

6.00 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

Compliance with the following environmental laws, Executive Orders, regulations, etc. would be required for all alternative channel deepening plans under consideration (note: this is not necessarily an exhaustive list of all applicable environmental requirements).

6.01 National Environmental Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 et seq.

The Environmental Impact Statement (EIS), including all appendices and studies, and the General Re-Evaluation Report (GRR), with its appendices and studies, fulfill all requirements of the National Environmental Policy Act for the SHEP.

6.02 Clean Water Act (CWA), as amended, 33 U.S.C. 1251 et seq.

6.02.1 Water Quality Certification

The Corps has obtained water quality certifications from the States of Georgia and South Carolina pursuant to the Clean Water Act (CWA) for the discharge of dredged or fill material into navigable waters by the proposed activity. The GA DNR-EPD issued Georgia's water quality certification for the SHEP, with various conditions, on February 16, 2011. A copy of the Georgia water quality certification is included in Appendix Z of this document. On November 15, 2011, the South Carolina DHEC Board issued water quality certification and concurrence with the Federal Consistency Determination; these documents are included in Appendix Z. The issuance of water quality certification by the South Carolina DHEC Board has been challenged in various fora.

This FEIS contains sufficient information to demonstrate that the recommended plan is in compliance with the CWA and to enable the project to meet the criteria for exemption from the substantive and procedural water quality requirements under Section (§) 404(r) of the CWA. If a State water quality certification for this project, which is specifically authorized by Congress, were to be voided, revoked, reissued with improper conditions, or become a source of unreasonable delay to SHEP, the SHEP FEIS could serve as the basis for an exemption as provided for in the CWA.

A project may be exempted from substantive water quality and other legal requirements of Section 404 where sufficient information on the effects of the project is included in a project EIS which is submitted to Congress before the actual discharge of dredged or fill material for project construction and prior to either authorization of the project or an appropriation of funds for project construction (Section 404(r) of the CWA, 33 USC 1344). While, as stated above, the Corps did seek and obtain water quality certifications from Georgia and South Carolina, at the same time it has ensured that this FEIS contains sufficient information regarding water quality effects, including consideration of the Section 404(b)(1) Guidelines, to meet the EIS content requirements of Section 404(r), should that exemption be invoked.

In addition to meeting the requirements for 404(r), the FEIS can serve as part of the record on which the Secretary of the Army may elect to exercise the authority granted in Sections 404(t) and/or 511(a) of the CWA. Section 404(t) of the CWA, 33 USC 1344(t), Navigable Waters Within State Jurisdiction, contains a navigation exception which provides: “This section [CWA Section 404] shall not be construed as affecting or impairing the authority of the Secretary to maintain navigation.” Section 511(a) is similar but broader and extends to any provision of the CWA. If a State water quality certification were to be voided, revoked, reissued with improper conditions, or become a source of unreasonable delay to SHEP, or in lieu of following the approval procedures for Section 404(r), the Secretary of the Army has the discretion to consider invoking the navigation exception under CWA Sections 404(t) and/or 511(a).

6.02.2 Wetlands

CWA Section 404 and related authorities such as Corps regulations at 33 C.F.R. 336(c)(4) and 33 C.F.R. 320.4(b) require the Corps to avoid, minimize, and mitigate impacts to wetlands.

6.02.3 Section 404 (b)(1) Guidelines

All of the harbor deepening alternatives under consideration involve discharges of dredged and fill material into waters of the United States. All sites designated to receive dredged or fill material, excluding sites covered under Section 103 (MPRSA), have been evaluated using the CWA Section 404 (b)(1) Guidelines and found to be in compliance with the requirements of these guidelines. The Section 404 (b)(1) Evaluation can be found in Appendix H. The Section 404 (b)(1) Evaluation also contains a detailed practicable alternatives analysis, which fully describes and draws together the comprehensive, iterative NEPA alternatives analysis conducted for SHEP including analysis of other potential options or sites for the project, such as other South Atlantic ports and alternative terminal locations along the Savannah River.

6.03 Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA, also known as the Ocean Dumping Act or ODA), as amended, 33 U.S.C. 1413

This Act governs disposal of dredged material in ocean waters. Sediments dredged from Stations +4+000 to -97+680B, if determined to meet Ocean Dumping Criteria, will be placed in the Savannah ODMDS. The ODMDS will receive both new work and maintenance sediments from the entrance channel. In 2005, samples of bottom sediments from the excavation area in the existing entrance channel were tested to evaluate contaminants which may be present in new work sediment materials. No contaminants were detected at levels of concern. Those evaluations are described fully in Appendix M - Sediment Quality Evaluation. Additional sampling and testing (bioaccumulation studies) for the existing and extension of the entrance channel are in progress to confirm that the new work material complies with the Ocean Dumping Criteria and is suitable for placement in the Savannah ODMDS. The results of these analyses would be used to prepare a Section 103 Evaluation for SHEP. The Corps would provide that evaluation to EPA Region 4, accompanied by a request that they concur with the Corps’ determination that the SHEP new work and future maintenance material meets the Ocean Dumping Criteria and is suitable for placement in the Savannah ODMDS.

