

Executive Summary

The South Carolina Department of Commerce Division of Public Railways d/b/a Palmetto Railways (Palmetto Railways, or the Applicant) has applied to the U.S. Army Corps of Engineers (Corps) for a Department of the Army (DA) permit¹ to impact waters of the United States², including wetlands (waters of the U.S.), during construction and operation of a Navy Base Intermodal Container Transfer Facility (ICTF) in South Carolina. As a federal agency, the Corps is required to comply with the National Environmental Policy Act (NEPA) of 1969, which is the “basic national charter for the protection of the environment” (40 Code of Federal Regulations (C.F.R.)1500.1(a)) and requires that all “major federal actions affecting the quality of the human environment” must undergo a review process that culminates in a “detailed statement” of the environmental impact of the proposed action, of any adverse effects, and of alternatives to the proposed action (42 U.S. Code [U.S.C.] 4332 [C]). The Applicant’s Proposed Project is described in this document as Alternative 1. The term project is used when describing the concept of the ICTF, regardless of location or alternative.

This Executive Summary describes the role of the Environmental Impact Statement (EIS) in the Corps’ decision-making process and the NEPA process. It summarizes Alternative 1 (Proposed Project), the potential impacts, alternatives examined (including the No-Action Alternative), and measures to minimize potential impacts. In addition to the No-Action Alternative, other alternatives examined include the Proposed Project alternatives (1–4) and the River Center alternatives (5–7). The Executive Summary also explains how public, federal, state, and local agencies with jurisdiction and cooperating Indian tribes participated in preparing the EIS by determining the investigative scope of the EIS and by reviewing and commenting on the results.

Question 1 – What is the purpose of this EIS?

The purpose of this EIS is to inform regulatory decision makers and the public of the likely environmental effects of the No-Action Alternative, the Proposed Project alternatives (1–4), and the River Center alternatives (5–7). To that end, the EIS identifies, documents, and evaluates potential effects of construction and operation of the project on the natural and human environment using a period of analysis from 2018 (planned facility opening) through 2038 (20-year planning horizon). The actual opening date is uncertain.

¹ 33 C.F.R. Parts 321.1(b) prescribe the statutory authorities, and general and special policies and procedures applicable to the review of applications for Department of the Army (DA) permits for controlling certain activities in waters of the United States or the oceans. 33 C.F.R. Parts 321.1(c) describes the various forms of authorization. 33 C.F.R. Parts 320.2 describes the authorities to issue permits.

² The definition of “Waters of the United States” can be found at <http://water.epa.gov/lawsregs/guidance/wetlands/CWAwaters.cfm>; <http://www.sac.usace.army.mil/Missions/Regulatory.aspx>

Further Information

The project involves the placement of fill material into waters of the U.S., including wetlands, during construction and operation of a Navy Base ICTF. These actions require a DA permit pursuant to Section 404 of the Clean Water Act of 1972 (CWA)³ and Section 10 of the Rivers and Harbors Act⁴. The Corps serves as the lead agency for jurisdictional determinations and permit actions associated with impacts to waters of the U.S., including wetlands; and the Corps has set forth implementing regulations in 33 C.F.R. §§ 320–332.

Based on preliminary information provided by the Applicant, the Corps determined that Alternative 1 (Proposed Project) has the potential to significantly affect the quality of the human and natural environment. Issuing a DA permit for a project with significant effects constitutes a major federal action that must undergo a review process culminating in a “detailed statement” of the environmental impact of the proposed action, of any adverse effects, and of alternatives to the proposed action (42 U.S.C. 4332 [C]). On July 10, 2013, the Corps notified the Applicant that this determination warranted preparation of an EIS. This EIS has been prepared pursuant to (1) Section 102(2)(c) of NEPA (42 U.S.C. 4321 et seq.); (2) the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 C.F.R. 1502.4 et seq.); (3) Section 404 of the CWA on permitting disposal sites for dredged or fill material (33 U.S.C. 1344), as amended; and (4) NEPA “Implementation Procedures for the Regulatory Program” (33 C.F.R. 325, Appendix B); and (5) the Federal Railroad Administration (FRA) procedures for considering environmental impacts (68 C.F.R. 28545, May 26, 1996).

An EIS is not a Corps regulatory decision document; it is used by the Corps and other agency officials in conjunction with additional relevant information in a permit application file, including public and agency comments presented in this EIS, to inform the final decision on a permit application. A preferred alternative is not selected in this document.

Question 2 – What are the roles of the cooperating agencies and why are they involved?

Cooperating agencies for this EIS include the U.S. Environmental Protection Agency (EPA) and the Federal Railroad Administration (FRA). In compliance with the CEQ regulations, when an EIS is being prepared and more than one federal agency has jurisdiction over a proposed action, a lead agency shall supervise the preparation of the EIS. In this case, the Corps is the lead federal agency for the preparation of this EIS. As provided for by NEPA, the EPA and the FRA have agreed to formally become cooperating agencies in the preparation of this EIS. A “Cooperating Agency” can be any federal agency with jurisdiction by law or special expertise with respect to any environmental impact (or reasonable alternative) involved in a proposed project or action. Under CEQ regulations (40 C.F.R.

³ 33 U.S.C § 1344

⁴ 33 U.S.C § 403

Section 1501.6), a Cooperating Agency may, “assume on request of the lead agency responsibility for developing information and preparing environmental analyses including portions of the environmental impact statement concerning which the Cooperating Agency has special expertise.” In addition, pursuant to CEQ Regulations (40 C.F.R. Section 1506.3), “a Cooperating Agency may adopt without recirculation the environmental impact statement of a lead agency when, after an independent review of the statement, the Cooperating Agency concludes that its comments and suggestions have been satisfied.”

The EPA mission is to protect human health and the environment. Through a suite of environmental laws and Executive Orders (EOs) (e.g., Clean Air Act [CAA]⁵, CWA⁶, EO 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and EO 13045 Protection of Children from Environmental Health Risks and Safety Risks), EPA has jurisdiction over/interest in multiple topics relevant to the project. These topics include air quality, climate change, wetlands, socioeconomic, Environmental Justice, and health and safety. Additionally, under Section 309 of the CAA, EPA reviews and comments on EISs prepared by other federal agencies, including (but not limited to): (1) the adequacy of the analysis and the environmental impacts of the proposed action, (2) issues related to its duties and responsibilities, and (3) potential violation of or inconsistency with national environmental standards, and determines whether the scopes of the impacts analyses are adequate. Due to their interest in the potential air quality, socioeconomic/Environmental Justice, and human health and safety impacts from the project, EPA is a Cooperating Agency on this EIS. As a Cooperating Agency, EPA is afforded the opportunity to participate in NEPA coordination meetings, discuss technical studies, and provide information on alternatives/mitigation.

The FRA was created by the Department of Transportation Act of 1966, and is one of ten agencies within the U.S. Department of Transportation (USDOT) concerned with intermodal transportation. The FRA mission is to enable the safe, reliable, and efficient movement of people and goods now and in the future. Regarding Palmetto Railways’ Proposed Project, FRA understands the project would provide increased opportunity for CSX Transportation and NS Railway, both Class I railroads, to service intermodal traffic handled by the South Carolina Ports Authority at the Charleston Naval Complex (CNC).

Palmetto Railways submitted a Railroad Rehabilitation and Improvement Financing (RRIF) loan application to FRA. At the time of submittal, the loan program was under FRA; however, it has since been moved under the Build America Bureau. Both organizations are within the USDOT. The Build America Bureau was established in July 2016 and is responsible for driving transportation infrastructure development projects in the United States. Under the RRIF program, the Build America Bureau is authorized to provide direct loans and loan guarantees that may be used to acquire,

⁵ 42 U.S.C. § 1857 et seq., as amended and recodified in 42 U.S.C. § 7401 et seq.

⁶ 33 U.S.C. § 1251 et seq.

improve, rehabilitate or develop new rail or intermodal equipment or facilities, reimburse related planning and design expenses, and finance certain economic development. The FRA will consider the potential environmental impacts resulting from Alternative 1 (Proposed Project) when making a decision on the loan application and the EIS must comply with FRA's Procedures for Considering Environmental Impacts⁷ and other applicable statutes and regulations, including the National Historic Preservation Act (NHPA) and Sections 4(f)⁸ of the U.S. Department of Transportation Act of 1966 and 6(f)⁹ of the Land and Water Conservation Fund (LWCF) Act. In addition, before the loan application is approved, FRA must have completed the NEPA process. The FRA is participating in the EIS as a Cooperating Agency. As a Cooperating Agency, FRA is afforded the opportunity to participate in NEPA coordination meetings, discuss technical studies, review and comment on the EIS, and provide information on alternatives and mitigation, all of which would help ensure the EIS conforms to FRA's Procedures. In addition, because Palmetto Railways has submitted a RRIF loan to fund Alternative 1 (Proposed Project), FRA has an action under NEPA and will issue a separate Record of Decision (ROD) in addition to the Corps' ROD.

Question 3 – What is the Navy Base ICTF Project?

The Applicant, Palmetto Railways, proposes to build and operate the ICTF project, including a facility site and off-site roadway and rail improvements. An ICTF is a location where containerized cargo is transferred from one mode of transport (such as truck) to another mode (such as rail). The intermodal facility consists of, but is not limited to, processing and classification railroad tracks, wide-span gantry cranes, container stacking areas, administrative buildings, and vehicle driving lanes. The project is located in North Charleston, South Carolina.

Further Information

Alternative 1 (Proposed Project) is located on the CNC in North Charleston, South Carolina, on the former Clemson Site; specifically, at a location between Buist Avenue and Milford Street, East of Spruill Avenue, (Latitude: 32.8566 °N, Longitude: -79.9574 °W), Charleston Quadrangle. The ICTF site is approximately 135 acres in addition to off-site roadway and rail improvements. As of September 2015, the site contains both open land and developed areas interspersed within a network of private roads. The dominant land use on the site is industrial with open fields and parking lots. The northern portion of the site includes Sterett Hall (closed and demolished in spring 2016) and the North Charleston Fire Department Station 2 (relocated off-site in January 2016). The central portion of the site contains various abandoned buildings and athletic fields associated with the Charleston County's Academic Magnet High prior to its relocation. The Chapel of the Eternal Father of the Sea was located in the northern portion of the site between North Hobson Avenue and Avenue

⁷ <http://www.fra.dot.gov/eLib/details/L02561>

⁸ 49 U.S.C. 303, Section 4(f)

⁹ Public Law 88-578, 78 Stat 897

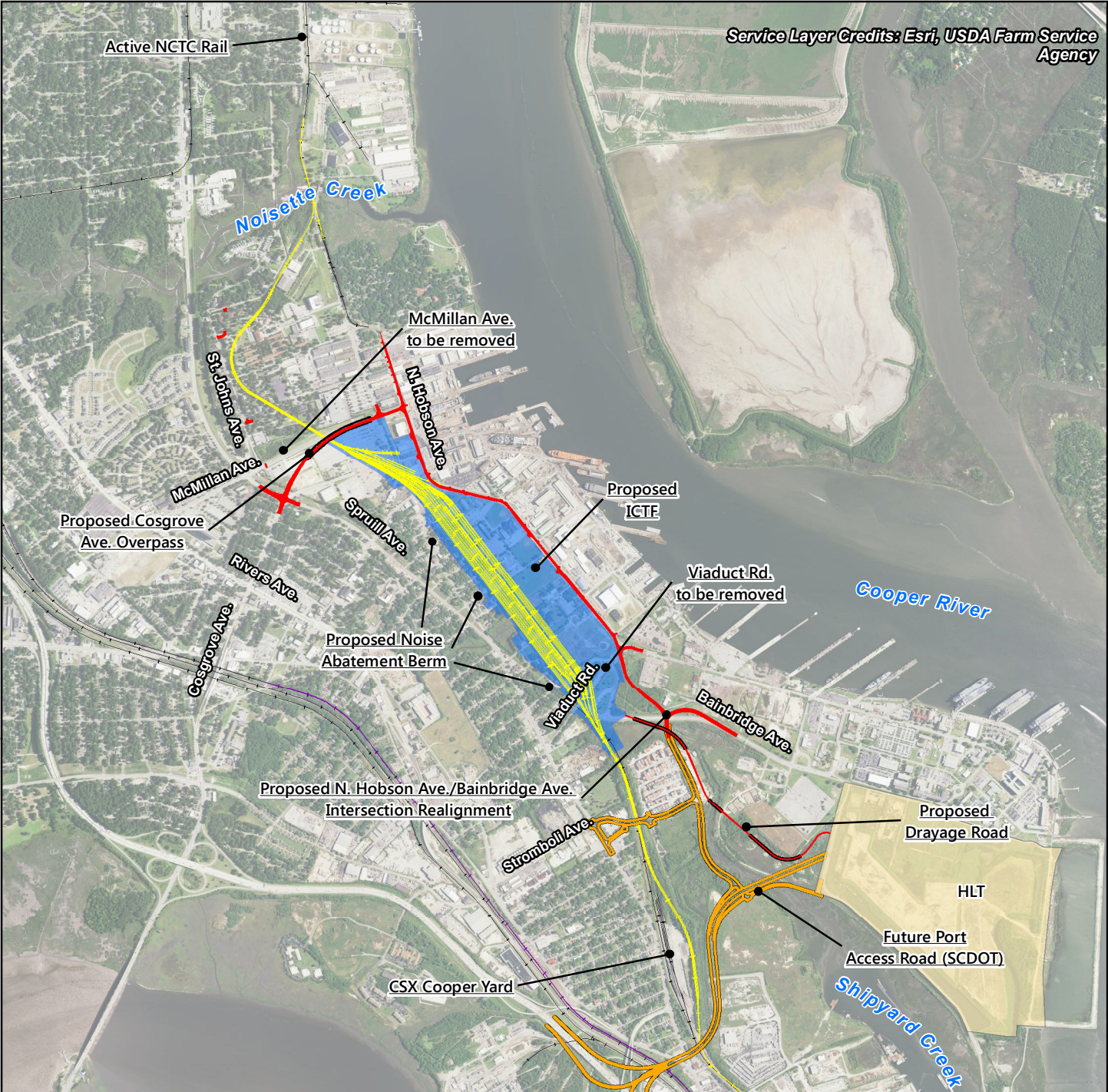
B South, but has been relocated to another part of the CNC that is outside of the Project site. A former tank farm site and the Viaduct Road overpass are located on the southern portion of the site.

Alternative 1 (Proposed Project) includes, but is not limited to, processing and classification railroad tracks, wide-span gantry cranes, container stacking areas, administrative buildings, and vehicle driving lanes. The off-site infrastructure improvements include building: (1) a private drayage road approximately 1 mile long connecting the ICTF to the Hugh K. Leatherman Sr. Terminal (HLT), (2) rail improvements to the north and south of the ICTF, and (3) several roadway improvements and modifications, including the construction of a new overpass. Specific Alternative 1 (Proposed Project) components are identified on Figure ES-1. Operations would take place 24 hours a day, 7 days a week.

Changes to Alternative 1 (Proposed Project) Since the Draft EIS

Following the Draft EIS, the Applicant continued to meet with the community, organizations, local government, and state and federal agencies to further refine the project design and develop mitigation. Pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1344), and the South Carolina Coastal Zone Management Act (48-39-10 et seq.), a joint permit application (Appendix B) was submitted to the Department of the Army (DA) and the S.C. Department of Health and Environmental Control (SCDHEC) in October 2016. A joint Public Notice (PN) was issued on October 19, 2016, with a 30-day comment period. The permit application (Appendix B) included a Community Mitigation Plan (revised and updated in December 2017) as well as design changes to the Alternative 1 (Proposed Project) since the Draft EIS such as:

- Restriction of left turns at the truck gate exit on North Hobson Avenue to reduce truck traffic on local roadways and funnel truck traffic to the Port Access Road and I-26.
- Rehabilitation and reuse of an existing bridge over Noisette Creek instead of constructing a new bridge to reduce natural resource (wetland) impacts.
- Extension of the multi-use path on Cosgrove Avenue from Noisette Boulevard to Turnbull Avenue and North Hobson.
- Design of a cut section (trench) on the northern rail connection through the Hospital District.
- Design of two sound walls along St. Johns Avenue on the northern rail connection and a sound wall at the northern end of the earthen berm for noise mitigation.
- Redesign of the Drayage Road including single ingress/egress at the Drayage Road Bridge, elimination of a flyover at the Port Access Road, and change from a two-way roadway to a one-lane divided roadway, which will reduce impacts at Shipyard Creek.
- Signalization of the intersection at Bainbridge Avenue and the Bainbridge Avenue Connector, instead of stop signs to allow for future increase in traffic demand.



- Proposed Rail
- Proposed Bridge
- Port Access Road (Future, Approved Project)
- Proposed Rail (Related Activities)
- Existing Rail
- Proposed Roadway Improvements
- Proposed Project
- HLT


Source: State of SC, Palmetto Railways, Atkins

0 2,900 5,800 Feet

N
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NAVY BASE ICTF EIS

Alternative 1 (Proposed Project)
ICTF Components
Figure ES-1



Question 4 – What is the purpose and need for Alternative 1 (Proposed Project)?

Palmetto Railways' stated purpose for Alternative 1 (Proposed Project) is:

"To locate, build, and operate a state-of-the-art intermodal container transfer facility serving the Port of Charleston with near-dock, equal access for the two Class I rail carriers serving the area (e.g., CSX Transportation [CSX] and Norfolk Southern Railway [NS]) to meet future demand in the Charleston region to facilitate the movement of goods and commerce over rail, thus stimulating and supporting economic development in the region and providing and maintaining connections to key regional and national transportation corridors" (Appendix B).

