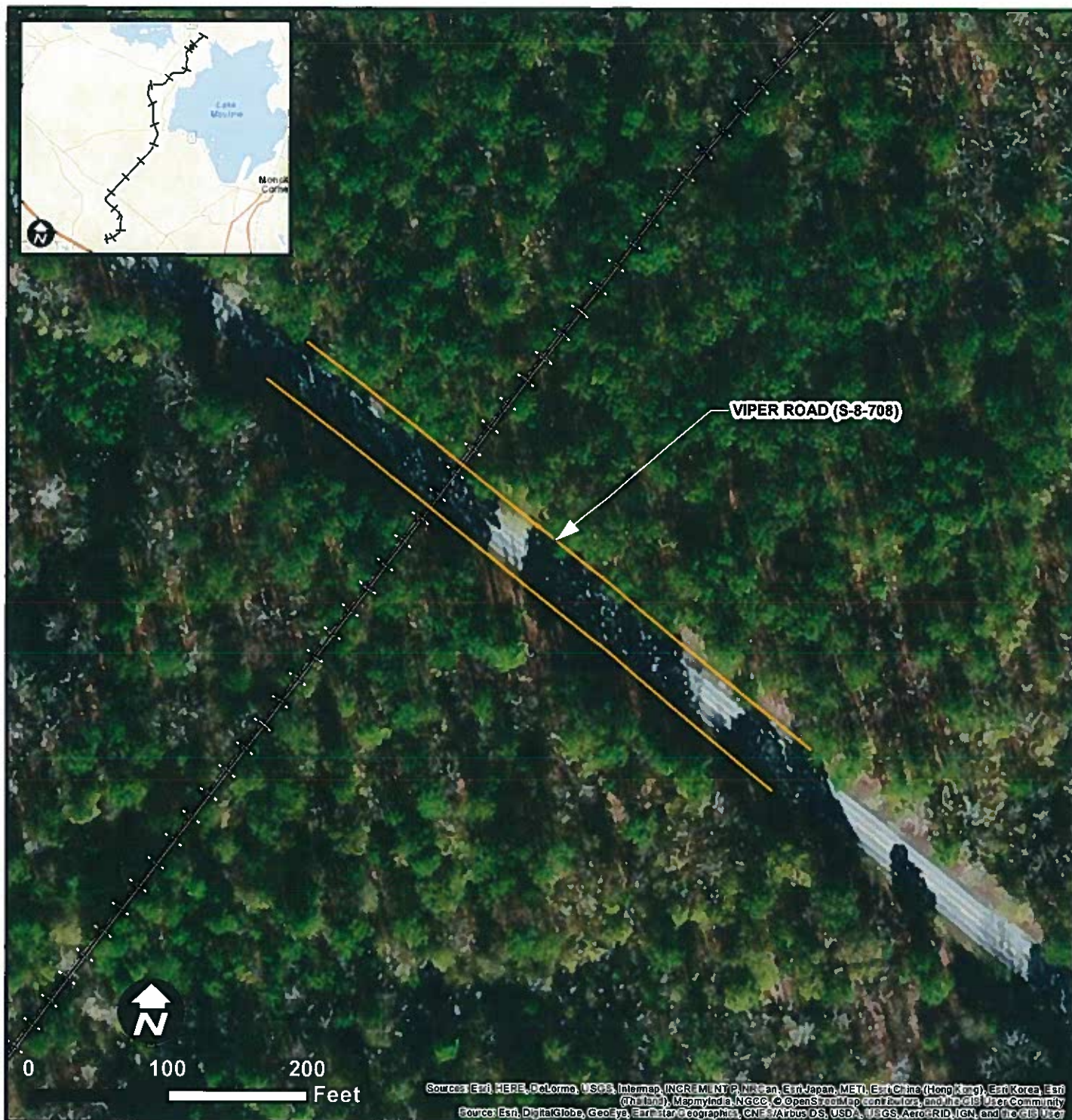
Camp Hall Commerce Park Rail Spur
Berkeley County, South Carolina

Job No.	6250160108
Drawn By:	JMS
Reviewed By:	BWS
Date:	5/2/2017

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TDS Telecom **Exhibit**

TDS Telecom Exhibit 1



Appendix G: Draft Wetlands Mitigation Plan

**CAMP HALL RAIL PROJECT
BERKELEY COUNTY, SOUTH CAROLINA
SAC: 2016-01395**



**540 East Bay Street
Charleston, South Carolina**

27 July 2017

Camp Hall Rail Project Conceptual Wetlands Mitigation Plan

Submitted by: Open Space Institute

7/20/17

Summary:

Impacts to jurisdictional Waters of the United States associated with the Camp Hall Rail Project will be accounted for with 1,308 freshwater wetlands restoration/preservation credits. The Permittee Responsible Mitigation Plan will generate approximately 1,258 credits from enhancement and preservation activities proposed on the Fairlawn C-1 tract (described below) and 60 wetland credits will be provided by the Francis Beidler Forest Mitigation Bank to account for wetland impacts in the Four Hole Swamp watershed.

Fairlawn C-1 Proposed Mitigation Tract (PMT) Work Plan

The Fairlawn C-1 property is an approximately 1,550-acre inholding strategically located within the Francis Marion National Forest proclamation boundary in Berkeley and Charleston Counties (Figure 1) and contains the headwaters of the Wando River, which drains into the Cooper River watershed. Of these 1,550 acres, 1,000 acres (hereafter PMT) are being proposed to offset the impacts associated with the Camp Hall Rail Project. Fairlawn has been identified as one of the highest-ranking priorities for the United States Forest Service (USFS) in the entire country, a view widely shared by other State and Federal natural resource agencies and environmental groups. The Open Space Institute is poised to acquire PMT, conduct restoration on the property and convey it to the USFS for this mitigation project. PMT is surrounded by conservation land and other mitigation, restoration, and enhancement projects. The property lies on a unique geological formation known as the Cainhoy Ridge, a known reservoir for rare, threatened, and endangered species. The surrounding areas of the Francis Marion National Forest and Cape Romain National Wildlife Refuge have been recognized as areas of international significance for wildlife and wetlands, including recognition by the United Nations as a Culturally Significant Biosphere Reserve and Ramsar Wetland of International Significance.