6.04 Magnuson-Stevens Fishery Conservation and Management Act (MSA), 16 U.S.C. 1801 et seq.

This Act requires Federal action agencies to consult with the National Marine Fisheries Service (NMFS) if a proposed action may affect Essential Fish Habitat (EFH). The Corps evaluated potential project impacts on NMFS-managed fish species and their Essential Fish Habitats (Appendix S). As indicated in Appendix S, the proposed action would adversely impact habitat of Striped bass and the endangered Shortnose sturgeon. Mitigation is proposed for these species and detailed information regarding this matter is found in the Mitigation Plan (see Appendix C in the EIS). Pre- and post-construction monitoring of Shortnose sturgeon is also proposed (see Monitoring Plan in Appendix D of the EIS). The Corps would perform post-construction assessments of impacts to Striped bass habitats (see Monitoring Plan in Appendix D of the EIS).

Conversion of freshwater marshes to brackish marsh would require mitigation for all channel depths except the 44-foot project. Mitigation would be accomplished through flow rerouting and preservation of wetlands in the Savannah River estuary.

Excavation of approximately 15.68 acres of estuarine emergent wetlands is a requirement of all dredging depths under consideration. In-kind mitigation would be provided by restoring 28.8 acres of wetlands in Savannah Harbor. Additional restoration (11.5 acres) would be performed that would be considered advance mitigation for use by the Corps for activities on the Savannah Harbor Navigation Project. Implementation of the mitigation and monitoring plans for the SHEP would bring all channel deepening alternatives under consideration into compliance with the provisions of the MSA.

6.05 Anadromous Fish Conservation Act, 16 U.S.C. 757, et seq.

All channel deepening alternatives under consideration are in compliance with this Act. The SHEP provides mitigation for adverse impacts to Striped Bass and Shortnose sturgeon. Mitigation for the Shortnose sturgeon includes the construction of an off-channel rock ramp fish bypass at New Savannah Bluff Lock and Dam. This fish passage facility would provide Shortnose sturgeon access to historic spawning areas above the dam at the Augusta Shoals. This facility would likely also benefit other species of fish such as Striped bass and American shad.

6.06 Fish and Wildlife Coordination Act, 16 U.S.C. 661-666(c)

The SHEP is in compliance with this Act. The project has been fully coordinated with the US Fish and Wildlife Service and other State and Federal natural resource agencies. The USFWS provided a Draft Section 2(b) Fish and Wildlife Coordination Act Report which was used in preparation of the DEIS. The USFWS provided a Final Report after their review of the DEIS. The Final Section 2 (b) Report can be found in Appendix E, along with Corps' responses to their recommendations and positions.

6.07 Endangered Species Act, (ESA), 16 U.S.C. 1531 et seq.

A Biological Assessment of Threatened and Endangered Species (BATES) evaluating the potential impacts of the proposed action on endangered and threatened species and their critical habitat was prepared (Appendix B). The assessment was coordinated with the USFWS (jurisdiction over the West Indian manatee, piping plover, wood stork, and nesting sea turtles) and NMFS (jurisdiction over other protected marine and aquatic species which may occur in the project vicinity) pursuant to Section 7 of the ESA. USFWS concurred by letter on April 28, 2011 that the SHEP as conditioned is not likely to adversely affect the species under their jurisdiction (Appendix Z). In its November 4, 2011 Biological Opinion (Appendix Z), NMFS concurred with the findings of the BATES that the SHEP may affect but would not likely adversely affect leatherback sea turtles, green sea turtles, hawksbill sea turtles, North Atlantic right whales, and humpback whales. As to Kemp's ridley sea turtles, loggerhead sea turtles, Shortnose sturgeon and Atlantic sturgeon, NMFS determined that with implementation of reasonable and prudent measures the project would not jeopardize the survival and recovery of these species, and the overall effect on these species would be acceptable.

6.08 Marine Mammal Protection Act (MMPA), 16 USC 1631 et seq.

The MMPA prohibits the take of marine mammals including the West Indian manatee, North Atlantic right whale, humpback whale, and sperm whale. The SHEP as conditioned will comply with the MMPA as well as other authorities (*e.g.*, a separate 1997 South Atlantic Regional Biological Opinion).