In addition to the Applicant's purpose, the Section 404(b)(1) Guidelines¹⁰ require that the Corps define the "overall project purpose" to evaluate practicable alternatives. In accordance with the Section 404(b)(1) Guidelines, the overall project purpose must be specific enough to define the Applicant's needs, but not so narrow and restrictive as to preclude a proper evaluation of alternatives. In this regard, defining the overall project purpose for review and approval of Corps permits is the sole responsibility of the Corps. While generally focusing on the Applicant's purpose and need statement, the Corps will, in all cases, exercise independent judgment in defining the purpose and need for the project from both the Applicant's and the public's perspectives (33 C.F.R. Part 325; 53 Fed. Reg. 3120). The Corps reviewed Palmetto Railways' proposal, and has defined the overall Alternative 1 (Proposed Project) purpose as:

The overall Project purpose is to provide a state-owned, near-dock ICTF that provides equal access to both Class I rail carriers and accommodates existing and projected future increases in intermodal container cargo transport through the Port of Charleston to enhance transportation efficiency in the state of South Carolina.

The Corps reviewed the information provided by Palmetto Railways, including the need for a near-dock ICTF (Appendix B) in the region to have capacity for existing and projected future growth of intermodal container traffic. The Corps recognizes the need and projected increase of rail-based twenty-foot equivalent units (TEUs) in the Final Environmental Impact Statement Proposed Marine Container Terminal at the Charleston Naval Complex (2006)¹¹, where the future projected rail-based TEUs would be approximately 20–25 percent of TEUs throughput from the Port of Charleston (Port). This projection was validated by a September 2016 year-to-date statistic of 22 percent rail TEUs provided by the SCPA (SCPA 2016). The Corps also recognizes the need for Palmetto Railways, a State agency, to provide equal access to both Class I rail carriers (CSX and NS). Equal access is necessary to ensure that the Port and Palmetto Railways remain neutral in business dealings with Class I rail carriers and do not provide preferential treatment to either carrier, in order to prevent giving one carrier an unfair competitive advantage over the other. Equal access also seeks to preserve

¹⁰ 40 C.F.R. § 230

¹¹ The Final Environmental Impact Statement Proposed Marine Container Terminal at the Charleston Naval Complex is available at www.navybaseictf.com. The Corps issued a DA permit to the SCPA (No. 2003-1T-016) in April 2007.

competitive intermodal rail transport pricing for the Port as a destination for intermodal traffic versus its competitors (e.g., Port of Norfolk and Port of Savannah).

The Corps has found, based on the Applicant's information and its own independent review, that the Applicant's stated need is not unduly speculative.

The CWA also requires the Corps to determine whether the project, by its very nature, must be located in waters of the U.S., such as in wetlands or rivers and streams, in order to fulfill its basic purpose (referred to as a *water-dependent* project). The Corps has determined that the basic purpose of Palmetto Railways' discharge of fill material is to create the elevations necessary to facilitate the construction of an ICTF that would handle the transfer of intermodal containers. However, this action does not require access or proximity to, or siting within, a special aquatic site to fulfill its basic purpose. Therefore, the Corps has found that the basic purpose of Alternative 1 (Proposed Project) is not water dependent.

Question 5 – What alternatives to Alternative 1 (Proposed Project) were considered and how were they identified?

A thorough analysis was undertaken to identify reasonable and practicable alternatives to Alternative 1 (Proposed Project). The outcome of this analysis identified eight alternatives that are described (Section 2.4) and evaluated (Chapter 4) in detail in the EIS:

- **No-Action Alternative** – Application for DA permit would be denied; Alternative 1 (Proposed Project) would not occur; CSX and NS would undertake operational and structural modifications to Ashley Junction and 7-Mile rail yards. Future use of the Proposed Project and River Center project sites would likely be mixed-use and industrial (e.g., rail-served warehousing distribution center).
- **Alternative 1: Applicant's Proposed Project (South via Milford / North via Hospital District)** – Alternative 1 (Proposed Project) would be constructed and operated as proposed. This includes, but is not limited to, processing and classification railroad tracks, wide-span gantry cranes, container stacking areas, administrative buildings, and vehicle driving lanes. The off-site infrastructure improvements would include building: (1) a private drayage road approximately 1 mile long connecting the ICTF to the Hugh K. Leatherman Sr. Terminal (HLT), (2) rail improvements to the north and south of the ICTF, and (3) several roadway improvements and modifications, including the construction of a new overpass. A full description of Alternative 1 (Proposed Project) is included in Section 1.5.2.
- **Alternative 2: Proposed Project Site (South via Milford / North via S-line)** – A variation of Alternative 1 (Proposed Project) where the northern rail connection would be relocated along Spruill Avenue within existing CSX right of way (ROW) to the S-line, and turn east along Aragon Avenue to the existing North Charleston Terminal Company (NCTC) rail line; road and rail improvements would be adjusted accordingly to facilitate rail and road traffic as a result of the northern rail connection alignment. Road and rail improvements associated with the southern rail connection would be the same as the Proposed Project.

- **Alternative 3: Proposed Project Site (South via Kingsworth / North via Hospital District)** – A variation of Alternative 1 (Proposed Project) where the southern rail connection would connect to an existing CSX rail line near Kingsworth Avenue (and adjacent to existing rail and ROW); road and rail improvements would be adjusted accordingly to facilitate rail and road traffic as a result of the southern rail connection alignment. Road and rail improvements associated with the northern rail connection would be the same as the Proposed Project.
- **Alternative 4: Proposed Project Site (South via Milford)** – A variation of Alternative 1 (Proposed Project) where trains would enter and exit the Navy Base ICTF from a southern rail connection only. An additional parallel track would enter and exit the facility and connect to an existing NS rail line near Milford Street (and adjacent to existing rail and ROW). Proposed rail for train switching (building) through the Hospital District would stop short of Noisette Creek.
- **Alternative 5: River Center Project Site (South via Milford / North via Hospital District)** – A variation of Alternative 1 (Proposed Project) with the Project site being moved to the River Center project site; road and rail improvements would be adjusted accordingly to facilitate rail and road traffic at the new site.
- **Alternative 6: River Center Project Site (South via Kingsworth / North via Hospital District)** – A variation of Alternative 1 (Proposed Project) with the Project site being moved to the River Center project site and the southern rail connection would connect to an existing CSX rail line near Kingsworth Avenue (and adjacent to existing rail and ROW). Road and rail improvements would be adjusted accordingly to facilitate rail and road traffic at the new site.
- **Alternative 7: River Center Project Site (South via Milford)** – A variation of Alternative 1 (Proposed Project) with the Project site being moved to the River Center project site and trains would enter and exit the Navy Base ICTF from a southern rail connection; road and rail improvements would be adjusted accordingly to facilitate rail and road traffic at the new site.

Further Information

NEPA regulations consider the alternatives analysis to be the “heart of the environmental impact statement” (40 C.F.R. 1502.14). NEPA requires that federal agencies reasonably explore and objectively evaluate all *reasonable* alternatives, including the No-Action Alternative. The Corps also must evaluate *practicable* alternatives as required by Section 404 of the CWA (33 C.F.R. 325, Appendix B, Paragraph 9[b][5]). Since the “action” in this case is a permit decision, not an action proposed to be undertaken by the Corps, the decision options available to the District Engineer include (1) issuing the permit; (2) issuing the permit with conditions; or (3) denying the permit. Only reasonable and practicable alternatives must be considered in detail. “Reasonable” is understood to mean those technically and economically feasible project alternatives that would satisfy the primary objectives of Alternative 1 (Proposed Project) defined in the statement of project purpose. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the

applicant.¹² Additional guidance for the Corps permit describes an alternative as “practicable” if it is, “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.”¹³

An EIS informing a DA permit decision by the Corps must be thorough enough to determine compliance with NEPA and the Section 404(b)(1) guidelines, as well as all federal, state, and local requirements with respect to the project activities and permit approvals. Based on information submitted by Palmetto Railways (Appendix B) and the Corps’ independent review, the Corps has completed an initial identification, screening, and evaluation of all alternatives for the Navy Base ICTF, and has identified the alternatives to be evaluated in detail in the EIS. The alternatives analysis conducted by the Corps and described in this EIS complies with NEPA, and provides the basis for the Corps to make the required findings under the Section 404(b)(1) guidelines.

In consideration of the purpose and need for Alternative 1 (Proposed Project), screening criteria were developed to identify possible alternative ICTF sites that would be evaluated in the EIS. Three different levels of screening were used: Initial, Tier I, and Tier II. Initial screening criteria narrowed the analysis to private/public intermodal container terminals in Charleston Harbor. Tier I screening criteria narrowed the realm of possible alternative ICTF locations to specific sites, and then Tier II screening criteria further narrowed these sites to those to be carried forward in the EIS.

There are four public and no private port facilities in the Charleston Harbor that handle, or are planning to handle, intermodal container traffic. The other two facilities associated with the Port (Union Pier and Veterans Terminal) do not handle intermodal containers. Accordingly, the four public port facilities (Wando Welch, HLT, Columbus Street, and North Charleston) were carried forward into Tier I Screening. Out of the four port facilities in the Charleston Harbor that were identified during the initial screening process, two were eliminated based on their proximity to private/public intermodal facilities in the Charleston Harbor (Columbus Street Terminal and North Charleston Container Terminal), and two were carried forward for evaluation based on area of available land required for an ICTF (Wando Welch and HLT). This analysis resulted in 12 potential sites that were carried forward to evaluation by Tier II screening criteria. All 12 sites were evaluated in a step-wise fashion, where potential sites that were screened out by a particular Tier II criterion were not carried forward for further evaluation in subsequent criteria. The analysis resulted in two sites—the River Center project site and the Proposed Project site—that would meet the purpose and

¹² 46 Fed. Reg. 18026, at 18027 (March 23, 1981), Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations

¹³ 40 C.F.R. 230.10 [a][1–3], Guidelines and Restrictions on Discharge.

need of Alternative 1 (Proposed Project), and that would be carried forward for further consideration in the EIS (Figure ES-2).

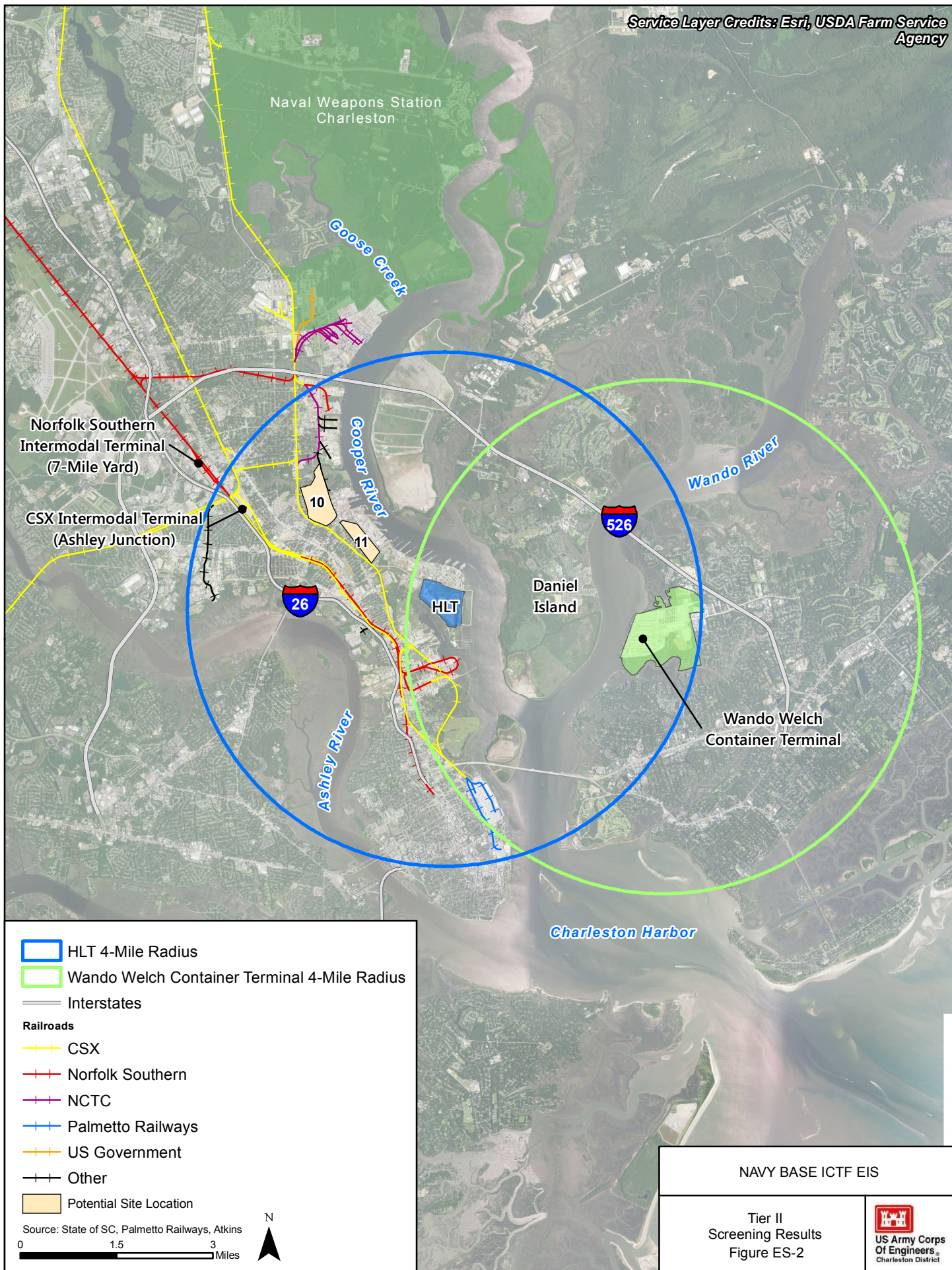
Question 6 – What environmental issues were considered in the EIS and how were they selected?

The Corps implemented an extensive public involvement program that included public notices, public meetings and a project website (www.NavyBaseICTF.com) to assist with the identification of issues to be considered in the EIS. The public scoping process identified impact issues for consideration in the EIS in the following resource categories:

- Geology and soils
- Hydrology
- Water quality
- Vegetation and wildlife
- Waters of the United States
- Protected species
- Essential fish habitat
- Traffic and transportation
- Land use and infrastructure (including energy and solid waste)
- Cultural resources
- Visual resources and aesthetics
- Noise and vibration
- Air quality
- Climate change
- Hazardous, toxic and radioactive waste
- Socioeconomics and Environmental Justice (including barriers to the handicapped and elderly)
- Human health and safety
- Section 4(f)/6(f) resources

Further Information

NEPA requires the analysis of potential direct and indirect impacts on various elements of the human and natural environment. The CEQ guidelines provide categories of impacts to be considered, but all categories may not pertain to all projects. A preliminary understanding of the project and the environmental conditions in the area where the project is to occur is needed to determine the scope of analysis to be considered in an EIS. If there is no indication that the project would affect an environmental resource, the EIS does not need to include an analysis of impacts on that resource. In addition, the Corps is required to conduct a public interest review. The public interest review




- HLT 4-Mile Radius
- Wando Welch Container Terminal 4-Mile Radius
- Interstates
- Railroads**
- + CSX
- + Norfolk Southern
- + NCTC
- + Palmetto Railways
- + US Government
- + Other
- Potential Site Location

Source: State of SC, Palmetto Railways, Atkins

0 1.5 3 Miles



NAVY BASE ICTF EIS	
Tier II Screening Results Figure ES-2	 US Army Corps Of Engineers Charleston District

involves more than a review of impacts on waters of the U.S. including wetlands. The decision of whether to issue a DA permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in a particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of this general balancing process.

Table ES-1 shows the categories of environmental resources and key impact issues that were included in the scope of the EIS as a result of the Corps' initial review and the public scoping process.

Table ES-1
Environmental Resources and Impacts Considered in the EIS

Environmental Resource Category	Potential Impacts
Geology and Soils	<ul style="list-style-type: none"> • Erosion or compaction of soils and surface materials from project activities and associated changes to slopes and drainage patterns at the site. • Long-term changes in soil type and cover across the study area from changes in the landscape. • Disturbance or loss of unique geologic features. • Breach of confining layer(s) overlying an aquifer. • Availability of fill material to meet project requirements.
Hydrology	<ul style="list-style-type: none"> • Hydrologic alterations (changes in surface water or groundwater flows or circulation) causing changes to creek and/or river configurations or impacting use for municipal water supplies. • Potential floodplain encroachment and inundation from watershed alterations (increased impervious surface or placement of fill in the floodplain).
Water Quality	<ul style="list-style-type: none"> • Changes in surface water quality from land disturbance activities and watershed alterations. • Changes in groundwater recharge and quality.
Vegetation and Wildlife	<ul style="list-style-type: none"> • Changes in vegetation or plant communities (habitat) that sustain animal populations. • Potential habitat fragmentation and effects on plant communities. • Changes in composition of vegetative and wildlife species. • Potential introduction of invasive/noxious species.