The primary impacts to the property include fire suppression and silviculture impacts. Mitigation activities include ecological enhancement and preservation of the site and then transference of the property to the USFS, which would assume long-term management and ownership obligations in accordance the Conservation Land Use Agreement between USFS and the Army Corps of Engineers. The PMT Work Plan will permanently protect and make open to the public 1,000 acres of land, including approximately 593 acres of wetlands.

The upland areas of the site were likely pine flatwoods grading toward pine savannah prior to loblolly pine conversion. Depressional areas scattered throughout the flatwoods/savannah are pond cypress ponds or swamp tupelo ponds. The lower landscape positions which appear as more linear features grade from flatwood/savannah to bottomland hardwoods. Areas within the bottomland hardwoods may grade into bald cypress-tupelo gum swamp where these areas may be inundated for most of the year.

1. Wetland Preservation

Wetland preservation within PMT is anticipated to protect approximately 43 acres of wetlands, as shown in Figure 2. The proposed wetland preservation areas lie within depressional wetland ponds and bottomland hardwood forest communities.

2. Natural Community Reestablishment (Wetland Enhancement)

The mitigation work plan proposes to re-establish native plant communities which were removed or encroached upon by past silvicultural activities to establish loblolly pine plantations. Longleaf pine flatwoods/savannahs will be established in areas which have recently been clear-cut or will be cleared as part of mitigation activities. Fringe hardwood or bottomland hardwood forest communities will be established within low wet areas which are not conducive to longleaf pine establishment through the Francis Marion National Forest Management Plan (FMNFMP).

A detailed wetland and vegetative community delineation has not been completed, therefore Figure 2 does not differentiate between enhancement activities. The wetland enhancement work plan to be implemented on PMT will be categorized by activities based on the existing habitats and are anticipated to include the following prescriptions:

a) Longleaf Pine Flatwoods/Savannah Establishment and Enhancement

Areas within PMT which are not currently in longleaf will be cleared and converted to a Longleaf Pine Flatwood/Savannah community. Loblolly pine will be logged prior to site preparation for longleaf pine planting. Logging will be conducted in such a way as to reduce damage to the soil and existing topography.

Clear-cut areas, either clear-cut prior to mitigation work or as part of the mitigation plan, will be mechanically prepared where necessary to allow for successful longleaf pine establishment. Logging decks, debris piles, and bark piles will be managed either by windrowing or burning, or some combination thereof. Minor mechanical site prep may be required to deal with existing bedded areas or those areas that have been heavily impacted by previous logging operations. The extent of mechanical site prep will be determined following additional data collection.

Following a spring and summer of growth in the clear-cut areas, a herbicide spray will be utilized to kill green vegetation and a site preparatory burn may be conducted to remove competing vegetation and woody debris.

Longleaf pine seedlings will be planted during the dormant season (December to March). Containerized bareroot seedlings will be used. Longleaf pine seedlings will be planted at a density of approximately 435 stems per acre. The FMNFMP prescribes continued burning and restoration activities that provide reasonable and material assurance of project success after conveyance to USFS.

b) Bottomland Hardwoods and Wet Pine Savannah Establishment

Wetland areas on the PMT which have previously been converted to loblolly pine plantations and are marginal for successful longleaf pine establishment will be thinned to a basal area of 40-50 square feet per acre to open the forest canopy. Over time, these areas will become mixed bottomland hardwood stands or wet pine savannahs depending on the USFS's fire regime and other natural factors.

c) Prescribed Burns

A prescribed burn schedule will be developed for the proposed pine savannah/flatwood enhancement areas. All initial and subsequent burns will be conducted by prescribed fire professionals, most likely USFS staff. It is anticipated that prescribed burning activities beyond the initial burn will be implemented by the U.S Forest Service pursuant to the FMNFFMP. Fire intensity will be adjusted in subsequent years to provide the best results of this habitat management technique. Burns will be conducted when conditions favor fire across the range of forest communities on PMT.

d) Stream Preservation

Stream preservation within PMT is anticipated to protect approximately 14,000 linear feet of streams. At this time, stream lengths have only been calculated using the available USGS Topographical maps and aerial imagery.

3. Planting Plan for Longleaf Pine Savanna / Flatwood Community

Longleaf pine will be planted at a density of approximately 435 trees per acre (10 ft. x 10 ft. spacing). Seedlings will be distributed uniformly during planting, while maintaining the proper average number of trees per acre. It is anticipated that herbaceous species will recruit naturally.