6.09 Clean Air Act (CAA), as amended, 42 U.S.C. 7401 et seq.

All harbor deepening alternatives are in compliance with the CAA. The Corps conducted an Air Emission Inventory (Appendix K) that determined that air emissions from port operations would be less if the harbor is deepened when compared to the No Action alternative.

6.10 Safe Drinking Water Act (SDWA), as amended, 42 U.S.C. 300 et seq.

The SDWA is the principal federal law intended to ensure safe drinking water for the public. The SHEP with mitigation will comply with the SDWA. One mitigation feature is construction of a raw water storage impoundment to mitigate for increased chloride concentrations expected to occur during drought conditions at the City of Savannah's Abercorn Creek water supply intake.

6.11 Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. 470 et seq. and the Sunken Military Craft Act, 10 U.S.C. 1401 et seq.

The Corps evaluated the potential for adverse impacts to archaeological or historic resources. Impacts were identified to the Confederate ironclad, CSS *Georgia*, and actions are included in the project to address those effects. Savannah District, in consultation with the Georgia and South Carolina State Historic Preservation Officers (SHPOs) and the US Navy has developed a Programmatic Agreement for the project's compliance with Section 106 of the National Historic Preservation Act and will implement that Agreement. A copy of the revised executed Agreement is found in Appendix G. Savannah District will conduct archaeological data recovery of the CSS *Georgia* prior to or at the same time that deepening of the navigation project occurs. The SHEP will clear any remaining explosive ordinance that may be in the excavation area for the proposed deepened channel and meeting areas.

The concerns expressed during public review of the Tier I EIS about bank erosion at Old Fort Jackson have been addressed. In 2003, Savannah District partnered with the Georgia Department of Natural Resources (which owns the site) to stabilize the shoreline. The proposed deepening alternatives would not adversely affect that resource.

The Manager of the Fort Pulaski National Monument expressed concern about the ongoing erosion that is occurring along portions of their river shoreline. The Corps evaluated that erosion and the potential for the proposed project to increase that erosion. The Corps determined that the erosion is the result of several factors. An increase in vessel size is not expected to substantially increase the rate of the ongoing erosion.

The proposed avoidance and mitigation measures described in the Programmatic Agreement and consultation with the consulting parties would minimize or eliminate unacceptable impacts to historic properties. Based on the foregoing, the proposed action is in compliance with Section 106 of the National Historic Preservation Act.

6.12 Executive Order 11988, Floodplain Management

Dredged sediments would be placed in existing CDFs that are located in the floodplain. The proposed action is not anticipated to induce development of the floodplain or to otherwise adversely affect any floodplain, since no land use changes are expected to result from the project. The proposed action is in compliance with the requirements of Executive Order 11988.

6.13 Executive Order 11990, Protection of Wetlands

A small amount of brackish marsh (15.68 acres) would be lost through excavation of a turning basin and two wideners. These impacts would be mitigated and monitoring will take place when the restoration is complete (see Mitigation Planning in Appendix C and the Monitoring Plan in Appendix D). With implementation of the mitigation and monitoring plans, the proposed action would be in compliance with Executive Order 11990.

6.14 Executive Order 13112, Invasive Species

This Executive Order was issued to ensure that Federal programs and activities prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. Based on analyses conducted during the SHEP study, implementation of the project would not increase the potential for entry of invasive species into Savannah Harbor.

6.15 Executive Order 11593, Protection and Enhancement of the Cultural Environment

As discussed in more detail, above, the Corps evaluated the potential for adverse impacts to archaeological and historic resources. Impacts were identified to the Confederate ironclad, *CSS Georgia*, and actions are included in the project to address those effects. Savannah District, in consultation with the Georgia and South Carolina SHPOs and the US Navy, developed a Programmatic Agreement. The project would comply with that Agreement. Pursuant to the conditions and restrictions of the revised executed Agreement, the proposed action is in compliance with Executive Order 11593.

6.16 Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

The proposed action would not impact minority communities or low-income populations. The proposed deepening would occur in the Savannah Harbor navigation channel and deposition of excavated sediments would occur within existing upland CDFs or in the Savannah ODMDS. Consequently, the SHEP would not require any minority communities or low-income populations to be relocated. Since no additional cargo is expected to move through the port as a result of the deeper channel, the project would not adversely impact noise, traffic, or air quality surrounding the Garden City Terminal. In light of these factors, the proposed action is in compliance with Executive Order 12898.

6.17 Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks

This Executive Order mandates Federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children as a result of the implementation of federal policies, programs, activities, and standards. The proposed action would not impact schools or housing areas. Since no additional cargo is expected to move through the port as a result of the deeper channel, the project would not adversely impact noise, traffic, or air quality surrounding the Garden City Terminal. Therefore, there would be no short- or long-term impacts on the health and safety of children. The proposed action is in compliance with Executive Order 13045.