Environmental Resource Category	Potential Impacts
Waters of the United States	<ul style="list-style-type: none"> • Direct impacts from filling and shading of waters of the U.S., including wetlands. • Direct impacts to waters of the U.S., including wetlands from temporary construction activities.
Protected Species	<ul style="list-style-type: none"> • Potential impacts on species listed as Threatened, Endangered, or Candidate by the U.S. Fish and Wildlife Service under the Endangered Species Act. • Potential impacts to Protected Species habitat or critical habitat for listed species.
Essential Fish Habitat	<ul style="list-style-type: none"> • Loss or alteration of Essential Fish Habitat as defined by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). • Temporary or permanent displacement of federally managed and common fishery species.
Traffic and Transportation	<ul style="list-style-type: none"> • Potential traffic congestion on roadways, intersections, and at-grade rail crossings in the Transportation Study Area that would impact the Level-of-service of the transportation network.
Land Use and Infrastructure	<ul style="list-style-type: none"> • Potential for conflicts in and between land use districts (incompatibility with existing zoning and the adopted Comprehensive Plan, restricted access, or incompatible visual and/or noise impacts) as a result of construction and/or operation activities. • Displacement or demolition of structures. • Capacity of utilities to serve the project. • Potential for interruption of utility services.
Cultural Resources	<ul style="list-style-type: none"> • Disturbance or impacts to cultural (historical and archaeological) sites.
Visual Resources and Aesthetics	<ul style="list-style-type: none"> • Changes in scenic views, scenic resources, visual quality and character, and light and glare of the study area in the short term during construction and operation and during the long-term during operation.
Noise and Vibration	<ul style="list-style-type: none"> • Potential for construction and operational impacts due to operation of construction equipment and train/crane operations. • Potential for traffic noise and rail noise and vibration impacts.
Air Quality	<ul style="list-style-type: none"> • Impact on criteria pollutant emissions and the potential to put the Tri-County area (Berkeley, Charleston, and Dorchester counties) into non-attainment with the National Ambient Air Quality Standard.

Environmental Resource Category	Potential Impacts
Climate Change	<ul style="list-style-type: none"> • Potential for Greenhouse Gas emissions associated with construction and operation activities. • Effects of sea level rise and the increased frequency and intensity of storm events resulting from Climate Change.
Hazardous, Toxic and Radioactive Waste	<ul style="list-style-type: none"> • Potential involvement with contaminated soil and groundwater or disturbance of existing hazardous materials/wastes. • Potential risks of handling, transportation, and storage of potentially hazardous materials and waste.
Socioeconomics and Environmental Justice	<ul style="list-style-type: none"> • Potential impacts to community resources, cohesion, and stability as indicated by economic and business resource impacts; mobility and access impacts; community safety and response impacts; and community and neighborhood impacts. • Potential for disproportionate impacts on Environmental Justice populations.
Health and Human Safety	<ul style="list-style-type: none"> • Potential impacts to the human health and safety of construction workers during construction, operations staff during project operation, and residents in the surrounding community.
Section 4(f)/6(f) Resources	<ul style="list-style-type: none"> • Potential impacts to the function and use of 4(f) and 6(f) resources in light of the analysis and comparative evaluations of cultural resources and socioeconomics and Environmental Justice.

Source: Atkins 2018.

In addition to the evaluation of direct and indirect impacts on specific resources, an analysis of the cumulative effects of past, present, and reasonably foreseeable future actions was undertaken. Relevant projects, plans, and programs that could interact with Alternative 1 (Proposed Project) or the alternatives were identified during the environmental analysis for the specific resource areas. A literature review indicated that cumulative impacts would result primarily from port and navigational projects, urban and industrial development, and surface transportation projects. The potential effects of other Future Actions, to the extent that they could be identified and quantified, were added to the projected effects of Alternative 1 (Proposed Project) to determine the magnitude and extent of any cumulative effects.

Question 7 – How were potential environmental impacts of Alternative 1 (Proposed Project) analyzed?

Potential environmental impacts were analyzed for each of the issues listed by environmental resource category in Table ES-1. For each resource category, a relevant study area was defined and the existing environmental conditions were described. Chapter 3 details existing environmental conditions as of September 2015, the date of Alternative 1 (Proposed Project) proposal. In most

cases, this involved collecting existing environmental data. For some resources, such as waters of the U.S., empirical data were used in conjunction with computer models to estimate existing conditions. Environmental impacts were identified by comparing the No-Action Alternative and the seven alternatives, including the Applicant's Proposed Project, to each other.

The anticipated environmental effects of Alternative 1 (Proposed Project) and each of the alternatives were analyzed for each of the identified environmental resources. The interrelated effects for several of the resources—such as hydrology, water quality, and waters of the U.S., for example—were considered during the impact analysis.

Question 8 – Were mitigation measures included in the environmental analysis?

The Applicant has committed to a number of measures to minimize environmental impacts from Alternative 1 (Proposed Project), in the event that the DA permit is granted. Although some of the measures discussed are not strictly mitigation measures under the CWA or NEPA, they are identified in Table ES-3 and Chapter 6, "Mitigation" to provide a complete summary for public review of all measures that have been considered in the design and development of the Alternative 1 (Proposed Project), and those that are being considered by the Corps as additional measures. These measures are identified as avoidance, minimization, and compensatory mitigation under the CWA and (generally) as avoidance and minimization under NEPA, although many would apply to both regulations. Mitigation measures were included in the environmental analysis, except where noted with an asterisk (*). Additional avoidance, minimization, and mitigation may be considered by the Corps in its decision-making process. Final mitigation measures may be adopted as conditions of the DA permit and documented in the Record of Decision (ROD).

Question 9 – Are there other impacts of Alternative 1 (Proposed Project) and the alternatives?

Impacts were assessed for all the environmental resources identified in Table ES-1. For each resource, impacts were evaluated under the No-Action Alternative, Alternative 1 (Proposed Project), and other alternatives.

Further Information

A general summary of the potential impacts by resource category is provided in Chapter 2, "Development and Description of Alternatives." Table 2.5-1 includes impacts associated with the No-Action Alternative, Alternative 1 (Proposed Project), and other alternatives. Detailed discussions of the analysis of impacts for each alternative are contained in Chapter 4, Environmental Consequences. Impacts were determined by comparing the Proposed Project and River Center site alternatives to the No-Action Alternative, and to each other. Table ES-2 provides a summary of the impacts of Alternative 1 (Proposed Project) only.

Table ES-2
Summary of Alternative 1 (Proposed Project) Impacts

Resource Area	Alternative 1
Geology and Soils	Negligible effects to geology and unique geologic features. Potential minor adverse impact resulting from a short-term increase in soil erosion, a loss of topsoil, soil compaction, and runoff.
Hydrology	<ul style="list-style-type: none"> • Negligible impact to surface water flows and circulation resulting from roadway and rail improvements (e.g., arrival/departure tracks, bridges) across Noisette Creek and Shipyard Creek; negligible impact to groundwater. • Permanent, minor adverse impact from increase in impervious surface; minor beneficial impact from improved stormwater management. Negligible effect on groundwater recharge. • Negligible impact to base floodplains resulting from the placement of fill; negligible impact to flood hazard for other adjacent areas.
Water Quality	<ul style="list-style-type: none"> • Similar to the No-Action Alternative, with a few exceptions. Negligible to minor temporary effect on Total suspended solids (TSS), turbidity and concentrations of heavy metals and other toxic contaminants due to disturbance of sediments in Shipyard Creek (during new bridge construction) and Noisette Creek (during bridge rehabilitation). • Stormwater runoff impacts similar to the No-Action. Beneficial effect on Dissolved oxygen (DO), TSS, and concentrations of nutrients, heavy metals and other toxic contaminants in downstream waters compared to the existing condition. • Sediment quality impacts similar to the No-Action Alternative. • Groundwater resource impacts similar to the No-Action Alternative, but with multiple areas with groundwater monitoring that would be impacted and more potentially contaminated sites.
Vegetation and Wildlife	<ul style="list-style-type: none"> • Minor adverse effect on habitat. Loss of habitat from removal of vegetation during construction but would not degrade the stability of animal populations; approximately 233.71 acres of vegetation would be removed, of which 95.5 percent would consist of previously disturbed communities and 4.5 percent of natural communities (10.35 acres of marsh and 0.17 acre of marine open water). Increase in habitat fragmentation. • Minor adverse effect from routine maintenance (cutting and mowing) of vegetation could result in the proliferation of invasive/noxious plants present within the study area. • Minor adverse short-term effect on species displacement. Potential exists for direct and indirect species displacement during construction; common species are relatively abundant and adapted to living in close association with human activity and infrastructure. • Minor adverse effect on species mortality. Potential exists for mortality of species during construction; wildlife would likely move away in the presence of human activity.
Waters of the United States	<ul style="list-style-type: none"> • Major adverse impacts to waters of the U.S., including wetlands. • Direct impacts from fill/shading activities during construction would result in the permanent impact of approximately 15.84 acres of waters of the U.S., including wetlands, including 6.65 acres of tidal salt marsh, 8.01 acres of freshwater wetlands, 1.14 acres of tidal open waters, and 0.04 acres of non-tidal open waters.

Resource Area	Alternative 1
Protected Species	<ul style="list-style-type: none"> Negligible effect on habitat alteration/ fragmentation of Protected Species with implementation of avoidance and minimization measures during construction activities. Potential exists for direct and indirect short-term species displacement effects during construction; but negligible with implementation of Applicant's prescribed avoidance and minimization measures in combination with the additional Corps mitigation measures listed in Section 4.6.12.
Essential Fish Habitat	<ul style="list-style-type: none"> Minor impact on loss of Essential Fish Habitat (EFH) as approximately 7.79 acres of EFH, including 6.65 acres of Estuarine Emergent Marsh (EEM) and 1.14 acres of Intertidal Flats/Estuarine Water Column (IF/EWC) would be impacted. Minor impact to species displacement as potential exists for a small short-term impact to federally managed species during construction, such as brown and white shrimp, which are relatively abundant and adapted to living in close association with human activity and infrastructure. Negligible short-term impact to oysters with the implementation of water quality Best Management Practices (BMPs) and the potential for future oyster settlement and propagation with the new pilings.
Traffic and Transportation	<ul style="list-style-type: none"> Negligible short-term impact during construction to I-26, I-526, US 17, and at-grade rail crossings; minor short-term adverse impact during construction to North Charleston intersections. Negligible permanent impact on majority of I-26 corridor in the opening year 2018 and design year 2038; beneficial or adverse permanent impact on a few segments due to a Level of service (LOS) change. Negligible permanent impact on majority of I-526 corridor in the opening year 2018 and design year 2038; beneficial or adverse permanent impact on a few segments due to a LOS change. Negligible permanent impact on the opening year 2018 and design year 2038 US 17 operations with minimal influence on the US 17 traffic volumes. Minor permanent adverse impact on the opening year 2018 and design year 2038 North Charleston intersection operations. Traffic patterns would change but slightly more intersections would degrade than improve operations. Moderate permanent adverse impact on the opening year 2018 and major permanent adverse impact design year 2038 at-grade crossing operations as Alternative 1 (Proposed Project) would increase the frequency and number of train occurrences in North Charleston. Additionally, one new at-grade crossing would be created.
Land Use and Infrastructure	<ul style="list-style-type: none"> Major permanent impact on land use change. Rezoning of the residential area along the western boundary of the ICTF and rezoning of portions of the site from Institutional future land use. Comprehensive Plan amendment also required. Major permanent impact on displacement of structures. Approximately 88 structures would have to be displaced or demolished. Additional off-site roadway and rail improvements would cause the demolition of approximately 23 structures. Negligible short-term impact on infrastructure and utilities as any interruption of service to local area residents and businesses would be less than 12 hours.
Cultural Resources	<ul style="list-style-type: none"> Adverse effect on Charleston Naval Hospital (CNH) Historic District from demolition of contributing elements of the Historic District, and altered setting of the District. No effect on Charleston Naval Yard (CNY) Historic District.

Resource Area	Alternative 1
	<ul style="list-style-type: none"> No effect on Charleston Navy Yard Officer's Quarters (CNYOQ) Historic District. Adverse effect on U.S. Marine Corps (USMC) Barracks from altered setting. No effect on other historic properties outside the Charleston Naval Complex (CNC).
Visual Resources and Aesthetics	<ul style="list-style-type: none"> Minor, permanent adverse impact to scenic views from renovation and slight elevation of existing rail over Noisette Creek along Noisette Boulevard. Major, permanent adverse impact to scenic resources from the removal of contributing elements of the CNH Historic District and mature trees, as well as the altered setting of the USMC Barracks. Major, permanent adverse impact to visual quality and character from demolition of contributing elements of the CNH historic district and altered setting of the USMC Barracks. Minor, permanent adverse impact to visual quality and character from renovation and slight elevation of existing rail bridge) over Noisette Creek. Negligible impact to visual quality and character from the arrival/departure tracks to the south of the ICTF. Negligible impact to visual quality and character from the realignment of Hobson Ave/Bainbridge Ave and construction of the drayage road; minor, permanent adverse impact from the removal of the Viaduct Road Overpass. Minor, permanent adverse impact to visual quality and character from the construction of the earthen berm adjacent to the Chicora-Cherokee neighborhood. Minor, permanent adverse impact from light and glare associated with the new 85-foot tall mast lighting that will be illuminated from dusk to dawn, and from nighttime train head lamps.
Noise and Vibration	<ul style="list-style-type: none"> Negligible traffic noise impacts with negligible beneficial effect for several streets. Minor to moderate rail noise impact along several segments due to increased rail activity and new track builds. Negligible rail vibration impact. Minor to moderate construction noise impact in the vicinity of noise berm. Minor to Moderate exterior daytime operational noise impact and major exterior nighttime operational noise impact. Refer to subsection 4.12.3.5 for information on exterior to interior noise reduction. Interior noise levels are not anticipated to disrupt sleep. Negligible additive noise impacts (Virginia Avenue - Traffic + Rail Noise) and minor to moderate additive noise impacts (St. Johns Avenue - Traffic + Rail Noise)
Air Quality	<ul style="list-style-type: none"> Impacts from construction emissions of criteria pollutants would be minor short-term adverse because emissions would be short-term and spread out over 5 years. Operational criteria pollutant emissions would be less than 1 percent of study area's criteria pollutant emissions. Potential impacts would be minor permanent adverse. Criteria pollutants emitted, along with the existing and projected criteria pollutants, would not put the Tri-County area (Berkeley, Charleston, and Dorchester Counties) into non-attainment for any criteria pollutants and the National Ambient Air Quality Standard (NAAQS) would remain in compliance. Potential impacts would be minor permanent adverse. Non-Diesel particulate matter (DPM) Hazardous air pollutant (HAP) emissions would each equal less than one-tenth of 1 percent of the total HAPs emitted in the Study Area. Potential impacts would be acceptable.

Resource Area	Alternative 1
	<ul style="list-style-type: none"> • Potential excess cancer risk would fall within the acceptable range. Impacts from cancer risk would be acceptable. • The maximum noncancer hazard would be below 1. Potential impacts from noncancer hazard would be negligible.
Climate Change	<ul style="list-style-type: none"> • Because the Greenhouse gas (GHG) emissions from the construction phase provide the needed infrastructure for the increased efficiency in the transport of goods, the short-term impacts would be minor adverse. • Annual Operational GHG Emissions Inventory would be 30,948 Metric tons (MT) CO₂e. Alternative 1 (Proposed Project) would be the most efficient. Long-term effects would be minor adverse. • The predicted sea level rise would not cause detectable changes to on-site structural integrity at the site, nor would it cause predictable impacts to human health and safety. Impacts would be negligible. • In the event that a major hurricane makes landfall, the site is predicted to get a level of storm surge inundation that could damage on-site structures to the point of altering their structural integrity, move and damage heavy equipment, and pose a threat to human health and safety of people on-site. Impacts would be major.
Hazardous, Toxic, and Radioactive Waste	<ul style="list-style-type: none"> • Eight active monitoring sites with contamination (15 requiring investigation) for a total of 23. • Approximately 107 buildings requiring demolition/renovation. • Potential minor adverse impacts to soil (contamination) from excavation activities, after compliance with the Navy's permitting process, Resource Conservation and Recovery Act (RCRA) Permit #SC0 170 022 560 and all applicable laws for testing and disposal of contaminated soils. • Potential minor adverse impacts to groundwater (contamination) from dewatering in excavation areas (after compliance with the Navy's permitting process, RCRA Permit SC0 170 022 560, and all applicable laws for treatment and disposal of dewatering effluent. • Potential minor adverse impact from demolition of approximately 111 buildings with asbestos and/or metals-based paints (after survey and applicable abatement measures). • Potential for minor and/or major adverse impacts from accidental spills resulting from use of above ground storage tanks (ASTs) for diesel fuel, storage of other minor amounts of solvents on the premises, and from containers containing hazardous materials.
Socioeconomics and Environmental Justice	<ul style="list-style-type: none"> • Major short-term and indirect long-term benefit to local and regional economy; minor indirect adverse impact to local businesses adjacent to Alternative 1 (Proposed Project), including access, relocations, and aesthetics. • Minor short-term adverse impacts from construction; minor adverse access impacts for Chicora-Cherokee residents; minor adverse mobility impacts from new at-grade rail crossings and increased delay at intersections and at-grade crossings. • Potential minor adverse emergency response time impacts due to delay at at-grade crossings compared to No-Action (however, alternate routes are available). Potential minor safety impacts due to additional conflict points at Meeting Street at-grade crossing. • Negligible impact from displacement of Sterett Hall and surrounding arts facilities as they would be displaced with or without Alternative 1 (Proposed Project).