Table 1. Planting Plan, Longleaf Pine Savanna/Flatwood Community

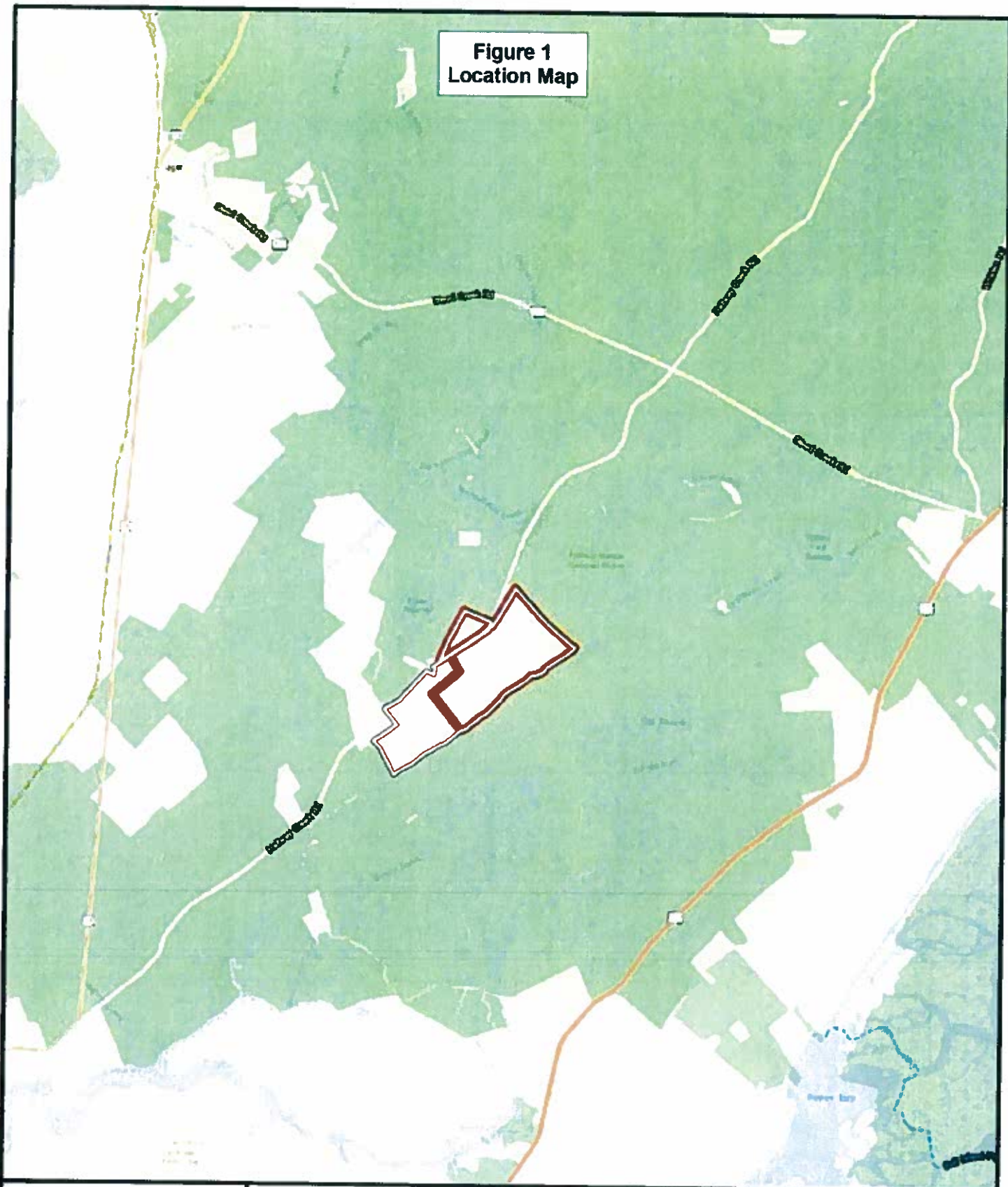
Scientific name	Common name	Frequency (Percent)	Stocking Rate per Acre
<i>Pinus palustris</i>	Longleaf Pine	100	435
Notes: Seedlings will be stocked at up to 435 stems per acre (10 foot by 10 foot spacing) to allow for natural mortality.			

4. Conveyance to the U.S. Forest Service

The PMT property will be conveyed to the USFS to be managed as additions to the Francis Marion National Forest, subject to the same protections and use requirements defined in the FMNFMP. The land will be managed as USFS land in perpetuity through the Conservation Land Use Agreement and the FMNFMP.

The preamble to the conveyance deed will state the project name and identify that lands being conveyed are for purposes of compensatory mitigation for environmental impacts caused as a result of the Camp Hall Project. Appropriate restrictive deed covenants will be put in place to ensure the lands are held as compensatory mitigation lands in perpetuity to meet the project mitigation requirements, or alternative mitigation will be provided consistent with current federal law and applicable executive guidance.

**Figure 1
Location Map**



Fairlawn C1

Berkeley and Charleston County
South Carolina

-  Fairlawn C1 Parcel
-  Mitigation Boundary - 1,000 Acres
-  Protected Lands



Notes:



0 6,000 12,000 Feet

**Figure 2
Proposed Mitigation Plan**



PROPOSED WETLAND MITIGATION TABLE				
Factors	Options			
Net Improvement	0.0** ← to → 3.0 (see Section 3.0 for examples of potential values)			
Upland Buffer	0.0 ← to → 1.0 (see Section 3.0 for examples of potential values)			
Credit Schedule	Not Applicable 0**	After 0.1	Concurrent 0.2	Before 0.5
Temporal Loss	Not Applicable 0**	0 to 5 Years 0.1	5 to 10 Years 0.2	10 to 20 Years 0.3 Over 20 Years 0.4
Kind	Out of Kind 0		In Kind 0.4	
Location	Case by Case 0	Drainage Basin 0.1	Adjacent 8-Digit MUC 0.2	8-Digit MUC 0.4

** Use this option to calculate credit for Preservation

PROPOSED WETLAND MITIGATION CREDIT WORKSHEET					
Factor	Area 1	Area 2	Area 3	Area 4	Area 5
Net Improvement	1.0	1.0	0.0		
Upland Buffer	0.8				
Credit Schedule	Concurrent	Concurrent	Not Applicable		
Temporal Loss	10 to 20 Years	10 to 20 Years	Not Applicable		
Kind	In Kind	In Kind	In Kind		
Location	8-Digit MUC	8-Digit MUC	8-Digit MUC		
Sum of Factors	2.6	1.8	0.8		
Mitigation Area	292	258	43		
M x A *	759.2	464.4	34.4		
Proposed Wetland Mitigation Credits = 1,258 (A) =				1258	

Fairlawn C1

Berkeley and Charleston County
South Carolina

- Mitigation Boundary - 1000 Acres
- Wetland Enhancement - 550 Acres
- Wetland Preservation - 43 Acres
- 150-Foot Upland Buffer - 292 Acres



Notes:



0 1,000 2,000 Feet

AVOIDANCE, MINIMIZATION AND MITIGATION PLAN

**CAMP HALL RAIL PROJECT
BERKELEY COUNTY, SOUTH CAROLINA
SAC: 2016-01395**

PREPARED FOR:



**PALMETTO RAILWAYS
540 EAST BAY STREET
CHARLESTON, SOUTH CAROLINA**

JULY 27, 2017

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1. EXECUTIVE SUMMARY

Development within the Camp Hall Commerce Park has increased the demand for rail service to interconnect the commerce park with the existing rail network of CSX Transportation in Berkeley County, South Carolina, in a manner that is logistically feasible to better serve the needs of industry within the Camp Hall Commerce Park for transportation, distribution, and logistics. To accomplish this, Palmetto Railways has determined a need to construct a rail spur from the CSXT A-line (via the CSXT Cross Subdivision) with the intent to enhance distribution for the industrial development and the tenants that locate at Camp Hall Commerce Park.

Palmetto Railways is requesting regulatory approval to locate, build, own, and operate an industrial rail line between Santee Cooper's Cross Generating Station and the Camp Hall Commerce Park in Berkeley County, South Carolina. The proposed rail line will service the new Volvo Cars North America's ("Volvo Cars") manufacturing facility, as well as future proposed development within the Camp Hall Commerce Park.

A detailed Alternatives Analysis was conducted to evaluate potential routes from existing Class 1 rail lines into the Camp Hall Commerce Park. The alternatives analysis reviewed potential impact environmental, economic, and socioeconomic resources, as well as cultural resources. Six alternative route alignments were considered under Level 1 of the alternatives analysis, with four alignments being advanced to Level 2 of the alternatives analysis. It was determined that the Cross option, beginning near Santee Cooper's Cross Generating Station and terminating at the Camp Hall Commerce Park, was the preferred alternative. Four separate Cross Route alignments were analyzed in Level 3 of the alternatives analysis, and Cross Route 3 (Proposed Project) is proposed as the most practical route with the least amount of overall impacts, as judged by the potential impacts to environment, economic, and socioeconomic resources.

The Proposed Project corridor is approximately 22.7 miles long by 200 feet wide [0.85 square mile (544 acres)] which will connect to the CSXT rail network near the Santee Cooper Cross Generating Station and travel south and west to the Camp Hall Commerce Park. The construction of the rail line will impact approximately 95 acres of jurisdictional wetlands, 169 feet of jurisdictional streams, and 0.06 acres of non-wetland waters. These estimates are preliminary and will likely be adjusted as the project design is finalized and additional avoidance and minimization measures are investigated.

Due to the absence of suitable existing wetland mitigation bank or an in-lieu fee program for the watershed, all required compensatory mitigation for impacts to wetlands and waters of the United States will be obtained through off-site, landscape scale, permittee-responsible mitigation activities utilizing the watershed approach.

2. PURPOSE AND NEED

The purpose of the Proposed Project is to locate, build, own and operate an industrial rail line that will connect to the existing Class 1 rail line with the Camp Hall Commerce Park. The need for the Proposed Project derives from the development within the Camp Hall Commerce Park which has increased the demand for rail service to interconnect the commerce park with an existing Class 1 rail network in Berkeley County, South Carolina, in a manner that is logistically feasible to better serve the need of the future tenants and industry within the Camp Hall Commerce Park for transportation, distribution, and logistics.

3. BACKGROUND

The Proposed Project involves the construction and operation of an industrial rail line which will connect the Camp Hall Commerce Park to existing railroad right-of-way, near the Santee Cooper Cross Generating Station in Berkeley County, South Carolina (Figure 1).

The Camp Hall Commerce Park comprises approximately 6,781 acres, of which 2,880 acres have been permitted by Berkeley County for development of Volvo Cars first North American factory (Project Soter – SAC-2015-0476-SIR). An additional 1,387 acres of the Camp Hall Commerce Park is being permitted for industrial development by Santee Cooper (SAC-2015-01764). The Proposed Project is intended to bring industrial rail service to these developments. Industrial rail service is an additional transportation mode that enhances options for distribution and logistics for the industrial development and the customers that locate at the Camp Hall Commerce Park. In addition, the proposed industrial rail service will support the State of South Carolina and Berkeley County's infrastructure needs and will help alleviate highway congestion involving large commercial trucks.

The Proposed Project corridor is approximately 22.7 miles long by 200 feet wide (0.85 square mile) that will connect to the CSXT rail network near the Santee Cooper Cross Generating Station and travel south and west to the Camp Hall Commerce Park (Figure 1).

The Proposed Project corridor is located in the Middle Atlantic Coastal Plain region of South Carolina, which is generally a flat region underlain by unconsolidated sedimentary deposits. Rivers meander through broad floodplains characterized by cut-off lakes and swamp vegetation. Elevation differences in the Middle Atlantic Coastal Plain range from 300 feet at the border of the Sandhills to sea level at the border of the coast. Soils in the Middle Atlantic Coastal Plain consist of a mixture of sand, clay and organic materials. Additionally, the Proposed Project area is located at the convergence of two distinct river basins: (1) the project area is located predominantly in the upper reaches of the Cypress Swamp Watershed of the

Figure 1. Project Corridor



Cooper River Basin and (2) a small portion of the project is on the lower boundary of the Lower Four Hole Swamp Watershed of the Edisto River Basin.

Land use within the project corridor is a mix of residential, commercial, silvicultural, and wetlands. The study area originates on Santee Cooper property adjacent to its Cross Generating Station, and crosses the Diversion Canal between Lake Marion and Lake Moultrie. South of the Diversion Canal. The project corridor includes the unincorporated rural community of Cross, with an estimated total population of 7,253 in 2015. Outside of the Cross community, the corridor runs south through intensively managed pine plantation in short pulp rotations, and then into the Camp Hall Commerce Park.