Resource Area	Alternative 1
	<ul style="list-style-type: none"> • Major adverse impacts to Chicora-Cherokee neighborhood from approximately 134 residential displacements; minor to moderate adverse impact from visual and noise impacts. Minor indirect impact from exacerbation of housing and population loss. • Minor adverse impacts to Olde North Charleston and minor to moderate impacts to Howard Heights, Union Heights, and Windsor neighborhoods from noise. • Negligible impact in terms of new barriers to the elderly and handicapped. • Environmental Justice considerations are applicable: Major adverse impact from displacement of 134 residential units would result in a disproportionately high and adverse impact to Chicora-Cherokee neighborhood.
Human Health and Safety	<ul style="list-style-type: none"> • Negligible impact on worker safety, drinking water quality, hazardous materials, traffic noise, ICTF operational noise (nighttime) and vibration. • Minor to moderate impact (several areas) from rail noise, construction noise (short-term), and operational noise (daytime). Major operational noise impact (nighttime). Additive noise impacts: negligible [Virginia Avenue (Traffic + Rail Noise)] minor to moderate [St. Johns Avenue (Traffic + Rail Noise)]. Overall impact to human health is minor with noise mitigation measures. • Minor permanent adverse impact to air quality (criteria pollutants and the NAAQS would remain in compliance). • Potential impacts from non-DPM HAP emissions would be acceptable. Potential excess cancer risk and cancer risk would be acceptable. Potential impacts from non-cancer hazard would be negligible. • Potential for minor adverse impact on emergency response times and minor indirect adverse impact to community safety as alternate routes are available. • Negligible effect from high mast lighting, minor, permanent adverse impact from light and glare associated with nighttime train head lamps to residential structures along curvatures of the track.
Section 4(f)/6(f)	<ul style="list-style-type: none"> • Use of Section 4(f) resources with permanent use of CNH Historic District from demolition of contributing elements of the historic district and permanent use of the parade ground of the USMC Barracks. No conversion of 6(f) resources.

Source: Atkins 2018.

Question 10 – How would the project affect Waters of the United States, and how would impacts be mitigated?

Alternative 1 (Proposed Project) would have direct, permanent impacts on 15.84 acres of waters of the U.S., including wetlands. The wetland types receiving the largest impacts would be freshwater wetlands and tidal salt marsh; however, tidal open waters also would be directly impacted. Alternatives 2–4 would result in between 11.81 and 17.92 acres of direct, permanent impacts to waters of the U.S., including wetlands. Similarly, direct, permanent impacts to waters of the U.S., including wetlands under the River Center alternatives would range from 10.82 to 15.01 acres. A comparison of impacts from all alternatives to waters of the U.S., including wetlands is included in Table 2.5-1. The wetland types receiving the largest impacts would be the same as those under Alternative 1 (Proposed Project). Potential mitigation measures incorporated into Alternative 1 (Proposed Project) site design to reduce impacts to waters of the U.S., including wetlands, include measures such as bridging tidal salt marsh where possible and reducing side slopes to a 2:1 ratio where practicable. Temporary impacts would be minimized with the removal of dredge/fill material deposited during construction and the restoration of natural grades. The Applicant proposes to offset losses to waters of the U.S., including wetlands, with a combination of off-site measures to replace losses of aquatic resources, consistent with 33 C.F.R. 332, Compensatory Mitigation for Losses of Aquatic Resources. The Applicant's Wetland Mitigation Plan proposes to purchase 86.3 wetland mitigation credits from Pigeon Pond Mitigation Bank to compensate for freshwater impacts, as well as a permittee responsible mitigation plan to restore and protect approximately 40.6 acres of tidal marsh at the former Kings Grant Country Club and Golf Course in North Charleston, Dorchester County, SC. Final calculation of the required wetland mitigation credits will be based on approved and final plans. A summary of mitigation measures is included in Chapter 6 and the entire Wetland Mitigation Plan is included in Appendix N.

Question 11 – How would the project affect traffic and transportation?

Alternative 1 (Proposed Project) would have relatively minor impacts on the surrounding transportation network. The regional roadways of I-26, I-526, and US 17 mostly would not experience any change in operations. Within North Charleston, roadway improvements and connectivity changes would cause the operations to improve at some intersections while others would become worse. Overall, slightly more intersections would degrade than improve operations. At-grade rail crossing operations in North Charleston would be impacted due to an increase in the number of train occurrences, in addition to one new at-grade rail crossing. Existing traffic and transportation conditions are discussed in Section 3.8. Methods and results from analysis of impacts associated with all alternatives are included in Section 4.8. Detailed methods, impact definitions, and results are located in Appendix F.

Further Information

Traffic patterns around the ICTF change compared to the No-Action Alternative due to the ICTF and modifications to the roadway network. In its opening year 2018, the ICTF would handle 1,100 trucks per day and 500 employee and visitor vehicles per day with access via North Hobson Avenue. By the design year 2038, the ICTF would handle 3,900 trucks and 1,100 employee and visitor vehicles per day. Of the 3,900 trucks per day, 1,400 would be on the drayage road between the ICTF and the HLT. All trucks exiting the ICTF would turn right onto North Hobson Avenue heading towards the Local Access Road and Port Access Road. In the No-Action Alternative, the 1,400 truck trips would be on public roadways as there would be no drayage road. In Alternative 1 (Proposed Project), the ICTF and associated roadway modifications, including the Cosgrove Avenue/McMillan Avenue realignment and overpass and the removal of Viaduct Road between Spruill Avenue and North Hobson Avenue, lead to increased volumes on Noisette Boulevard, Cosgrove Avenue and the Local Access Road compared to the No-Action Alternative. In the River Center Alternative, the alternate ICTF site and removal of McMillan Avenue between Spruill Avenue and Noisette Boulevard would alter traffic patterns from the Proposed Project alternatives (1-4).

Within North Charleston, the Proposed Project alternatives add two new intersections, the ICTF truck driveway at North Hobson Avenue and the ICTF employee and visitor driveway at North Hobson Avenue. Alternative 2 would add a third intersection, St. Johns Avenue at Turnbull Avenue. The River Center alternatives (5-7) would add one new intersection, the ICTF employee and visitor driveway at St. Johns Avenue. Under all project alternatives, all new intersections are projected to operate at Good (A, B, C) level of service (LOS) in both the AM and PM peak hours.

Under Alternative 1 (Proposed Project), consistent with the opening year 2018 No-Action Alternative, the majority of the analyzed North Charleston intersections operate with minimal delay. The stop-controlled intersections of Noisette Boulevard and at McMillan Avenue, Avenue B at Virginia Avenue, and the I-526 Eastbound Off-Ramp at Virginia Avenue are the only intersections that would operate with a Poor LOS in the opening year 2018. By the design year 2038, a few additional intersections would operate with Poor LOS, but the majority of the intersections would still operate with minimal delay. The signalized intersections of Cosgrove Avenue at Rivers Avenue, Cosgrove Avenue at Spruill Avenue and Cosgrove Avenue at Azalea Drive and the stop-controlled intersections of Avenue B at Virginia Avenue, the I-526 Eastbound Off-Ramp at Virginia Avenue, Turnbull Avenue at Noisette Boulevard, and Noisette Boulevard at McMillan Avenue are the only intersections that would operate with a Poor LOS in the design year 2038. In opening year 2018 four at-grade crossings would operate with a Poor LOS. In the design year 2038, Alternative 1 (Proposed Project) and River Center site alternatives would have moderate to major impacts on the majority of at-grade rail crossings due to changing train and vehicular volumes and routes. The daily combined total rail occupancy time at the analyzed roadway crossings, which is defined by the number of occurrences multiplied by the average duration of each occurrence, would increase nearly 120 percent from the

opening year 2018 No-Action Alternative to Alternative 1 (Proposed Project). In the design year 2038, the daily combined total rail occupancy time would increase over 180 percent. Under all alternatives except Alternatives 3 and 6, by the design year 2038, the increase in the number of train occurrences and longer durations would lead to 7 of the 12 at-grade crossing locations operating with a Poor LOS (counting the Spruill Avenue and Meeting Street at-grade crossings in Alternatives 3 and 6 separately, although they were analyzed as one location). Alternatives 3 and 6 would have six at-grade crossing locations operating with a Poor LOS. Additionally, all alternatives except Alternatives 3 and 6 would have a major adverse impact on seven or more at-grade rail crossings in the design year 2038. Alternatives 3 and 6 would have a major adverse impact on six locations. Alternatives 1 and 2 would have a major adverse impact on eight locations. Alternative 5 would have a major adverse impact on nine locations. One new at-grade crossing would be created under Alternatives 1, 4, 5 and 7, while two new at-grade crossings would be created under Alternatives 2, 3, and 6.

In addition, the Applicant, in cooperation with the City of North Charleston, the South Carolina Ports Authority (SCPA), and the South Carolina Department of Transportation (SCDOT), has initiated an independent Surface Transportation Impact Study to further study potential transportation impacts associated with rail and highway traffic related to state port and rail operations in North Charleston. The study is part of a Settlement Agreement with the City of North Charleston. Details on the Settlement Agreement can be found in Section 1.5.1 and the scope of the study can be found in Appendix B. The Applicant also proposes to conduct a Crossing Analysis as part of a draft Transportation Memorandum of Agreement (MOA) with the City of Charleston to study traffic conditions and potential improvements within the southern portion of the Project area, within the City of Charleston. The Crossing Analysis would be funded by the Applicant and is a joint effort with the City of Charleston, South Carolina Department of Commerce, and SCDOT. See Question 16 and Section 4.8 for additional details on these separate transportation studies related to the project.

Question 12 – What is the effect of the project on noise and vibration?

Construction of the ICTF would result in minor to moderate exterior daytime noise impacts in the immediate vicinity due to frequent operations of construction equipment. During operation of the ICTF, standard train/crane operations would cause minor to moderate exterior daytime noise impacts in the vicinity of the vegetated earthen berm, and major exterior impacts at night. Alternative 1 (Proposed Project) includes the construction of a noise abatement wall/berm along the western boundary of the site, between the ICTF and adjacent neighborhoods, to minimize noise impacts. Alternative 1 (Proposed Project) would have negligible noise impacts from traffic, including negligible beneficial effects for several streets. In contrast, minor to moderate rail noise impacts would occur along several modeled segments due to increased rail activity and new track builds; however, only negligible rail vibration impacts would occur. Existing noise and vibration conditions are discussed in Section 3.12. Methods and results from analysis of impacts associated with all

alternatives are included in Section 4.12. Detailed methods, impact definitions, and results are located in Appendix H.

Further Information

Potential noise and vibration sources for Alternative 1 (Proposed Project) include traffic noise, rail noise, rail vibration, construction noise, and operational noise. The impacts indicated for each noise source generally relate to different groups of affected receptors. Receptors are locations that are noise sensitive such as residences, churches, schools and parks. Noise sources are analyzed separately in this document. For example, receptors that would experience rail noise impact (located along certain track segments), would, for the most part, not be subject to the additive noise impacts from vehicular traffic, ICTF construction, or ICTF operations. Exceptions to this general rule include noise sensitive receptors located along several of the road segments in the study area. For Alternative 1 (Proposed Project), additive noise impacts would be negligible in the vicinity of Virginia Avenue for traffic and rail noise and minor to moderate in the vicinity of St. Johns Avenue for traffic and rail noise.

Under Alternative 1 (Proposed Project), there would be a negligible increase in traffic noise (0 to 3 decibels) as a result of the proposed improvements. Alternative 1 (Proposed Project) is expected to result in a minor (3 to 5 decibels) to moderate (5 to 10 decibels) increase in rail noise along several modeled segments as a result of increased rail activity and new track builds. Rail vibration impacts are expected to be negligible (less than the impact criterion established for vibration-sensitive land uses) under Alternative 1 (Proposed Project). During construction, frequent operations of construction equipment would result in a minor to moderate increase in construction noise to receptors in the vicinity of the proposed earthen berm. Operations of Alternative 1 (Proposed Project) would also result in minor to moderate exterior daytime impacts due to standard train/crane operations. The varying hourly average noise levels from the daytime operations would increase noise at the first row of receptors in closest proximity (10 feet from the noise berm) in the Chicora-Cherokee communities by up to 7 decibels. Daytime noise levels would decline to minor (up to 4 decibels) for the second row of homes, then negligible (below 3 decibels) for the third row of homes. Negligible noise increases would occur at receptors located beyond approximately 180 feet from the earthen berm.

Alternative 1 (Proposed Project) would result in moderate to major nighttime exterior noise levels (14 to 17 dB[A]) due to operations. However, the nighttime hours are generally associated with sleep. The manner in which older homes were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dB(A) (Caltrans 1998) with closed windows. Taking into account a minimum 20 dB(A) reduction in noise levels from exterior to interior, interior noise levels would range from 38 to 41 dB(A) during the nighttime hours. Based on a study conducted for sleep disturbance as a function of single-event noise exposure, less than 1 percent are awakened at noise

levels of 45 dB(A) (Finegold and Elias 2002). The nighttime interior levels expected as a result of the ICTF operations would be less than the 45 dB(A).

Noise and vibration impacts under Alternatives 2–7 would be similar to those reported for Alternative 1 (Proposed Project). However, a major rail noise impact (greater than 10 decibels) would occur for up to four receptors along a future track segment under Alternative 2 and the additive noise impacts for Alternatives 5-7 would result in a moderate to major (nighttime) impact at Noisette Boulevard (traffic and operational noise) and a major impact along the Port drayage road (traffic and rail noise).

Question 13 – What is the effect of the project on air quality?

Construction and operation of Alternative 1 (Proposed Project) would have relatively minor impacts on air quality. For all Proposed Project alternatives (1–4), construction criteria pollutant emissions would be short term and spread out over five years. Criteria pollutant emissions from the operation of Alternative 1 (Proposed Project) would each equal less than 1 percent of the total criteria pollutants emitted in the study area and Alternative 1 (Proposed Project) would not put the Tri-County area into non-attainment for any National Ambient Air Quality Standard (NAAQS). Impacts of non-diesel particulate matter (DPM) hazardous air pollutants (HAPs) from the Operational Inventory of Alternative 1 (Proposed Project) would each equal less than one-tenth of 1 percent of the total HAPs emitted in the study area and would be acceptable. Potential excess cancer risk associated with Alternative 1 (Proposed Project) would fall within the acceptable range. Impacts from cancer risk would be acceptable (EPA 2006b). The maximum noncancer hazard would be below 1. Potential impacts from noncancer hazard would be negligible. The River Center site alternatives (Alternatives 5–7) would result in similar impacts, with the exception that criteria pollutants may put the Tri-County area into non-attainment for the 1-hour NO₂ NAAQS. Potential impacts would be minor permanent adverse. Existing air quality conditions are discussed in Section 3.13. Methods, impact definitions, and results from analysis of impacts associated with all alternatives are included in Section 4.13. Detailed methods and results are located in Appendix I.

Further Information

Criteria pollutant emissions from construction activities for Alternative 1 (Proposed Project) would include operation of construction equipment, haul truck trips for the import and export of material, and commutes by construction workers and vendors. Although road and rail improvements for Alternatives (2-4) differ slightly from Alternative 1 (Proposed Project), resulting in different construction equipment exhaust criteria pollutant emissions, haul truck activities, worker and vendor commute, architectural coating, asphalt paving, material movement, and demolition were assumed to be the same as Alternative 1 (Proposed Project), except for the River Center site alternatives (5-7). For the River Center site alternatives, haul truck activities, worker and vendor commute, architectural coating, asphalt paving, and material movement were assumed to be the

same as Alternative 1 (Proposed Project); however, demolition of buildings at the River Center project site would be different than that for Alternative 1 (Proposed Project) because of the difference in building square footage that would need to be demolished. For all Proposed Project and River Center site alternatives, construction criteria pollutant emissions would be short-term and spread out over 5 years, resulting in minor short-term adverse impacts to air quality.

Criteria pollutant emissions from operational activities for the Proposed Project alternatives would include operation of locomotives, utility tractor rig (UTR) trucks, over-the-road (OTR) trucks, and commutes by workers. Criteria pollutant emissions from the Proposed Project alternatives would each equal less than 1 percent of the total criteria pollutants emitted in the study area. Impacts of criteria pollutants from the operation of the Proposed Project alternatives would be minor permanent adverse. Notably, with the exception of CO, the No-Action Alternative would emit approximately the same or more criteria pollutants annually than Alternative 1 (Proposed Project). This is due to the efficient operations and transport of goods under the Alternative 1 (Proposed Project), including the use of Tier 4 switch locomotive engines and Tier 4 UTR trucks by full build-out. Alternative 1 (Proposed Project) would also include a semi-automated facility that would reduce UTR and OTR truck idle times compared to the No-Action Alternative. Under the River Center site alternatives, the private drayage road is 2 miles long, which is twice the distance of the private drayage road in Alternative 1 (Proposed Project). To maintain the daily container throughput, twice as many UTR trucks at the same rate of daily truckloads are required for operating the River Center site alternatives compared to the Proposed Project. Therefore, the River Center site alternatives have twice as many criteria pollutant emissions from UTR truck running as the Proposed Project alternatives. However, criteria pollutant emissions from River Center site alternative would each equal less than 1 percent of the total criteria pollutants emitted in the study area. As a result, impacts of criteria pollutants from the operation inventory of the River Center site alternatives would be minor permanent adverse.

Criteria pollutants emitted from the operation of the Proposed Project alternatives, along with the existing and projected criteria pollutants, would not exceed the applicable NAAQS; therefore, the Proposed Project alternatives would not put the Tri-County area into non-attainment for any NAAQS. In contrast, criteria pollutants emitted from the operation of the River Center site alternatives, along with the existing and projected criteria pollutants, may exceed the NAAQS for 1-hour NO₂; therefore, the River Center site alternatives may put the Tri-County area into non-attainment for NO₂. Under full operation of the River Center site alternatives, the Tri-County area may not remain in compliance with the NAAQS. Impacts to air quality from the operation of the River Center site alternatives on criteria pollutants would be minor permanent adverse.

Non-DPM HAP emissions from the Proposed Project alternatives would each contribute to less than one-tenth of 1 percent of the total non-DPM HAPs emitted in the study area. As a result, impacts of non-DPM HAPs from the Operational Inventory of the Proposed Project alternatives would be

acceptable. Despite the longer private drayage road and associated additional UTR truck activity under the River Center site alternatives, non-DPM HAP emissions would be similar to those under the Proposed Project alternatives.