4. DESCRIPTION OF MITIGATION ACTIVITIES

4.1 Community Mitigation

4.1.1 Community Outreach

A Public, Agency, and Stakeholder Coordination Plan was developed to ensure that outreach to diverse groups takes place throughout the Project. This outreach will be to improve project awareness and education on the NEPA process. The primary goal of this plan is to foster open communication between a diverse public, agencies, stakeholders, and the Project Team to gain productive input leading to better decisions that meet the community's needs.

1. Encourage elected officials, area businesses and civic and community organizations to represent the interests of their constituents and to promote direct participation by their constituents throughout the process. These community leaders can help to reach, or at least to represent, the interest of hard-to-reach groups including youth, the elderly, minorities and low-income residents.
2. Continual public education of the NEPA process through communication tools.
3. Ongoing updates through direct mailings to those in the study area.
4. Use notices / flyers within communities at appropriate locations (community centers, grocery stores, public transportation centers).
5. Provide a variety of options for receiving input from the general public and other stakeholders.
6. Provide opportunities for following up on inquiries, requests and community concerns.

4.1.2 Community Programs and Activities

4.1.2.1 Broadband access

Through strategic teaming with local telecommunications company, PR is exploring opportunities to provide financial assistance for a broadband infrastructure improvement program for the communities surrounding the project area. Many of the census block in the Cross community are designated as un-served or under-served by the FCC for broadband access. This grant will be utilized to upgrade the broadband infrastructure in parts of the Greater Cross Community and provide service at a more affordable cost. This program will target those households that participate in any one of the many federal assistance programs such as Free or Reduced Lunch program offered through Berkeley County Schools of which 93% of the students in Cross area schools participate.

4.1.2.2 Community facilities

Through a partnership with the local representatives of the Berkeley County Council and Berkeley County School Board, PR is working to provide assistance with the improvement and upgrade of existing community and recreational facilities that are utilized by the Cross community.

4.2 Traffic and Transportation

"FRA's Office of Railroad Safety promotes and regulates safety throughout the Nation's railroad industry. The office executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts".¹

At grade rail crossings are intersections where the rail line would cross an existing roadway at-grade. Depending on the type of roadway facility, the warning/control devices would need to be determined. These devices are similar to stop signs and/or traffic signals for a roadway intersection. At grade crossings include both private and public roadways. Additionally, public crossings could be both paved and unpaved roadways under the jurisdiction of a state, county, or local authority. Private roads are facilities that are not owned or maintained by a public authority and are not intended for public use. For public crossing that are determined as active crossings, active warning measures are required and would include gates that have flashing lights and bells. Passive crossings only have passive warning systems that include signs that are shaped as an "X" (referred to as a crossbuck), yield and stop signs, and if applicable pavement markings. The Manual of Uniform Traffic Control Devices (MUTCD) specifies all warning and control devices. The table below shows the various crossings, roadway types, and the preliminary warning device type proposed. This is still preliminary, and final crossing types would not be decided until the final design is progressed. PR has been made aware of specific

¹ Federal Railroad Administration (FRA). "Railroad Safety." <https://www.fra.dot.gov/Page/P0010> (accessed June 21, 2017)

safety concerns with three of the proposed at-grade crossings (Shortcut Rd., Old Highway 6, and Ranger Road) through its community outreach and plans to implement early warning systems in those locations.

Crossing	Station	Roadway Type	Preliminary Crossing Device Type
State Road S-8-717 (Old Highway 6)	403+00	Paved Roadway	Active
Ranger Drive-Berkeley S-132 E	348+00	Paved Roadway	Active
SR 311	732+50	Paved Roadway	Active
Short Cut Road - Berkeley S-60 E	500+00	Paved Roadway	Active
State Road S-8-135 (Mudville Rd)	741+50	Paved Roadway	Active
US Highway 176	1117+50	Paved Roadway	Active
State Road S-8-708 (Viper Road)	184+25	Paved Roadway	Active
Fish Rd	1290+00	Paved Roadway	Active
Volvo Car Dr	123+00	Paved Roadway	Active
Fish Rd	147+75	Paved Roadway	Active
Calamus Pond Rd	907+00	Unpaved Roadway	Passive
George Wigfall Rd	655+00	Unpaved Roadway	Passive
George Wigfall Rd	678+50	Unpaved Roadway	Passive
Royalgates Ct	409+00	Unpaved Roadway	Passive
Santee Cooper Internal	236+00	Unpaved Roadway	Passive
Westvaco	752+50	Unpaved Roadway	Passive
Westvaco	816+75	Unpaved Roadway	Passive
George Wigfall Rd	655+00	Unpaved Roadway	Passive
37 - Access Roads	Various	Unpaved Roadway	Passive

During further project development, public awareness and rail safety awareness programs will be implemented. Public awareness programs could include open-house meetings with local officials to identify targeted audiences within the area, and workshops within schools, churches, and community associations. This type of outreach would provide information and materials on railroad safety. PR also intends to provide rail safety training to all emergency response personnel.

It is anticipated that Palmetto Railways will initiate the use of Operation Lifesaver. This is a nationwide, nonprofit information safety program dedicated to educating the public on how to reduce crashes, injuries and fatalities at at-grade rail crossings and on railroad rights-of-way. This public service creates awareness of the hazards that may occur on railroad property and at at-grade crossings in particular. Operation Lifesaver has developed an outreach education program specifically for children. Palmetto Railways will sponsor this in-school education program beginning in advance of start-up operations.

In addition, Palmetto Railways would provide a 24-hour emergency contact which first responders can call in the event of an emergency.

4.3 Hazardous Materials

To ensure the safest handling of hazardous materials, there are mandated requirements for rail, roadway, and intermodal facilities. The transportation of hazardous materials is regulated by the U.S. Department of Transportation (USDOT), the U.S. Department of Homeland Security, the U.S. Transportation Security Administration, and the Federal Railroad Administration (FRA), among others². Class I railroads have adopted special operating practices for hazardous materials transport that often exceed regulatory requirements to help ensure these materials are shipped safely and securely. If there is a need to transport hazardous materials to and from the Camp Hall Industrial Park, hazardous materials containers on the Camp Hall Commerce Park Rail Spur will be handled according to industry standard.

4.4 Noise and Vibration

1. Palmetto Railways will use continuously welded rail and steel ties to minimize noise associated with operation of the rail line.
2. Palmetto Railways will explore the feasibility of establishing Quiet Zones at the crossings of Ranger Road, Mudville Road, Shortcut Road, SC 311 and Old Highway 6.
3. Palmetto Railways plans to implement early warning systems at Shortcut Road, Old Highway 6 and Ranger Road.
4. Track and wheel maintenance is considered a viable mitigation option for groundborne vibration of freight trains; this can include regularly scheduled rail grinding, wheel truing programs, vehicle reconditioning programs, and use of wheel- flat detectors where feasible. Rail car and locomotive maintenance will be performed on-site to ensure that all equipment is operating properly and efficiently to reduce brake and wheel noise.
5. Mitigation measures will be implemented for Pile Driving/Caissons/Drilled Shaft Foundations.
 - a. The contractor shall use a vibratory hammer to the maximum extent practicable.
 - b. The contractor shall use cushion blocks or other noise attenuation devices when using an impact hammer.
 - c. Pile driving activities shall be limited to no more than 12 hours per day (February - March, sturgeon; May - September, manatee).
 - d. Contractor shall use a "soft start" for a pile driving activities (i.e. - driving does not occur at full power at first).

² <https://www.csx.com/index.cfm/about-us/safety/hazardous-materials1/>

4.5 Air Quality

Palmetto Railways will implement options to minimize air emissions for the community and the environment of the region. The Camp Hall Commerce Park Rail Spur will comply with all applicable SCDHEC requirements.

Proposed mitigation measures include:

1. To reduce the emission of pollutants, appropriate construction best management practices (BMPs) will be observed and engines would be properly maintained.
2. A dust mitigation program to ensure emissions and fugitive dust are kept at a minimum may be implemented during development of the line.
3. It is expected that Palmetto Railways and their contractors will maintain their vehicles/equipment so that carbon monoxide, ozone-producing chemicals and other emissions are kept to a minimum.
4. Comply with Air Quality State Construction and Operating permit requirements, conditions, and reporting.
5. Operate and maintain air pollution control equipment in accordance with permit requirements.

4.6 Health and Safety

1. Appropriate lights and gates will be established at roadway crossings as discussed in the Traffic and Transportation section of this mitigation plan.
2. Palmetto Railways plans to implement early warning systems at Shortcut Road, Old Highway 6 and Ranger Road
3. Community workshops will be held within the Cross community to educate residents about rail and rail crossing safety and to answer questions about the project.
4. Palmetto Railways will coordinate with emergency services to address concerns with delays and will train local first responders on rail safety. PR intends to partner with the Berkeley County Emergency Services Division and the Cross Rural Fire District to upgrade equipment and/or facilities to improve services for the Cross Community.
5. Palmetto Railways will be active in Operation Lifesaver (OL). The mission of OL is to end collisions, death, and injuries at highway-rail grade crossings and on railroad property through a nationwide network of volunteers who work to educate people about rail safety. Palmetto Railways will consider sponsoring this in-school education program beginning in advance of start-up operations. Some of the topics covered in this education effort includes rail crossing safety, trespass prevention, and passenger rail/transit safety; school bus driver training will be offered in all area schools.

4.7 Natural Environment Mitigation

Palmetto Railways has made every effort to account for the impacts to the natural environment, including geology and soils, wetlands, water resources and floodplains, biotic communities, and protected species.

4.7.1 Geology and Soils

Proposed minimization and mitigation measures regarding geology and soils include:

1. Implement a Storm Water Pollution and Prevention Plans (SWPPP) as required by the National Pollutant Discharge Elimination System (NPDES) permit, including management of sediment and erosion control.
2. Implement a Spill Prevention Control and Countermeasures (SPCC) Plan for petroleum products.
3. Use BMPs and/or methods of managing sediment and erosion control during construction pursuant to the South Carolina Stormwater Management Handbook (SCDHEC August 2005).
4. Following construction, implement soil stabilization and vegetation management measures.

4.7.2 Wetlands

Proposed minimization and mitigation measures regarding wetlands include:

1. Design the Camp Hall Commerce Park Rail Spur to minimize impacts to Waters of the U.S.
2. Where possible, limit the placement of pilings for bridges within waterways.
3. Compensatory mitigation will be required to offset the permanent impacts. The permanent impacts for this project fall into three categories: fill, dredge, and flood/impound. "Fill" refers to depositing material used for the primary purpose of replacing an aquatic area with dry land. "Dredge" means to dig or excavate.
4. Design culverts and bridges to maintain existing flow/exchange and hydrology for wetland areas and marshes.
5. Submit application for Section 404 Permit as promulgated by Clean Water Act and comply with any requirements as determined by the Corps. Delineated wetlands (95.23 acres), streams (169-feet), and linear conveyances (693-feet) will be considered as part of the permit process.

It is anticipated that all required compensatory mitigation for impacts to wetlands and waters of the United States will be provided by a combination of Permittee Responsible Mitigation (PRM)

and mitigation bank credits. For impacts within the Four Hole Swamp watershed, PR proposed to purchase wetland credits from the Francis Beidler Forest Mitigation Bank. For impacts within the Cooper River watershed, PRM is proposed at the Fairlawn C1 Parcel site, a 1,550-acre site within Francis Marion National Forest that will consist of both enhancement and preservation of wetlands and streams. Mitigation activities include enhancement of 550 acres of wetlands, the preservation of 43 acres of wetlands and the preservation of approximately 14,000 linear feet of streams. The property will be transferred to United States Forest Service (USFS), which will permanently protect the site and make open to the public 1,000 acres of land, including 539 acres of wetlands.