The maximum potential cancer risk from Alternative 1 (Proposed Project), would occur directly adjacent to the Proposed Project site due to on-site rail and truck activity. The excess cancer risk falls between the 1 per million and 100 per million, which is within the acceptable risk range (EPA 2006b). When discussing risk, it is important to provide the size of risks in context. The cancer risk is the likelihood, or chance, of getting cancer. The term “excess cancer risk” is used because people also have a “background risk” of about 4 in 10 chances of being diagnosed with cancer in their lifetimes (NCI 2015). The maximum noncancer hazard would be below 1 per million. Potential impacts from noncancer hazard would be negligible.

Question 14 – How would the project affect the socioeconomics of the local community?

Construction and operation of Alternative 1 (Proposed Project) would affect the socioeconomics of the surrounding community including potential impacts to Environmental Justice populations. Impacts to community resources, cohesion, and stability were evaluated in terms of five indicators: economic and business resource impacts; mobility and access impacts; community safety and emergency response impacts; community and neighborhood impacts; and barriers to the elderly and handicapped persons. Environmental Justice considerations were also evaluated and existing socioeconomic conditions are discussed in Section 3.16. Methods, impact definitions, and results from analysis of impacts associated with all alternatives are included in Section 4.16. Detailed methods and results are located in Appendix K.

Further Information

Alternative 1 (Proposed Project), as well as all of the build alternatives, would provide major short-term and indirect long-term benefits to the local and regional economy through job creation from the construction and operation of the ICTF. The South Carolina State Rail Plan (2008), prepared for the South Carolina Department of Commerce, indicates that rail activities are vital to the state economy as the state rail system supports an estimated 339,700 jobs. Many of these jobs are directly and indirectly provided by the businesses that use rail transportation. Palmetto Railways estimates that \$150 million will be used to develop and construct the Navy Base ICTF. As noted in a study completed in 2015 by the College of Charleston, 3,032 temporary construction jobs within the region would be created from construction, and a total of 55 direct jobs would be supported at the site after its completion. Palmetto Railways estimates that the Navy Base ICTF would employ approximately 96 people by 2038. The purpose of the Navy base ICTF is to improve efficiency within the intermodal container transportation network to and from the port. This increased efficiency in local intermodal transport is expected to attract economic activity and provide a competitive advantage for the ports.

According to a study completed in 2015 by the University of South Carolina, for every 10 jobs that are directly supported by South Carolina Ports Authority (SCPA) operations, an additional 14 jobs are indirectly created elsewhere with companies that do business through the SCPA. The study also indicates that the total economic impact of the SCPA corresponds to \$53 billion in annual economic output, creating 187,206 jobs and over \$10.2 billion in labor income in the state that would not exist otherwise.

However, Alternative 1 (Proposed Project) would result in minor indirect and adverse impacts to local businesses adjacent to the site. Alternative 1 (Proposed Project) would require the relocation of six businesses with a total of 50 displaced employees. Queuing of trucks and employees at the main gate of the facility, as well as noise and aesthetic impacts associated with Alternative 1 (Proposed Project), may also cause a loss of customers at local businesses. Palmetto Railways has configured the facility and proposed road improvements (e.g., turning lanes) to minimize the potential for trucks obstructing access to Supply Street (and other streets near the ICTF). Proposed mitigation to minimize noise and aesthetic impacts include features such as the vegetated earthen noise berm, sound walls, and electric wide-span gantry cranes. These mitigation measures by Palmetto Railways would help mitigate the minor indirect adverse impacts to these businesses. Relocation of businesses would comply with The Uniform Act of 1970, as amended (See Chapter 8 Relevant Laws, Regulations, and Executive Orders). Overall, impacts to economic and business resources as a result of the Alternative 1 (Proposed Project) would be minor adverse with Palmetto Railways' proposed mitigation measures. Similar economic and business impacts would result from Alternatives 2-4. The River Center site alternatives would have adverse economic and resource impacts due to new noise and visual impacts to offices and businesses located on the east side of Noisette Boulevard adjacent to the ICTF, the relocation of commercial properties, termination of existing leases, and the increased volume of trucks on Cosgrove Avenue east of Spruill Avenue, indirectly impacting businesses.

Temporary detours during construction of the Proposed Project alternatives would likely increase travel times, change or remove access to properties, and limit mobility at the site. These indirect adverse impacts would be short-term and localized to the study area. Implementation of a traffic control plan and the provision of safe and efficient detour routes and advance notice of road closures would minimize impacts; therefore, the intensity of construction-related mobility and access adverse impacts is anticipated to be minor short-term adverse. Long-term impacts of the Proposed Project alternatives would include changes in the way destinations are accessed and decreased mobility at new and existing at-grade rail crossings, resulting in the delay of community residents, interruptions to bus routes, and increased emergency response times. The Applicant has committed to constructing a pedestrian and multiuse path as part of the raised overpass connecting Spruill Avenue to North Hobson Avenue which will provide safe and uninterrupted access to existing and future development on the former CNC. The new at-grade crossing on Meeting Street would also have an adverse indirect impact to community safety by introducing new conflict points between trains and automobiles, bicycles, and pedestrians. Additional major access impacts would result from the River Center site

alternatives because east-west mobility would be limited with construction of the River Center project site and drayage road. In addition, closure of McMillan Avenue would affect the Charleston Area Regional Transportation Authority (CARTA) Route 104. Overall, impacts to mobility and access would be minor adverse.

The new at-grade crossing associated with Alternative 1 (Proposed Project) may also have a minor adverse impact on emergency response times for certain locations because there is the potential for Meeting Street to be blocked for approximately 11 minutes¹⁴, four times a day in design year 2038, when trains are entering and leaving the ICTF. Detour routes are available, such as the elevated Stromboli Avenue and Cosgrove-McMillan Overpass, but the detour could increase response times, depending on the location of the emergency. The community of Union Heights would also experience a minor adverse impact to emergency response if an ICTF train was blocking access on both east and west access points as it navigated the U-turn. In the northern portion of the Navy Base ICTF, the grade separation of Cosgrove Avenue with multi-use path would preserve east-west mobility for automobiles, bicycles, and pedestrians. The Cosgrove Avenue improvement would also preserve access to the eastern portion of the northern study area for emergency responders. While there is short-term adverse construction related impacts and long-term adverse operational impacts to emergency response times under Alternative 1 (Proposed Project), the overall impact is minor because response times would be longer than those under the No-Action Alternative; however alternate routes for emergency response are available. Additional benefits to emergency response may result from transportation improvements made as recommendations in the separate Surface Transportation Impact Study or the Crossing Analysis.

Impacts to community and neighborhoods include: negligible impact from displacement of Sterett Hall and surrounding arts facilities as they would be displaced with or without Alternative 1 (Proposed Project); major adverse impacts to Chicora-Cherokee neighborhood from 134 residential displacements; minor to moderate impact to Chicora-Cherokee neighborhood from visual and noise impacts; minor adverse noise impacts to Olde North Charleston; and minor to moderate noise impacts to Howard Heights/Union Heights/Windsor neighborhoods. The Applicant has collaborated with the Cities of Charleston and North Charleston and multiple neighborhood organizations to develop various mitigation measures, which are included in the Applicant's Community Mitigation Plan, that help improve the quality of life in the surrounding community. Neighborhood organizations included the Chicora-Cherokee Neighborhood Association, the Union Heights Community Council, the Lowcountry Alliance for Model Communities (LAMC), and the Metanoia Community Development Corporation. LAMC represents seven neighborhoods (Accabee, Chicora/Cherokee, Union Heights, Howard Heights, Windsor Place, Five Mile, and Liberty Hill). The Applicant and the groups entered into a Memorandum of Agreement (MOA) on October 18, 2016 (see the Community Mitigation Plan and Community MOA in Appendix N for additional details). As part of this agreement,

¹⁴ Based on an 8,000-foot train traveling at 10 miles per hour through the crossing.

the Applicant has committed to provide funding in the amount of \$3 million for the construction of a new recreation center to replace Sterett Hall and \$1 million to mitigate effects to neighborhoods and communities with a revolving fund for affordable housing, job training, educational initiatives, environmental research, and health impact studies.

The Alternative 1 (Proposed Project) site is located on flat, level terrain that would not create barriers to access for the elderly or handicapped. Facility buildings would be built in compliance with Americans with Disabilities Act (ADA) requirements. Designated ADA compliant parking spaces would be provided to assure the availability of parking and decrease the distance for elderly and disabled visitors to facility buildings. Mobility and access impacts from the Alternative 1 (Proposed Project) would be short-term and localized to the study area. ADA compliant sidewalks would be included with the Cosgrove Avenue flyover. The general population would experience delays by trains at at-grade rail crossings. However, delay would not constitute a physical barrier. As a result, Alternative 1 (Proposed Project) would not result in new barriers to the elderly and handicapped and impacts would be negligible. Interruptions to bus routes would result in a minor adverse temporary impact because alternate routes would be employed by CARTA and access to areas that would be serviced by Routes 104, 10, and 11 would likely be maintained.

Title VI of the Civil Rights Act of 1964 protects individuals from discrimination on the grounds of race, age, color, religion, disability, sex, and national origin. In addition, Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," mandates federal agencies to identify and address any disproportionately high and adverse effects on minority and/or low-income populations. The Order also directs federal agencies to provide minority and low-income communities access to public information and meaningful public participation. Environmental Justice is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Environmental Justice consideration is required under NEPA.

The Proposed Project and River Center site alternatives have the potential for disproportionately high and adverse impacts to Environmental Justice populations. With regard to benefits and burdens, the benefits of Alternative 1 (Proposed Project) and the build alternatives would extend to the greater Charleston region, while the burdens would be borne by the Environmental Justice community adjacent to the facility (Chicora-Cherokee neighborhood). Therefore, the benefits and burdens of Alternative 1 (Proposed Project) and the build alternatives are not equitably distributed. However, the Applicant worked with community groups entered into a Community MOA on October 18, 2016, as part of the Community Mitigation Plan (see the Community Mitigation Plan and Community MOA in Appendix N for additional details). Mitigation measures outlined in this plan and agreement would mitigate the adverse burdens borne by the Environmental Justice community.

Palmetto Railways' measures to avoid and minimize potential impacts to the socioeconomics of the community as a result of Alternative 1 (Proposed Project) are described in Chapter 4, "Environmental Consequences," and are summarized in Chapter 6, "Mitigation."

Question 15 – How would the project affect cultural resources?

The Cultural Resources Study Area (equivalent to the Area of Potential Effects) consists of several historic properties and districts that were developed on the former Navy Base that are either listed or eligible for the National Register of Historic Places (NRHP). These resources include the Charleston Naval Hospital (CNH) Historic District, the Charleston Naval Yard (CNY), the Charleston Navy Yard Officer's Quarters (CNYOQ) Historic District, and the U.S. Marine (USMC) Barracks. Construction and operation of the Alternative 1 (Proposed Project) would affect several of these resources. The Corps has conducted the Section 106 consultation in compliance with the National Historic Preservation Act (NHPA)¹⁵. Potential impacts to historic properties were characterized as adverse, not adverse, or having no effect as defined under Section 106. Existing cultural resource conditions are discussed in Section 3.10. Methods, impact definitions, and results from analysis of impacts associated with all alternatives are included in Section 4.10. Detailed methods and results for the cultural resources investigations are located in Appendix G.

Two historic properties, the Charleston Naval Hospital (CNH) Historic District and USMC Barracks (CNC Building M-17) lie within the Cultural Resources Study Area (equivalent to the Area of Potential Effects) for Alternative 1 (Proposed Project). The Corps determined, and the State Historic Preservation Office (SHPO) concurred, that there would be a permanent adverse effect from demolition of NRHP-listed buildings and altered setting of the CNH District from Alternative 1 (Proposed Project). There would be a permanent adverse effect from the altered setting of the USMC Barracks. There would be no effect from vibration. Other properties or historic districts nearby would have no effect. A Cultural Memorandum of Agreement (MOA) was developed to mitigate the adverse effects to these resources. The Cultural MOA (Appendix G) was executed on May 30, 2018.

Further Information

Over the last 20 years, multiple cultural resources investigations of this portion of North Charleston have been conducted, and each has inventoried historic properties (NRHP eligible) and other historic resources. Recent architectural surveys and cultural reports were also undertaken to identify and evaluate the effects of the project upon these cultural resources. Recent submittals made to SHPO include reports in 2011, 2014, and 2016. The most recently completed report, Cultural Resource Investigation in Support of South Carolina Public Railways Proposed Navy Base Intermodal Container Transfer Facility (Brockington 2016), is included in Appendix G. SHPO concurred with the

¹⁵ 16 U.S.C. § 470 et seq.

inventory of the area and concurred with the findings of effects in July 2016. SHPO's final concurrence with effects determinations is the signed MOA.

The Applicant and the Corps have consulted with SHPO, the Advisory Council on Historic Preservation (ACHP), and the FRA regarding Alternative 1 (Proposed Project). The Applicant and Corps have also consulted with the Historic Charleston Foundation, The Preservation Society of Charleston, and the Naval Order of the United States, Charleston Commandery. These three organizations were all granted consulting party status and provided input on the effects of Alternative 1 (Proposed Project) on cultural resources. The Corps also notified federally-recognized tribes about Alternative 1 (Proposed Project). The Muscogee (Creek) Nation requested to become a consulting party due to the project's location within their historic area of interest. However, they have stated that "there is very little potential for intact archeological deposits, and if there are any, they are likely beneath the (existing) fill" (see letter dated January 20, 2016, in Appendix G).

The Applicant has worked to try and avoid impacts to cultural resources where possible since inception of the project. All Alternatives examined (except for the No-Build Alternative and Alternative 2) would result in adverse impacts to cultural and Section 4(f) resources. While Alternative 2 would avoid impacts to cultural and Section 4(f) resources, it would result in increased impacts to the natural and human environment over Alternative 1 (Proposed Project). In addition, the Applicant maintains that Alternative 2 is not a reasonable and feasible option due to design constraints and operational control issues (see Appendix B).

The Corps coordinated with the Applicant and the consulting parties to develop mitigation to help compensate for impacts to these historic properties as part of the Section 106 consultation process and the parties worked together to develop a Cultural Resources MOA. Informal meetings have been ongoing throughout the process and a formal Section 106 consultation meeting was held April 7, 2017, in Charleston, SC. The meeting was attended by the Applicant, the Corps, project consultants, and representatives from the Historic Charleston Foundation, The Preservation Society of Charleston, and the Naval Order of the United States. Additional representatives from SHPO, ACHP, The Muscogee (Creek) Nation, and the FRA called in to the meeting and participated via phone. By letter dated July 10, 2017, the FRA designated the Corps as the lead agency for the Section 106 process. This coordination resulted in a draft MOA to mitigate for impacts as part of the Section 106 consultation process. The draft Cultural MOA was proffered to the various signatories in October 2017 and executed on May 30, 2018 (Appendix G). The Cultural MOA provides for multiple mitigation measures to reduce and offset the adverse impacts to cultural resources that would result from the Proposed Project, including the establishment and funding of \$2,000,000 for a CNB Historical Trust for rehabilitation of historic structures.

Question 16 – What mitigation commitments have been made?

Mitigation is an important component of the project and is considered throughout the DA permit evaluation and the NEPA process. The Applicant has committed to a number of measures to minimize environmental impacts from Alternative 1 (Proposed Project), in the event that the DA permit is granted. These measures are included in the DA permit application and mitigation plan (Appendix N).

Many of the major mitigation measures proposed by the Applicant were committed to as part of several Memoranda of Agreements. The Applicant worked with local jurisdictions and several community organizations to develop the Community Memorandum of Agreement (MOA). This agreement commits the Applicant to mitigation actions that reduce and offset some of the negative impacts that the Alternative 1 (Proposed Project) may have on the local community. As part of the Community MOA, the Applicant will provide \$3 million for the construction of a new recreation center to replace Sterett Hall and \$1 million for a revolving fund for affordable housing, job training, educational initiatives, environmental research, and health impact studies. The Air Quality MOA provides for air quality initiatives including the contribution of \$50,000 from the Applicant to go towards ambient air quality initiatives in conjunction and coordination with SCDHEC and the Medical University of South Carolina on air quality initiatives in the Charleston region. The Community MOA and Air Quality MOA have been executed. The Cultural Resources MOA was executed on May 30, 2018, and includes mitigation proposed by the Applicant, including the funding of \$2 million for a CNB Historical Trust for rehabilitation of historic structures at the Charleston Naval Hospital or USMC Barracks. Appendix N includes copies of the MOAs and details of the agreements.

To reach an agreement concerning the impacts and potential mitigation options for the City of Charleston, the Applicant prepared a draft Transportation Memorandum of Agreement (draft Transportation MOA) between the Applicant, South Carolina Department of Transportation (SCDOT), the South Carolina Department of Commerce, and the City of Charleston. This draft Transportation MOA was prepared to address transportation and safety impacts; specifically, with ICTF-related grade crossings within the City of Charleston. The draft Transportation MOA recognizes the importance of the ICTF to facilitate and enhance economic growth and development in the region, while ensuring an adequate and functioning transportation system in the surrounding jurisdictions. The draft Transportation MOA identifies the scope of evaluation activities, sources of funding, and roles and responsibilities of the parties. As part of the draft Transportation MOA, the parties will conduct a Crossing Analysis (funded by the Applicant) to examine conditions at the crossings and identify potential improvements, where warranted. The draft Transportation MOA does not specifically identify, or commit the Applicant to construct, any new grade separated crossings; however, it proposes to study the impacts and needs for these improvements. In addition to the Crossing Analysis, the Applicant also proposes in the draft Transportation MOA to provide

funds up to \$4.5 million to the City of Charleston (or another government body) for its use on mitigation measures for transportation improvements. The draft Transportation MOA is included in Appendix N. Although the Applicant and the City of Charleston have not reached a final agreement on the specific terms of mitigation for the City of Charleston, the Applicant has represented by letter dated December 6, 2017, that it is "committed to fulfilling the items in Section 2 of the MOA as mitigation for the [ICTF] impact on the City [of Charleston]" (Appendix B).

Pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), Sections 401 and 404 of the Clean Water Act (33 U.S.C. 1344), and the South Carolina Coastal Zone Management Act (48-39-10 et seq.), a joint permit application was submitted to the Department of the Army (DA) and the S.C. Department of Health and Environmental Control (SCDHEC) in October 2016. The Applicant's permit application included a Wetland Mitigation Plan. This plan proposes for the Applicant to purchase 86.3 wetland mitigation credits from Pigeon Pond Mitigation Bank to compensate for freshwater impacts, as well as a permittee responsible mitigation plan to restore and protect approximately 40.6 acres of tidal marsh at the former Kings Grant Country Club and Golf Course in North Charleston, Dorchester County, SC. Final calculation of the required wetland mitigation credits will be based on approved and final plans.

The proposed measures to avoid and minimize potential impacts of Alternative 1 (Proposed Project) are summarized by resource area in Table ES-3, based on information provided in Appendix B. The Corps views these elements as part of the Applicant's Proposed Project (Alternative 1) for purposes of the environmental impacts analysis presented in Chapter 4. Some of these measures are required under federal, state, and local permits; others are measures that Palmetto Railways has incorporated into the design and operations of Alternative 1 (Proposed Project).

Measures from a number of categories in Table ES-3 may be applicable to more than one resource area. For example, certain measures listed under surface water resources may also help to avoid or minimize potential impacts to waters of the U.S. These avoidance and minimization measures, except the items noted with an asterisk (*), have been considered in the impact analysis in Chapter 4.

Table ES-3
Summary of Avoidance and Minimization Measures Proposed by the Applicant

Resource Area	Avoidance and Minimization Measures
Geology and Soils	<ul style="list-style-type: none"> • 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. (Minimization) • Implement a Spill Prevention Control and Countermeasures (SPCC) Plan for petroleum products. (Minimization) • Use Best Management Practices (BMPs) and/or methods of managing sediment and erosion control during construction pursuant to the South Carolina Stormwater Management Handbook (South Carolina Department of Health and Environmental Control [SCDHEC] 2005). (Minimization) • Capping contaminated sites within the ICTF to "seal" existing soil and groundwater contamination. (Minimization) • Perform all land disturbance activities in compliance with the U.S. Navy Construction Process Document (Navy "Dig" Permit) which identifies the permit process and requirements for conducting construction or other land disturbing activities in Land Use Control (LUC) Areas at the former Navy Base (Charleston Naval Complex). (Minimization) • Development of a soil management plan during design to be implemented during construction. (Minimization) • Use of clean fill material. (Minimization)
Hydrology	<ul style="list-style-type: none"> • Design culverts and/or bridges to maintain existing surface drainage patterns and to prevent erosion. (Minimization) • Where possible, limit the placement of pilings for bridges within waterways. (Avoidance) • Use existing bridge over Noisette Creek to reduce impacts. (Avoidance) • Design culverts (e.g., under the arrival/departure tracks) and bridges to maintain existing flow and hydrology for wetland areas and to prevent flooding upstream. (Minimization) • Provide stormwater capacity improvements by constructing new stormwater infrastructure where the existing systems are failing from lack of maintenance. (Minimization)
Water Quality	<ul style="list-style-type: none"> • Comply with requirements of the Individual Section 402 NPDES permit, including applicable groundwater and surface monitoring. (Minimization) • Employ the use of oil-water separator at the locomotive shop and proper spill protection (e.g., spill kit, collector pans) for light duty repairs in the vicinity of the "repair in place" tracks to ensure treatment of any oily waste from on-terminal equipment maintenance activities. (Minimization) • Implement an SWPPP and Stormwater Master Plan as required by the Individual Section 102 NPDES permit. (Minimization) • Inclusion of forebay in stormwater management system to provide pretreatment of stormwater runoff before it discharges to Pond A. (Minimization) • Construct five stormwater detention ponds located at the topographical low points of the site and in close proximity to the existing outfalls to contain and manage stormwater runoff. (Minimization) • Implement sediment and erosion control measures to mitigate sediment and sediment-associated pollutant loading from disturbed areas. (Minimization) • Cap much of the Project site with pavement to mitigate spread of existing contaminants. (Minimization) • Implement dust control measures for roads and construction areas. (Minimization)

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> • Use clean fill material. (Minimization) • Design for the facility includes approximately 86,375 linear feet of new pipe or underdrain and five dry detention ponds (A, B, C, D1, and D2), including one forebay, totaling approximately 1,527,000 CF. (Minimization) • A Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs) will be implemented to manage stormwater on-site during construction of the intermodal facility. (Avoidance and Minimization)
Vegetation and Wildlife	<ul style="list-style-type: none"> • Redevelopment of an existing industrial site that minimizes impacts to undeveloped land. (Avoidance and Minimization) • Plant native vegetation and trees on the earthen berm within the 100-foot buffer along the western property boundary, the north lead area, and the entire 135-acre ICTF site. (Minimization)
Waters of the United States	<ul style="list-style-type: none"> • Locate the ICTF on an existing vacant industrial site mostly comprised of uplands. (Avoidance and Minimization) • Design the ICTF and roadway and rail improvements to minimize impacts to waters of the U.S., including wetlands, such as the drayage road placement that reduce impacts to waters of the U.S., including wetlands associated with Shipyard Creek. (Minimization) • Where possible, limit the placement of pilings for bridges within waterways. (Minimization) • Use of 2:1 slopes in areas that are not bridged. (Minimization) • Rehabilitate existing bridge over Noisette Creek to reduce impacts. (Minimization) • Design culverts and bridges to maintain existing flow/exchange and hydrology for wetland areas and marshes. (Minimization) • Replacement of earthen berm with a sound attenuation and security wall, where appropriate, in areas adjacent to waters of the U.S., including wetlands to avoid filling of wetlands. (Minimization) • Restoration of temporary wetland impacts during construction. (Minimization) • Develop and execute the wetland mitigation plan (Appendix N) to ensure any wetland impacts have been minimized and that compensation will be provided for all remaining unavoidable impacts. The plan proposes a combination of the purchase of wetland mitigation credits and restoration of tidal marsh. (Minimization)
Protected Species	<ul style="list-style-type: none"> • Where possible, the placement of pilings for bridges within waterways will be limited, ensuring channels are not blocked. (Minimization) • Reconstruct the existing superstructure of the rail trestle bridge of Noisette Creek to reduce impacts. (Avoidance and Minimization) • Contractors will be required to use bubble curtains or sleeve piles to mitigate underwater noise while driving piling in essential fish habitat (EFH) areas. (Minimization) • The contractor will utilize soft-start techniques for pile driving activities. This will consist of a series of taps at 25 to 40 percent of the pile driver's energy followed by a one-minute waiting period. (Minimization) • During in-water work, a floating semi-permeable turbidity curtain will be deployed around areas where pile driving is taking place. (Minimization) • Adherence to environmental windows for construction during the winter months when sea turtles are less abundant. (Avoidance and Minimization) • The contractor will hire a qualified marine biologist to be onsite during in-water construction activities to avoid potential impacts to marine resources and EFH. (Avoidance and Minimization) • Implement an SPCC Plan to minimize the impact of a potential spill on protected species. (Minimization)

Resource Area	Avoidance and Minimization Measures
<p>Essential Fish Habitat</p>	<ul style="list-style-type: none"> • Where possible, possible limit the placement of pilings for bridges within waterways, ensuring channels are not blocked (including use of the existing bridge over Noisette Creek). (Minimization) • Reconstruct the existing superstructure of the rail trestle bridge of Noisette Creek to reduce impacts. (Avoidance and Minimization) • Contractors will be required to use bubble curtains or sleeve piles to mitigate underwater noise while driving piling in essential fish habitat (EFH) areas. (Minimization) • The contractor will utilize soft-start techniques for pile driving activities. This will consist of a series of taps at 25 to 40 percent of the pile driver’s energy followed by a one-minute waiting period. (Minimization) • During in-water work, a floating semi-permeable turbidity curtain will be deployed around areas where pile driving is taking place. (Minimization) • Adherence to environmental windows for construction during the winter months when sea turtles are less abundant. (Minimization) • The contractor will hire a qualified marine biologist to be on-site during in-water construction activities to avoid potential impacts to marine resources and EFH. (Minimization) • Implement an SPCC Plan to minimize the impact of a potential spill on EFH. (Minimization) • Permanent loss of EFH habitat will be mitigated through the mitigation plan and efforts described above. (Mitigation)
<p>Transportation</p>	<ul style="list-style-type: none"> • Perform a separate Surface Transportation Impact Study (in cooperation with the City of North Charleston, the South Carolina Ports Authority, and the South Carolina Department of Transportation) to study and provide guidance regarding rail and highway traffic related to the facility; including the identification of optimal truck routes to and from the facility (see Appendix B for the proposal/scope of this study). * (Minimization) • To minimize impacts to at-grade crossings outside of the facility footprint, automated switches will be used throughout the Project area to facilitate a continuous movement of trains while arriving or departing the facility. (Minimization) • All at-grade crossings within the facility footprint will be eliminated to provide safe and unfettered movements through the facility. (Minimization) • Provide access to St. Johns Ave. for residents and businesses located on the former Navy Base and west of Project North Lead railroad track. (Minimization) • Automated gates and additional turn lanes will be constructed to reduce truck idling, wait times and congestion on North Hobson Avenue. When exiting the facility, a right-only turn onto North Hobson Avenue will direct truck traffic to the Port Access Road highway ramps. (Minimization) • Cosgrove Avenue will be extended and an overpass over the facility’s north rail lead will be constructed to facilitate public access to the CNC and adjoining neighborhoods. During construction, McMillan Avenue will be detoured. Once construction of the overpass is completed, McMillan Avenue will be closed east of Spruill Avenue and a cul-de-sac will be constructed. (Minimization) • Improvements to Bainbridge Avenue and North Hobson Avenue intersection will be constructed to facilitate traffic flows in the southern portion of the CNC, including the Federal Law Enforcement Training Complex (FLETC), U.S. Coast Guard complex and Veterans Terminal. (Minimization) • A drayage road will be constructed to eliminate truck traffic on local roadways when transporting containers to the intermodal facility. (Minimization) • Palmetto Railways will support the City of North Charleston to develop a truck route and restriction plan for the area. Additionally, Palmetto Railways will work to inform

Resource Area	Avoidance and Minimization Measures
	<p>facility truck traffic of streets where truck traffic is not permitted when traveling to and from the intermodal facility. * (Minimization)</p> <ul style="list-style-type: none"> • Maintain Viaduct Road overpass until the local segment of the port access road is complete. (Minimization) • Locate roadway improvements to minimize/avoid at-grade crossings and traffic delays associated with rail operations. * (Minimization) • Additional intermodal capacity will encourage rail use and reduce truck traffic on local roads. * (Minimization) • The Applicant is working with multiple parties to develop standards on studying public at-grade crossings (Crossing Analysis) impacted by the ICTF in the City of Charleston and drafted a Transportation Memorandum of Agreement (MOA) with the City of Charleston, the South Carolina Department of Commerce, and South Carolina Department of Transportation (SCDOT). The draft Transportation MOA commits these parties to conducting a joint Crossing Analysis and the Applicant proposes to fund up to \$4.5 million for five transportation mitigation measures to be undertaken by the City of Charleston (or another government body). See Appendix N for additional details. * (Minimization)
Land use and Infrastructure	<ul style="list-style-type: none"> • Ensure the Project and its operations are consistent with zoning and the Comprehensive Plan. (Avoidance) • Support direction of the Historical Trust for land use and landscaping surrounding the Charleston Naval Hospital. (Minimization) • Construction of a raised overpass with a pedestrian and multiuse path from Spruill Avenue to Riverfront Park to provide safe and uninterrupted access to existing and future development on the former CNC. (Minimization) • Support the City of North Charleston and the Community Mitigation Group in the establishment of Quitman’s marsh as a recreational area. (Minimization) • Continue efforts to locate new utilities in ways to avoid/minimize impacts to significant utility facilities and minimize disruptions to service. (Avoidance and Minimization) • Continue coordination efforts with utility providers and their design consultants to ensure capacity is available at the Project site, conflicts have been identified, and relocation plans are feasible. (Minimization)
Cultural Resources	<ul style="list-style-type: none"> • Minimize and avoid impacts to buildings and structures on the CNC. (Avoidance and Minimization) • Minimize and avoid direct interaction with historic buildings and structures. (Avoidance and Minimization) • Consulted with multiple agencies (state and federal) and historic organizations regarding potential impacts and mitigation for cultural resources. (Minimization) • Execute a Cultural Memorandum of Agreement (MOA) regarding effects of the Project on historic properties between the Corps, the Federal Railroad Administration (FRA), Palmetto Railways, the Advisory Council on Historic Preservation (ACHP), the Muscogee (Creek) Nation, and the State Historic Preservation Office (SHPO). The MOA has also been proffered to Historic Charleston Foundation, The Preservation Society of Charleston, and the Naval Order of the United States, Charleston Commandery for signature as concurring parties. (Minimization) • The Cultural Resources MOA shall continue throughout the development and implementation of the ICTF. The agreement acknowledges that the Applicant has undertaken multiple efforts for the benefit of historic and cultural preservation on the CNC, including adversely affected properties. The Cultural Resources MOA outlines the following mitigation activities: <ul style="list-style-type: none"> – The Applicant shall monitor adversely affected historic properties for vibration damage during construction and for a period of two (2) years during operation of

Resource Area	Avoidance and Minimization Measures
	<p>the facility. If damage does occur during construction, the Applicant or its contractors shall be responsible for repairs of vibration damage to historic properties, in coordination with the Corps and SHPO and in accordance with the Secretary of the Interior Standards. (Minimization)</p> <ul style="list-style-type: none"> - Construction activities shall occur in accordance with local noise regulations, policies, and guidance to minimize adverse noise effects. (Minimization) - The Applicant will develop and erect three (3) state historical markers regarding the history of the USMC Barracks, CNH, and CNYOQ within two (2) years of the execution of the Cultural Resources MOA and in coordination with SHPO. (Minimization) - The Applicant shall prepare a nomination of the USMC Barracks to the National Register of Historic Places (if deemed appropriate by SHPO) within one (1) year of the execution of the Cultural Resources MOA. (Minimization) - The Applicant shall establish the Charleston Naval Base Historical Trust (CNB Historical Trust). The CNB Historical Trust governing board shall consist of at least one (1) representative from the City of North Charleston, each concurring party, the Redevelopment Authority, Palmetto Railways, and SHPO. (Minimization) - The Applicant shall provide funding in the amount of \$2 million for the CNB Historical Trust for use in preserving and rehabilitating the Charleston Naval Hospital and USMC Barracks. (Minimization) - The Applicant shall fund an additional historic resource survey of the study area under the oversight of SHPO, which is intended to update and catalogue changes to the properties listed in the Programmatic Agreement for use by the signatories on a going forward basis. (Minimization) - The Applicant shall lease the CNH and/or USMC Barracks to the CNB Historical Trust for a nominal fee as long as they are actively implementing rehabilitation and preservation efforts. A transfer of title shall be provided upon satisfaction of certain conditions. (Minimization) - The Applicant shall work with the CNB Historical Trust to place appropriate restrictive covenants on the CNH and/or USMC Barracks to reasonably protect the historic and cultural value of such structures for any rehabilitation or use to be held by the CNB Historical Trust if such properties are transferred or leased to any third party (or held by an appropriate third party), if title is retained by the CNB Historical Trust. Rehabilitation and reuse may include use for residential, commercial, office, mixed-use, and retail space and which may include an exhibit of historic or cultural interest. (Minimization). - The Applicant will cause rehabilitation and reuse of the Power House (CNC Building 32 – Central Power Plant), which may include use for commercial, office, and retail space which may include an exhibit or other recognition of CNC objects of historical, scientific, artistic, or cultural interest, including but not limited to the transfer of title to any appropriate entity to accomplish these tasks upon reasonable request, subject to SHPO’s prior consent approval. The Applicant has sold the Powerhouse to a private ownership entity with the stipulation that it be redeveloped within four years of purchase or returned to Palmetto Railways. (Minimization) - The Applicant shall follow post-review discovery requirements and suspend construction operations if cultural resources are found and notify relevant parties for consultation including the Corps, SHPO, Muscogee (Creek) Nation, Catawba Indian Nation, and the FRA. (Minimization). - The Applicant shall prepare an Annual Report documenting actions carried out in the MOA and distribute to the signatories and concurring parties. (Minimization)
<p>Visual resources and aesthetics</p>	<ul style="list-style-type: none"> • Trains transiting from the north will travel through the base of a cut section (trench) that will serve to minimize the visual impacts associated with the site. (Minimization)

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> • Construct an earthen berm and sound walls within a 100-foot buffer along the western boundary of the site to minimize visual impacts. (Minimization) • The material used for the noise/visual barriers will be aesthetically pleasing and may incorporate a community mural project or other design. (Minimization) • Landscaping will be installed within and around the facility footprint to reduce visual impacts from adjacent roadways for residences and businesses. The landscaping will meet City code requirements and architectural elements will match surrounding buildings. (Minimization) • Completed a photometric design for intermodal facility high-mast lighting that would result in less than 0.5 foot-candles outside of the property boundary. (Minimization) • The construction of the earthen berm between the facility and adjacent neighborhoods may also help to minimize visual impacts of light sources at the site. (Minimization) • LED lighting fixtures will be installed over bridges and other areas where practical. (Minimization) • Buildings on the facility (locomotive shop and administration buildings) will be architecturally designed to match the historical characteristics of other buildings in the area. (Minimization) • Implement four-container tall stacking limits to reduce visual impacts on surrounding neighborhoods. (Minimization) • To minimize the impact of lights from the site on adjacent areas, all operating lights will be directed downward to shield light sources minimizing any light bleed off the facility footprint. (Minimization)
Noise and vibration	<ul style="list-style-type: none"> • To minimize noise impacts associated with operation of the site, the facility will use state-of-the-art equipment, such as electric wide-span gantry cranes, that will minimize sound emissions during operations. (Minimization) • To further minimize noise impacts to the communities adjacent to the proposed facility, an earthen berm will be used to mitigate the noise/visual impacts. The earthen berm is planned for the western boundary of the site between the facility and adjacent neighborhoods. (Minimization) • To minimize the impact of vibrations on the adjacent community, the Applicant will create a 100-foot buffer to the west of the current property line. This is expected to reduce the impacts of property damage, deterioration of residents' foundations, and structural damage to homes as it relates to vibrations associated with the construction and operations of the facility. (Minimization) • One sound attenuation wall will be used in place of the earthen berm adjacent to waters of the U.S., including wetlands to avoid filling wetlands. One sound attenuation wall will be located at the northern end of the earthen berm. Two sound attenuation walls will be used to minimize noise and visual impacts in two areas along the northern rail connection. (Minimization) • The Applicant and the City of North Charleston are collaborating on the design of a mutually agreeable landscaping program for the ICTF. (Minimization) • Support the Cities of Charleston and North Charleston, and Class I Rail Carriers in the establishment of rail "Quiet Zones"¹⁶. (Minimization) • The existing topography of the North Lead will require a substantial cut (trench) section to provide adequate grades to accommodate train movements. This cut section will mitigate visual and noise impacts that may result from the movement of trains in and out of the facility from the north. (Minimization)

¹⁶ In order to mitigate the effects of train horn noise, communities can establish "Quiet Zones" where horns are not needed due to safety improvements at the grade crossings. A guide to the quiet zone establishment process can be found at: www.fra.gov under Railroad Safety: "FRA Train Horn Rule and Quiet Zones."