4.7.3 Water Resources and Floodplains

Proposed minimization and mitigation measures regarding water resources and floodplains include:

1. To mitigate potential water quality impacts from the proposed rail line, a variety of post-construction stormwater BMPs will be used to convey, filter, and dissipate runoff from the new rail line, including but not limited to: vegetated swales, vegetated filter strips, stream bank stabilization, and channelized flow dissipation.
2. Implement a SWPPP as required by the industrial storm water NPDES permit.
3. Erosion prevention BMPs that may be implemented include dust control, mulching, blown straw, hydro-mulching/seeding, erosion control blankets, turf reinforcement mats, and outlet protection (i.e. rip-rap).
4. Runoff control and conveyance BMPs that may be implemented include diversion ditches/dikes, pipe slope drains, drainage swales, and level spreader.
5. Sediment control BMPs that may be implemented include sediment basins, sediment traps, silt fences, ditch checks, stabilized construction entrances, storm drain inlet protection, and sediment tubes.
6. All construction BMPs will be designed, implemented, and maintained per the guidance in the SCDHEC Storm Water Management BMP Handbook (August 2005).
7. Obtain a NPDES Phase II Construction General Permit (CGP) to address water quality and quantity.
8. "Flood/Impound," means to collect or confine the flow of a riverine system by means of a dike, embankment, or other man-made barrier. Appropriate rail design measures will be implemented to ensure minimal impact to floodplains. This will likely include placement of appropriately sized bridges or culverts under the road crossings to allow water and aquatic organisms to pass relatively unhindered.

9. Design culverts and/or bridges to maintain existing surface water drainage patterns and to prevent erosion.
10. Design culverts and/or bridges to allow aquatic organisms to pass relatively unhindered.
11. Adhere to Berkeley County's stormwater regulations associated with the specific implementation of various stormwater management facilities (i.e. ditches, culverts, secondary collection systems, etc.).
12. Culverts and bridges will be designed to maintain existing flow and hydrology for wetland areas and to prevent flooding upstream. Road culverts will be designed to the 25-year storm event.
13. Major drainage systems (i.e. large ditches and canals draining more than 200 acres) will be designed to carry the 50-year storm event within its banks.

4.7.4 Protected Species

Proposed minimization and mitigation measures regarding protected species include:

1. A Spill Prevention, Control, and Countermeasures Plan (SPCC) will be implemented during construction and operations to minimize the impact of a potential spill on protected species.
2. Structures over water and/or other benthic resources will be aligned so as to minimize the over-water footprint as much as possible.
3. The bald eagle is protected by the Bald and Golden Eagle Protection Act (BGEPA) even though it has been delisted under the Endangered Species Act. This law, originally passed in 1940, provides for the protection of the bald eagle and the golden eagle (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit Bald Eagle sitting in tree (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 U.S.C. 668c; 50 CFR 22.3). Bald eagles will be protected by adherence to the BGEPA.
4. Over 1,000 migratory birds, including the bald eagle, are protected under the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, it is illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The Camp Hall project will comply with the MBTA by following all laws and regulations pertaining to the removal/take of nests in the project area.
5. It is anticipated that the proposed action "may effect, but is not likely to adversely affect four protected species". These species include American chaffseed, Canby's dropwort,

shortnose sturgeon, and wood stork. The following BMPs will be employed to help to ensure the protection of these species and any other protected species.

6. General BMPs: The following BMPs will be implemented during construction by the contractor responsible for the execution of the work. These will be required in addition to conditions set forth in regulatory permit(s).
 - a. Prior to construction, the Contractor shall be required to submit a Work Plan describing their proposed construction approach, methodology, and equipment to be used. This plan will be reviewed by the Owner and/or their representative(s) to ensure compliance with applicable regulatory conditions and BMPs. The contractor shall also be required to attend and document his/her attendance at the Pre-Construction Conference meeting.
 - b. Once construction is initiated, the Contractor shall be required to complete the project in an expeditious manner in order to minimize the period of disturbance to environmental resources.
 - c. Land disturbing activities shall not encroach into any wetland areas outside of the permitted impact area.
 - d. The Contractor will be required to implement BMPs that will minimize erosion and migration of sediments on and off the upland project site, including reclaimed lands, during and after construction. The contractor will also be required to conduct inspections at a minimum of at least once every calendar week or within 24 hours of the end of a storm event of 0.5 inches or greater, until final stabilization is reached on all areas of the construction site.
 - e. The contractor will be required to ensure that oil, tar, trash, debris, and other pollutants do not enter the adjacent waters or wetlands during construction.
 - f. All construction personnel will be instructed on the potential presence of protected species in the construction area as described in the Protected Species Assessment and the need to prevent entrapment, harm, or other impacts to these animals.
 - g. All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing protected species.
 - h. All in-water construction activities will be completed during daylight hours.
7. Pile Driving/Caissons/Drilled Shaft Foundations:
 - a. The contractor shall be required to implement measures to control and/or contain suspended sediments resulting from construction activities.

- b. Siltation barriers, if required, shall be made of material in which a Protected Species cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid entrapment of protected species.
 - c. The contractor shall use a vibratory hammer to the maximum extent practicable.
 - d. The contractor shall use cushion blocks or other noise attenuation devices when using an impact hammer.
 - e. Pile driving activities shall be limited to no more than 12 hours per day (February - March, sturgeon; May - September, manatee).
 - f. Contractor shall use a "soft start" for a pile driving activities (i.e. - driving does not occur at full power at first).
8. Vessel Operations:
- a. Shallow draft vessels that maximize the navigational clearance between the vessel and the river bottom (e.g. "jon boats", flat-bottomed barges, etc.) should be used where possible.
 - b. All vessels associated with the construction project shall operate at "no wake/idle" speeds whenever possible while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom.
 - c. If a protected species is seen within 300 feet of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a protected species. Operation of any mechanical construction equipment shall cease immediately if a Protected Species is seen within a 50-ft. radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition. Contact the USFWS immediately at (843) 727-4707.
 - d. Any collision with and/or injury to a West Indian manatee shall be reported immediately to the USFWS, Charleston Field Office, (843) 727-4707.