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> • Provide relocation services for a period of 3 years to owner-occupied residential property owners who reside in the Relocation Area from 100 feet of the Project up to North Carolina Avenue. (Minimization)
Air quality	<ul style="list-style-type: none"> • The Applicant is committed to implement options to minimize air emissions for the community and the environment of the region and executed an Air Quality Memorandum of Agreement (MOA) with South Carolina Department of Health and Environmental Control (SCDHEC). The facility will comply with all applicable requirements, conditions, and reporting and would maintain air pollution control equipment in accordance with such requirements and commitments found in the Air Quality MOA. The Air Quality MOA will expire by its term on December 31, 2019, unless otherwise terminated. Commitments outlined in the Air Quality MOA include: <ul style="list-style-type: none"> – SCDHEC Bureau of Air Quality commits to promptly and thoroughly review any regulatory determinations and respond to requested consultations by the Applicant. (Minimization) – SCDHEC commits to designate a point of contact who will make staff reasonably available to participate in discussions related to the design of the ICTF and review of operational and equipment options at future and existing Palmetto Railway facilities. (Minimization) – SCDHEC commits to work cooperatively with Palmetto Railways in evaluating reasonable and proven practices and technologies to assist Palmetto Railways in meeting applicable environmental standards at the proposed and existing Palmetto Railways facilities while fairly accounting for environmental, economic, and competitiveness considerations. (Minimization) – During the term of the MOA and for two years after operations begin at the ICTF, SCDHEC shall conduct an annual community meeting in the vicinity of the ICTF to update the community on relevant and pertinent environmental and health issues. Palmetto Railways shall use its best efforts to cooperate and assist SCDHEC with such community meeting as may be reasonably requested by SCDHEC. (Minimization) – The Applicant commits to work cooperatively with SCDHEC staff to evaluate potential design, operation, and equipment options that are environmentally beneficial and fiscally feasible with demonstrated technologies and practices of intermodal facilities on the east coast in areas designated as attainment for implementation at the ICTF. Palmetto Railways will consider innovative technologies on a case-by-case basis. (Minimization) – The Applicant commits that when major equipment reaches the end of its useful life and is retired, they will identify and replace such equipment with environmentally beneficial and fiscally feasible equipment and demonstrated technology of intermodal facilities on the east coast in areas designated as attainment then currently available. Enterprise (MBE) firms will be provided opportunities on the project. An example of this commitment, replacement equipment for retired equipment will include engines that meet the federal Tier 3 or higher emission standard. (Minimization) – The Applicant will designate one (1) individual as the point of contact with SCDHEC related to the implementation of the Air Quality MOA. (Minimization) – The Applicant will contribute fifty thousand dollars (\$50,000.00) towards ambient air quality initiatives in conjunction and coordination with SCDHEC and the Medical University of South Carolina on air quality initiatives in the Charleston region, for which SCDHEC will serve as the lead and point of contact. (Minimization) – The Applicant will include in its contractor bid documents and in the construction contract for the ICTF the terms, conditions, and provisions set forth in the Air Quality MOA to ensure the implementation of best management practices (BMPs) and minimize air emissions during the construction of the ICTF. (Minimization)

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> • Once operational, the ICTF will reduce truck traffic on local roads by providing additional intermodal capacity and encouraging the use of rail to transport containers, thereby improving fuel efficiency and reducing emissions. (Minimization) • The ICTF will be a semi-automated facility that minimizes air quality emissions during operations as a result of increased efficiencies during the handling and processing of containers. (Minimization) • The project will use electric wide-span gantry cranes that emit zero air emissions versus diesel-powered lift equipment. (Minimization) • An automated gate system will be utilized for the over-the-road (OTR) trucks entering/exiting the facility from the Wando Welch and North Charleston Container Terminals and an optical character recognition (OCR) portal at the connection from the facility (drayage road) to the HLT to reduce on-site idle times of trucks. (Minimization) • Use of automated gates at at-grade crossings to reduce emissions due to reduced truck idling. (Minimization) • The Applicant will provide access to air quality and health assessment data as requested to evaluate health impacts. (Minimization) • The Applicant will support the South Carolina Ports Authority (SCPA) efforts to implement a container barge service to transfer containers between Wando Welch Terminal and a yet-to-be- determined wharf location at the former CNC in North Charleston for transport via intermodal rail at the proposed ICTF. Transferring containers between terminals via barge transportation will help to alleviate truck congestion on the interstate system, specifically I-526 between the Wando Welch Marine Container Terminal on Long Point Road and I-26, and minimizing impacts of air emissions. This service would work in conjunction with the Hugh K. Leatherman, Sr. Terminal (HLT) and the ICTF drayage road efforts in alleviating truck congestion on the area local roads and interstate system. *(Minimization) • Implement dust control measures (such as watering unpaved work areas, temporary and permanent seeding and mulching, covering stockpiled materials, and using covered haul trucks). (Minimization) • Construct an earthen berm between the processing and classification tracks and adjacent neighborhoods. (Minimization) • Comply with Air Quality State Construction and Operating permit requirements, conditions, and reporting. (Minimization) • Operate and maintain air pollution control equipment in accordance with permit requirements. (Minimization) • Use Tier 4 Utility Tractor Rigs (UTR) at full build out (2038) on the private drayage road to transfer containers to the ICTF versus transferring the same containers using over the road trucks on public roadways to minimize emissions. (Minimization) • Limit switching activity within the ICTF to Tier 4 locomotive engines by full build-out (2038). (Minimization)

Resource Area	Avoidance and Minimization Measures
Climate change	<ul style="list-style-type: none"> See measures in Air Quality.
Hazardous and toxic waste	<ul style="list-style-type: none"> Implement a Solid and Hazardous Waste Management Plan, Spill Prevention, Controls, and Countermeasures Plan (SPCC), and comply with Resource Conservation and Recovery Act (RCRA) and SCDHEC requirements for storage and handling of hazardous and toxic wastes. (Minimization) The Applicant is working with the U.S. Navy for long-term monitoring and removal of hazardous wastes. The following hazardous materials have already been removed from the intermodal site: 10,860 linear feet of fuel lines, 2,110 linear feet of natural gas lines, 4,570 linear feet of underground asbestos lines, 530 linear feet of asbestos stream lines, 980 square feet of transite panel, 96,150 gallons of product, and 206 cubic yards of asbestos-containing materials. * (Minimization) Employ the use of an oil-water separator at the locomotive shop and proper spill protection (e.g., spill kit, collector pans) for light duty repairs in the vicinity of the “repair in place” tracks to ensure treatment of any oily waste from on-terminal equipment maintenance activities. (Minimization) Inclusion of forebays in stormwater management system to provide pretreatment of stormwater runoff before it discharges to Pond A. (Minimization) Installation of additional water monitoring wells, in cooperation with SCDHEC and the Navy, will support ongoing reclamation of the site from U.S. Navy Operations. (Minimization) Perform all land and groundwater disturbance activities in compliance with the U.S. Navy Construction Process Document (Navy “Dig” Permit), included as part of its SCDHEC RCRA Hazardous Waste Permit, which identifies the permit process and requirements for conducting construction or other land disturbing activities in Land Use Control (LUC) Areas at the former Navy Base (Charleston Naval Complex). (Minimization)
Socioeconomics and Environmental Justice (Community)	<ul style="list-style-type: none"> Contributed \$8 million to the City of North Charleston as part of the 2012 settlement agreement to mitigate the impacts to the community¹⁷. (Minimization) Residential properties that are forced to relocate will receive full compensation in accordance with the Uniform Relocation Assistance and Real Properties Act of 1970 (The Uniform Act). Affected property owners and displaced persons will receive assistance in accordance with The Uniform Act including (but not limited to) the following: relocation services to displaced tenants and owner occupants, minimum 90 days written notice to vacate, reimbursement for moving expenses, and payments for the added cost of renting or purchasing comparable replacement housing. (Minimization) The Applicant will provide relocation services for a period of three (3) years (after the official opening of the facility) to owner-occupied residential property owners who, as of the Effective Date of the Community MOA, reside in the Relocation Area from 100 feet of the Project up to North Carolina Avenue. (Minimization) Nonresidential properties (businesses, nonprofit organizations) will receive full compensation in accordance with The Uniform Act. The business located on the four parcels along Milford Street that are required to relocate will receive relocation assistance consisting of the following: inspecting and gathering information regarding each displacee and a search area for available replacement sites, conducting an inventory of personal property to be moved and securing a cost to relocate those items within a 50-mile radius, offering relocation assistance to displacees after establishing their eligibility and assist in getting them relocated from the site, providing the appropriate written notices to the displacees, coordinating securing the approximate payment, ensuring that displacees understand their options, and providing relocation services as necessary to advance the project. (Minimization)

¹⁷ This mitigation measure is based on lawsuit settled in December 2012 (Section 1.5.1).

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> • Developed the Community Mitigation Working Group, comprised of the Chicora-Cherokee Neighborhood Association, Union Heights Community Council, Lowcountry Alliance for Model Communities (LAMC), and Metanoia Community Development Corporation. (Minimization). • The Applicant and the Community Mitigation Working Group entered into a Memorandum of Agreement (MOA) related to the use of mitigation funds in connection with the impacts of the facility (the agreement is in Appendix N). The Community MOA specifically addresses the following activities: <ul style="list-style-type: none"> – The Applicant shall fund \$3 million for the construction of a community recreation center on property to be provided by the City of North Charleston, located in the area of the Chicora Tank Farm. The recreation center is proposed to include approximately 10,000 square feet of gymnasium space, 5,000 square feet of fitness facility space, office space, and bathrooms facilities. LAMC commits to provide \$200,000 for fitness equipment and \$50,000 for exterior fitness stations. The Applicant also supports the inclusion of an outdoor area that could be used as a community farmer’s market in the planning for the center. (Minimization) – The Applicant shall provide an additional \$1 million in mitigation funds for the impacts of the ICTF. The funding amount may be increased should the construction funds for the recreation center not be fully expended or utilized. The community mitigation funds shall be distributed as follows: 47% for affordable housing, 13% for job training, 13% for education, 13% for environmental research, 8% for a youth endowment, and 6% for an endowment for community organizations. (Minimization) – Development of an agreement with SCDHEC to address environmental impacts including support for operational efficiencies and Best Management Practices (BMPs) for intermodal facilities. (see Air Quality mitigation). (Minimization) – The Applicant will construct a 100-foot buffer with a landscaped earthen berm and noise wall between the ICTF and Chicora-Cherokee Neighborhood. The buffer will be appropriately landscaped with native, noninvasive vegetation. When appropriate, the Applicant will seek exceptions to the City of North Charleston’s Tree Preservation Ordinance for vegetation options that can support appropriate mitigation. The buffer will be permanently maintained by the Applicant. (Minimization) – For a period of three (3) years after the official opening of the ICTF, the Applicant shall provide relocation services to owner-occupied residential property owners who, as of the Effective Date of the Community MOA, reside in the Relocation Area from the project area to North Carolina Avenue. The relocation services provided by will be consistent with the Uniform Act. (Minimization) – The Applicant will maintain its 5 percent set aside goal for Disadvantaged Business Enterprises (DBEs) in its construction contracts. They further commit to making the Community Mitigation Working Group aware of all job opportunities, through providing job announcements to the community, minority media, and local organizations. The Applicant will also support job fairs in the local community, internship and training programs, with regard to the facility in both its construction and operation stages. In addition, the Applicant will further investigate the possibility of summer internships for youth in partnership with the Community Mitigation Working Group. See Appendix N for specific details (Minimization) – The Applicant will support the City of North Charleston and Class I Rail Carriers and the Community Mitigation Working Group to establish quiet zones for rail traffic within the affected communities. (Minimization) – The Applicant will support the City of North Charleston to develop a truck route and restriction plan for the area and will work to inform truck drivers as to the approved routes to and from the facility. (Minimization) – The Applicant will support the City of North Charleston in the rehabilitation and repair of the former Chicora Elementary School in the Chicora-Cherokee area for the benefit of the community. The City of North Charleston’s rehabilitation of the

Resource Area	Avoidance and Minimization Measures
	<p>auditorium, which, when combined with the recreation center partially funded by the Applicant, will serve to replace the facilities that were once provided to the affected communities at Sterett Hall. Palmetto Railways assumes no responsibility or obligation, financial or otherwise, for the rehabilitation of the auditorium, which is not a part of the agreement. (Minimization)</p> <ul style="list-style-type: none"> - The Applicant will support the City of North Charleston and the Community Mitigation Working Group in the establishment of Quitman’s Marsh as a recreational area. (Minimization) • The Applicant and the Low County Orphan Relief have reached an agreement to minimize and compensate for impacts to the property. (Minimization) • The Applicant has developed an ongoing community engagement and awareness plan to keep stakeholders and the public engaged and informed, including the following activities <ul style="list-style-type: none"> - Provide newsletters to the affected community on a biannual basis targeting the needs and opportunities for the affected community during the duration of construction. (Minimization) - Provide community presentations to organizations and the affected community throughout the project’s duration. (Minimization) - Presenting the Community Mitigation Plan to the community during the draft and final stages. (Minimization) - Hold community leadership meetings in the affected community every six months after the Record of Decision (ROD) is posted to address community concerns. (Minimization) - Hold construction meetings with the affected community twice a year during construction to keep the public informed and gather comments and feedback from the public. (Minimization) - A Community Advisory Panel will be established with the affected community, interested stakeholders and businesses twice a year after construction is completed to gather feedback and keep the public informed about the facility. The Community Advisory Panel will continue through operations. (Minimization) - The Applicant agrees to provide a quarterly report to the Community Mitigation Working Group regarding the construction of the recreation center, until construction is completed. (Minimization) - The Palmetto Railways website (www.palmettorailways.com) will be used for community information about the facility and tours of the facility can be scheduled at any time during construction and operation. (Minimization) • Implement the Air Quality Memorandum of Agreement (MOA) with the SCDHEC to address certain concerns related to the environmental impacts of the Project. The Air Quality MOA provides for air quality initiatives including the contribution of \$50,000 from the Applicant to go towards ambient air quality initiatives in conjunction and coordination with SCDHEC and the Medical University of South Carolina on air quality initiatives in the Charleston region. (Minimization) • Incorporate design elements into the facility including a landscaped earthen berm, sound walls, 100-foot buffer, cut (trench) section, use directional lighting, container stacking limits, and implement other identified mitigation measures that minimize noise, vibrations, visual, and air quality impacts. (Minimization) • Continue to cooperate with the appropriate emergency services personnel within the Cities of North Charleston and Charleston to address emergency response coordination and other specific issues as they arise. (Minimization) • Examine emergency service benefits and gather input from local emergency service providers as part of the Surface Transportation Impact Study. See Appendix B for details on the study* (Minimization) • Study the need for grade separated crossings as part of the Crossing Analysis. See Appendix N for details. * (Minimization)

Resource Area	Avoidance and Minimization Measures
Human health and safety	<ul style="list-style-type: none"> • Provide around-the-clock security through a combination of security fencing, video cameras, and other security measures. (Minimization) • Conduct construction and operations in accordance with appropriate regulations, permits, best practices, and codes. (Minimization) • Employ the use of automated switches to eliminate the need for train crews to get out of trains to manually throw switches and thus enhancing the safety of railroad workers. (Minimization) • Use of inter-box connector (IBC) carts to provide enhanced safety for railroad workers by avoiding slip, trip, and fall incidents while accessing railcars to (un)lock IBCs on containers. (Minimization) • Employ the use of an automated gate system to eliminate the need for railroad workers to complete inbound, container and chassis damage inspections by walking in a congested gate area thus enhancing safety of railroad workers and potentially reducing grade crossing closures. (Minimization) • Safety precautions and training measures will be implemented by the Applicant during construction and operation of the facility, and safety guidelines would be complied with. (Minimization) • Use of state of the art equipment to minimize sound emissions during operations. (Minimization) • Design and construct a cut section (trench), sound walls, and a landscaped berm within a 100-foot buffer for noise reduction to adjacent neighborhoods. (Minimization) • See Section 4.12.12 for a complete list of mitigation for potential noise and vibration impacts. • Design and construct a semi-automated facility that minimizes emissions during operations. (Minimization) • Contribute \$50,000 towards ambient air quality initiatives in conjunction and coordination with SCDHEC and the Medical University of South Carolina on air quality initiatives in the Charleston region. (Minimization) • See Section 4.13.12 for a complete list of mitigation for potential air quality impacts. • Continue planned removal of hazardous materials at the site. (Minimization) • Install additional water monitoring wells at the site. (Minimization) • Implementation of BMPs and SPCC at the site. (Minimization) • See Section 4.15.12 for a complete list of mitigation for potential impacts from Hazardous materials. • To minimize the impact of lights from the site on adjacent areas, all operating lights will be directed downward to shield light sources minimizing any light bleed off the facility footprint. (Minimization) • Design the facility to minimize visual impacts including a cut section (trench) and an earthen berm within a 100-foot buffer between the facility and adjacent neighborhoods. LED lighting fixtures will be installed over bridges and other areas where practical. (Minimization) • Completed a photometric design for intermodal facility high-mast lighting that would result in less than 0.5 foot-candles outside of the property boundary. (Minimization) • See Section 4.11.12 for a complete list of mitigation for potential impacts from light and glare. • Continue to cooperate with the appropriate emergency services personnel within the Cities of North Charleston and Charleston to address emergency response coordination and other specific issues as they arise. (Minimization)

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> • Examine emergency service benefits and gather input from local emergency service providers as part of the Surface Transportation Impact Study (See Appendix B). (Minimization) • Study the need for grade separated crossings as part of the Crossing Analysis (See Appendix N). * (Minimization). • Provide detour routes (elevated Stromboli Avenue and Cosgrove-McMillan Overpass). (Minimization)
Section 4(f) and 6(f) resources	<ul style="list-style-type: none"> • See measures for cultural resources.

Source: Palmetto Railways 2018.

Items noted with an asterisk (*), have not been considered in the impact analysis in Chapter 4.

The additional measures the Corps has identified to further mitigate potential impacts of the Navy Base ICTF are listed by resource area in Table ES-4. These measures are summarized from Chapter 4 and presented here for convenience. Additional avoidance, minimization, and compensatory mitigation may be identified by the Corps in its decision-making process. Final mitigation measures may be adopted as conditions of the DA permit and documented in the Record of Decision (ROD).

Table ES-4
Additional Mitigation Measures Identified by the Corps

Resource Area	Avoidance and Minimization Measures
Geology and soils	<ul style="list-style-type: none"> No additional measures have been identified.
Hydrology	<ul style="list-style-type: none"> The Corps proposes an additional mitigation measure that the pre-construction course, condition, capacity, and location of open waters must be maintained.
Water quality	<ul style="list-style-type: none"> No additional measures have been identified.
Vegetation and wildlife	<ul style="list-style-type: none"> No additional measures have been identified.
Waters of the United States	<ul style="list-style-type: none"> In addition to the measures proposed by the Applicant, the Corps will consider other potential mitigation measures to reduce the impacts on waters of the U.S., including wetlands resulting from the Project, which will be included in the Record of Decision.
Protected Species	<ul style="list-style-type: none"> Adherence to the following USFWS Manatee Guidelines during in-water construction: <ul style="list-style-type: none"> The permittee (Applicant) will stop work if a manatee is seen near the Project site. The Project Manager shall instruct all personnel associated with the Project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel must monitor water-related activities for the presence of manatee(s) during May 15 through October 15. The Project Manager shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973. Any siltation barriers used during the Project shall be made of material in which manatees cannot become entangled and must be properly secured, and regularly monitored to avoid manatee entrapment. All vessels associated with the Project shall operate a “no wake/idle” speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible. If manatee(s) are seen within 100 yards of the active construction area all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet to a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the Project area of its own volition. Any collision with and/or injury to a manatee shall be reported immediately to Jim Valade of the U.S. Fish and Wildlife Service, North Florida Field Office, at (904) 731-3116. The permittee (Applicant) will also stop work if a turtle or sturgeon is seen near the Project site during construction. The contractor will utilize soft-start techniques for pile driving activities. This will consist of a series of taps at 25-40% of the pile driver’s energy, followed by a one-minute waiting period. During in-water work, a floating semi-permeable turbidity curtain will be deployed around areas where pile driving is taking place. Adherence to environmental work windows for in-water construction during the winter months when sea turtles are less abundant.

Resource Area	Avoidance and Minimization Measures
	<ul style="list-style-type: none"> The contractor will hire a qualified marine biologist to be on-site during in-water construction activities to avoid potential impacts to aquatic Protected Species.
Essential Fish Habitat	<ul style="list-style-type: none"> The contractor will utilize soft-start techniques for pile driving activities. This will consist of a series of taps at 25-40% of the pile driver's energy, followed by a one-minute waiting period. During in-water work, a floating semi-permeable turbidity curtain will be deployed around areas where pile driving is taking place. Adherence to environmental work windows for in-water construction during the winter months when sea turtles are less abundant. The contractor will hire a qualified marine biologist to be on-site during in-water construction activities to avoid potential impacts to marine resources and EFH. Implement an SPCC Plan to minimize the impact of a potential spill event on EFH.
Traffic and transportation	<ul style="list-style-type: none"> No additional measures have been identified.
Land use and infrastructure	<ul style="list-style-type: none"> No additional measures have been identified.
Cultural resources	<ul style="list-style-type: none"> No additional measures have been identified.
Visual resources and aesthetics	<ul style="list-style-type: none"> No additional measures have been identified.
Noise and vibration	<ul style="list-style-type: none"> No additional measures have been identified.
Air quality	<ul style="list-style-type: none"> No additional measures have been identified.
Climate change	<ul style="list-style-type: none"> No additional measures have been identified.
Hazardous, toxic, radioactive waste (HTRW)	<ul style="list-style-type: none"> No additional measures have been identified.
Socioeconomics and Environmental Justice	<ul style="list-style-type: none"> No additional measures have been identified.
Human health and safety	<ul style="list-style-type: none"> No additional measures have been identified.
Section 4(f) and 6(f) resources	<ul style="list-style-type: none"> No additional measures have been identified.

Source: Atkins 2018.

Question 17 – What role did the public, tribal members, and agencies have in preparing the EIS?

The Corps provided several opportunities and mechanisms to share/receive information with the public, stakeholders, governmental agencies, tribes, and non-governmental organizations (NGOs) throughout the development of the EIS. Opportunities/mechanisms for information sharing included:

1. Project website (www.NavyBaseICTF.com);
2. Project newsletters (“Navy Base ICTF EIS News”);
3. Public scoping meetings and community and stakeholder meetings;
4. Agency coordination; and
5. Public notice, public hearing, and comment period for the Draft EIS.

Further Information

Project Website

A publicly accessible website is available at www.NavyBaseICTF.com and was maintained throughout the EIS process. The Navy Base ICTF EIS website contains updated information about the project and allowed the public opportunities to participate in preparation of the EIS.

Project newsletter

A project newsletter, “Navy Base ICTF EIS News,” was developed to assist in the dissemination of information and provide updates on the EIS. The newsletter was distributed as hard copy mail-outs and electronically to the project email distribution list. Three issues of the newsletter were distributed throughout the EIS process in October 2014, September 2015, and January 2018. Copies of the newsletters are available on the project website (www.NavyBaseICTF.com).

Public Scoping and Community/Stakeholder Meetings

Public scoping meetings were held in 2013 and 2015 with 30-day comment periods following each meeting. All comments received during the scoping process can be found in Appendix C (Scoping Report). Additional community and stakeholder meetings were held between 2013 and 2016. The Corps developed and maintained a mailing list throughout the public involvement process and used the list to keep interested parties informed throughout the development of the EIS. See Section 9 for additional details on these meetings.

The Applicant also worked with several neighborhood organizations including the Chicora-Cherokee Neighborhood Association, the Union Heights Community Council, the Lowcountry Alliance for Model Communities (LAMC), and the Metanoia Community Development Corporation. LAMC represents seven neighborhoods (Accabee, Chicora/Cherokee, Union Heights, Howard Heights, Windsor Place, Five Mile, and Liberty Hill). These groups worked to develop the Community Memorandum of Agreement (MOA) to agree on mitigation for impacts to socioeconomic and Environmental Justice resources included in this document. A copy of the Community MOA is included in Appendix N.

Agency Coordination

The Corps is the lead agency and the EPA and the FRA are cooperating agencies on the EIS. See Section 9.2.1 for details on agency coordination and consultation. Additional federal and state agencies and well as Tribal Nations and local government were provided the opportunity to provide input on the EIS as part of the scoping and public involvement process and offered the opportunity to be cooperating parties. Multiple agencies and local jurisdictions provided input on the EIS. Copies of

agency comments can be found in Appendix C (Scoping Report) and Appendix O (Comments and Responses on the Draft EIS).

Due to the impacts on historic resources, the State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP) have also been involved in the project as part of the Section 106 Process. The Muscogee (Creek) Nation requested to be a consulting party on the Section 106 process as the project is located in a historic area of interest that is important to the tribe. However, according to correspondence with the Muscogee (Creek) Nation on January 20, 2017, they “agree that there is very little potential for intact archaeological deposits, and if there are any, they are likely beneath the (existing) fill” (see letter in Appendix G). Concurring parties that have also been involved in the Section 106 process include the Historic Charleston Foundation, the Preservation Society of Charleston and the Naval Order of the United States, Charleston Commandery.

The South Carolina Department of Health and Environmental Controls (SCDHEC) has also been involved in air and water quality issues for the project. The Applicant entered into an Air Quality Memorandum of Agreement (MOA) with SCDHEC on October 26, 2016, to voluntarily undertake certain mitigation measures to reduce air emissions at the ICTF facility. See the Community Mitigation Plan in Appendix N for additional details and a copy of the Air Quality MOA.

Draft EIS

The Notice of Availability of the Draft EIS (SAC 2012-0960) was published in Vol. 81, No. 83 Federal Register (81 FR 83, PP. 2566) on April 29, 2016. Agencies and local governments were provided both hard copies and CD copies of the Draft EIS for review. The public was provided the project website address and the complete Draft EIS was made available on the website on the project Document Library. In addition, several printed copies of the Draft EIS were placed in the following locations:

- Cooper River Memorial Library (3503 Rivers Avenue, Charleston, SC 29405)
- Charleston Public (Main) Library (68 Calhoun Street, Charleston, SC 29401)
- North Charleston City Hall (2500 City Hall Lane, North Charleston, SC 29406)

The public was invited to submit comments via email, online at the project website, and through the mail.

A public hearing was held on May 24, 2016, at the Military Magnet School located at 2950 Carner Avenue in North Charleston, South Carolina. The purpose of the hearing was to provide an overview and history of the project, discuss the EIS process, and provide an opportunity for public input on the Draft EIS. Public officials, state representatives, and members of the public were offered an opportunity to speak. The comment period was 72 days through July 9, 2016. Approximately 200 people attended the public hearing. A total of 190 comments on the Draft EIS were received from individuals, representatives (including elected officials), municipalities, agencies and NGOs/

organizations (including nonprofits and special interest groups) during the submittal period. Comment submittals included spoken comments from the public hearing, emails, website submissions, letters, and comment forms. The 190 submittals included 684 individual comments and expressed opinions, suggested changes and proposed mitigation for inclusion in this document. Public input from the Draft EIS was carefully considered in the preparation of this document and the Community Mitigation Plan (included in Appendix N). Additional details on public involvement, the Draft EIS comments, and the Corps' responses to those comments can be found in Appendix O.

Question 18 – Who decides whether the Project can be implemented?

On behalf of the Secretary of the Army, the District Engineer for the Charleston District is responsible for making the Department of the Army (DA) permit decision on Palmetto Railways' application for placement of fill material into waters of the U.S., including wetlands, during construction and operations of the Navy Base ICTF. Officials at the SCDHEC have state regulatory authority for additional permit decisions that are necessary for Palmetto Railways to implement Alternative 1 (Proposed Project).

Completion of this document (the Final EIS) does not constitute approval of Alternative 1 (Proposed Project). This document provides required information about the potential environmental effects of Alternative 1 (Proposed Project) and provides a comparison of alternatives. The Corps will consider this information when determining whether a DA permit should be issued and, if so, what specific conditions should be included in the DA permit. The Corps would issue a DA permit through the authority delegated to the Corps by the CWA. The Corps will prepare and make available to the public a Record of Decision (ROD) that summarizes the DA permit application, describes the Corps' review of the application, documents and accounts for the Applicant's mitigation commitments, and includes other pertinent information such as the Final EIS and its findings regarding Section 404(b)(1) of the CWA. The Corps may only issue a DA permit for the Least Environmentally Damaging Practicable Alternative (LEDPA), and this decision would be documented in the ROD.

A DA permit would only authorize Palmetto Railways to place fill material in waters of the U.S., including wetlands, at the site. Other activities such as management of stormwater discharge and construction in areas under Land Use Controls would require additional permit authorizations from other agencies.

Question 19 – Where can I find more information about the project?

A publicly accessible website is available at www.NavyBaseICTF.com and devoted to this project. The Navy Base ICTF EIS website contains project updates, a project overview, an explanation of the NEPA process, supporting documents, and information about the public's opportunities to participate in preparation of the EIS.

SUMMARY OF CONTENTS

Chapter	Contents
Executive Summary	The Executive Summary answers frequently asked questions about the project. It describes key elements of Alternative 1 (Proposed Project), alternatives considered, and the regulatory framework of the Environmental Impact Statement (EIS).
Chapter 1 Purpose and Need and Description of Alternative 1 (Proposed Project)	Chapter 1 describes the NEPA process, agency roles and responsibilities, the purpose and need, background of the project, framework for analysis, and an overview and description of Alternative 1 (Proposed Project).
Chapter 2 Development and Description of Alternatives	Chapter 2 summarizes the development and consideration of a range of alternatives, leading to the selection of alternatives carried through detailed analysis and alternatives considered but not evaluated in further detail in the EIS.
Chapter 3 Affected Environment	Chapter 3 describes the existing conditions for the 18 resource areas evaluated in the EIS. The current conditions of these resources, form the basis for the No-Action Alternative that is used as the baseline for comparison of the environmental consequences of the build alternatives.
Chapter 4 Environmental Consequences	Chapter 4 provides a comprehensive analysis of potential environmental impacts on the 18 resource areas across alternatives, including the methods of analysis and impact summaries. The No-Action Alternative is used as the baseline for comparison of the environmental consequences of the build alternatives.
Chapter 5 Cumulative Impacts	Chapter 5 addresses the potential cumulative impacts of the Proposed Project and the alternatives when considering other past, present, and reasonably foreseeable future projects that are likely to occur within the same geographic and temporal scope.
Chapter 6 Mitigation	Chapter 6 addresses the compensatory mitigation required under the Clean Water Act for impacts on wetlands and other Waters of the United States. The chapter identifies the Applicant's proposed avoidance and minimization measures and the additional mitigation measures being considered by the Corps.

Chapter	Contents
Chapter 7 Irreversible and Irrecoverable Commitments of Resources	Chapter 7 considers the irretrievable and irreversible commitment of resources with implementation of the Alternative 1 (Proposed Project), the adverse environmental impacts that cannot be avoided if Alternative 1 (Proposed Project) is implemented, and the relationship between local short-term uses of man's environment and maintenance and enhancement of long-term productivity.
Chapter 8 Regulatory Environment Overview	Chapter 8 describes the regulatory setting for the 18 resource areas evaluated in the EIS.
Chapter 9 Public, Agency, and Stakeholder Coordination and Consultation	Chapter 9 provides the full range of public, tribal, and agency involvement activities implemented to date to ensure that (1) the public understands the project; and (2) the public has ample opportunity to comment on all aspects of the project, to participate in the National Environmental Policy Act process, and to review the environmental analysis and proposed mitigation and monitoring.
Chapter 10 References	Chapter 10 provides references for all citations used in the EIS.
Chapter 11 Glossary	Chapter 11 provides a glossary of terms used in the EIS.

Appendixes

- A Clean Water Act Section 404(b)(1) Guidelines Evaluation
- B Palmetto Railways Submittals
- C Scoping Report and Addendum 1 to Scoping Report
- D Planning Level Waters of the U.S. Analysis
- E Essential Fish Habitat Assessment
- F Transportation Analysis Technical Memorandum
- G Cultural Resource Correspondence and Documentation
- H Noise and Vibration Technical Memorandum
- I Air Quality and Climate Change Technical Memorandum
- J Hazardous, Toxic, and Radioactive Waste Technical Memorandum
- K Community Impact Assessment Technical Memorandum
- L Design Assumptions for Environmental Consequences Impact Analysis
- M Projects Evaluated in Cumulative Impact Analysis
- N Mitigation Plans
- O Public Hearing Notices, Transcripts, and Comments and Responses

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