4.8 Historic Properties/Cultural Resources Mitigation

4.8.1 Cultural Resources

Proposed mitigation measures regarding cultural resources include:

1. The proposed rail project has the potential to cause an adverse effect to the Diversion Canal. Consultation with State Historic Preservation Officer (SHPO) and other parties

will be undertaken to identify ways to minimize and mitigate these possible adverse effects.

2. The Garrett Cemetery was identified during this investigation. The western edge of the survey corridor is approximately 75 feet outside of the cemetery boundaries; however, proposed impacts associated with the rail line itself will only occur within a zone approximately 175 feet from the cemetery boundary. A 50-foot buffer will be established around the resource. Avoidance of the cemetery and this buffer will be complied with. The proposed undertaking, as planned, will not impact the cemetery or its buffer
3. The Bulltown Ditch was identified north and east of the Santee Cooper power plant and was determined to be eligible for NRHP listing under A and C. The current alignment of this rail project will cross this resource at its northern end adjacent to the existing CSX Cross subdivision rail line. This section of the Bulltown Ditch has already been impacted by the construction of the existing CSX Cross subdivision and a transmission easement, both of which allow the ditch to pass beneath them through a culvert system. Steps will be taken to minimize this potential damage during construction and measures will be put in place to stabilize the bank of the Bulltown Ditch near where the rail line would cross the ditch.
4. In addition to the proposed Bulltown Ditch crossing, a portion of the rail line near the existing Santee-Cooper Power Plant runs parallel to the ditch approximately 150 feet away; this distance is sufficient to avoid impacts during construction.
5. Measures will be put in place to ensure impacts do not occur outside of the proposed APE in the vicinity of the Diversion Canal, Bulltown Ditch, and Garrett Cemetery. These are general recommendations for ways to minimize the potential to adversely affect the three significant historic resources; specific measures to minimize adverse effects will be developed in consultation with the South Carolina SHPO.
6. Coordination with SHPO is ongoing. If additional minimization and mitigation measures are incorporated into the project, this plan will be updates.

APPENDIX A

BMPs for Avoiding and/or Minimization of Impacts on Listed Species for the in-water work associated with the proposed Palmetto Railways bridge at the Santee Cooper Diversion Canal

General Considerations

- Structures over water and/or other benthic resources have been aligned so as to minimize the over-water footprint as much as practicable

Construction Methodology

The following Best Management Practices (BMPs) will be implemented during construction by the contractor responsible for the execution of the work. These will be required in addition to conditions set forth in regulatory permit(s).

General

- Prior to construction, the Contractor shall be required to submit a Work Plan describing their proposed construction approach, methodology, and equipment to be used. This plan will be reviewed by the Owner and/or their representative(s) to ensure compliance with applicable regulatory conditions and BMPs. The contractor shall also be required to attend and document his/her attendance at the Pre-Construction Conference meeting.
- Once construction is initiated, the Contractor shall be required to complete the project in an expeditious manner in order to minimize the period of disturbance to environmental resources.
- Land disturbing activities shall not encroach into any wetland areas outside of the permitted impact area.
- The Contractor will be required to implement BMPs that will minimize erosion and migration of sediments on and off the upland project site, including reclaimed lands, during and after construction. The contractor will also be required to conduct inspections at a minimum of at least once every calendar week or within 24 hours of the end of a storm event of 0.5 inches or greater, until final stabilization is reached on all areas of the construction site.
- Contractor shall be required to ensure that oil, tar, trash, debris, and other pollutants do not enter the adjacent waters or wetlands during construction.
- All construction personnel shall be instructed on the potential presence of protected species in the construction area as described in the Protected Species Biological Assessment and the need to prevent entrapment, harm, or other impacts to these animals.
- All construction personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing protected species.
- All in-water construction activities shall be completed during daylight hours.

- Upon completion of construction activities, permanent manatee signs shall be posted at locations prominently visible to persons engaged in water-related activities within and around the bridge. The signs should include contact information for reporting manatee collisions and/or injury, as well as any sightings, to the U.S. Fish and Wildlife Service at their Charleston Field Office at (843) 727-4707.

Pile Driving/Caissons/Drilled Shaft Foundations

- Contractor shall be required to implement measures to control and/or contain suspended sediments resulting from construction activities.
- Siltation barriers, if required, shall be made of material in which a Protected Species cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid entrapment of protected species.
- Contractor shall use a vibratory hammer to the maximum extent practicable.
- Contractor shall use cushion blocks or other noise attenuation devices when using an impact hammer.
- Pile driving activities shall be limited to no more than 12 hours per day (February – March, sturgeon; May – September, manatee).
- Contractor shall use a “soft start” for a pile driving activities (i.e. - driving does not occur at full power at first).

Vessel Operations

- Shallow draft vessels that maximize the navigational clearance between the vessel and the river bottom (e.g. – “jon boats”, flat-bottomed barges, etc.) should be used where possible.
- All vessels associated with the construction project shall operate at “no wake/idle” speeds whenever possible while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom.
- If a Protected Species is seen within 300 feet of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a Protected Species. Operation of any mechanical construction equipment shall cease immediately if a Protected Species is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition. Contact the USFWS immediately at (843) 727-4707.
- Any collision with and/or injury to a West Indian manatee shall be reported immediately to the USFWS, Charleston Field Office, (843) 727-4707