6.18 Migratory Bird Treaty Act, 16 U.S.C. 703 et seq.; Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

The Act and Executive Order require agencies to protect and conserve migratory birds and their habitats. Under the Act, nests, eggs, or individual birds cannot be taken or destroyed unless a depredation permit is obtained from the USFWS. Under the Executive Order, agencies must ensure their actions will not have a measurable negative effect on migratory bird populations. Migratory birds commonly use the seven CDFs for foraging, nesting, and roosting habitat. Some species of migratory birds nest within the Savannah Harbor CDFs and on their confining dikes. Individuals of those species could be impacted by sediment placement operations or CDF maintenance activities if those activities are conducted during the nesting season. Once a CDF is flooded, nesting sites on the floor of the area are not available, and sediment placement operations would not impact nesting migratory birds. Due to the lead time resulting from required contracting procedures, precise timing of the start of sediment placement operations or area maintenance work is generally not available. Therefore, some degree of uncertainty often exists when those activities are scheduled for use during the May to August nesting season. If nests are present when work is ready to start, three options are available: (1) delay the start of work until the young birds have left the site, (2) work in areas where no nests are located, or (3) attempt to obtain a Depredation Permit from the USFWS. Contractors will be required to comply with one of these options. With these conditions in place, the proposed action is not expected to result in any take of migratory birds or cause a measurable negative effect on migratory bird populations. With those conditions, the proposed action would also comply with both the Migratory Bird Treaty Act and Executive Order 13186.

6.19 Federal Coastal Zone Management Act (CZMA), 16 U.S.C. 1451 et seq.

This Act requires each Federal agency activity performed within or outside the coastal zone (including development projects) that affects land or water use, or natural resources of the coastal zone to be carried out in a manner which is consistent to the maximum extent practicable, i.e. fully consistent, with the enforceable policies of approved state management programs.

To implement the CZMA and to establish procedures for compliance with its Federal consistency provisions, the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), promulgated regulations which are contained in 15 C.F.R. Part 930. The Corps prepared Federal Consistency Determinations for both Georgia and South Carolina's coastal zone management programs in compliance with Part 930.30 through 930.44 of those regulations and the US Army Corps of Engineers' regulations implementing the CZMA at 33 C.F.R. Parts 336-337.

6.19.1 State of Georgia Coastal Zone Management Program

NOAA approved Georgia's Coastal Management Plan (GA CMP) in 1997. It later approved a routine program change in 2005 that incorporated the provisions of Georgia HB 727 and a Memorandum of Understanding with the Corps' Savannah District on Regional Sediment Management. Since the proposed action would affect estuarine waters and wetlands within the

coastal zone, Savannah District evaluated the proposed action for its consistency with the State's CMP.

In accordance with the CZMA, it was determined that the proposed harbor deepening would be carried out in a manner which is fully consistent with the enforceable policies of the Georgia Coastal Management Program. The proposed deepening would not adversely impact any beaches or dunes in Georgia. Intertidal areas that would be impacted are associated with dredging of bend wideners, the Kings Island Turning Basin, and removal of the Tidegate. The existing upland confined sediment placement areas (CDFs) in Georgia – Areas 1N and 2A – would continue to be used. These CDFs may be used for the placement of newly excavated sediment for the proposed deepening and long-term maintenance of the deepened channel. The existing diked CDFs will not be expanded as a result of the proposed action. Both new work and maintenance sediments would be deposited in the Savannah ODMDS. Impacts to the environment are fully discussed within the Federal Consistency Determination for the Georgia Coastal Zone Management Program (see Appendix I), which was submitted to the Georgia DNR Coastal Resources Division for review and concurrence as part of the review process for the DEIS. The GA DNR-CRD responses to the review of the Federal Consistency Determination for the Georgia Coastal Zone Management Program can be found in Appendix Z.

6.19.2 State of South Carolina Coastal Zone Management Program

NOAA approved South Carolina's Coastal Management Plan (SC CMP) in 1977. Since the proposed action would affect estuarine waters and adjacent wetlands, Savannah District evaluated the proposed action for its consistency with the SC CMP.

In accordance with the CZMA, it has been determined that the proposed deepening of the Federal navigation channel would be carried out in a manner that is fully consistent with the enforceable policies of the SC CMP. The proposed deepening would not adversely impact any beaches or dunes in South Carolina. Intertidal areas would be impacted by removal of the Tidegate structure abutments, closure of the western end of McCoys Cut, construction of a flow diversion structure at McCoys Cut, channel improvements in Little Back River, and construction of a submerged berm across Back River. Seven of the existing upland confined sediment placement areas (CDFs) are located in Jasper County, South Carolina. These CDFs would continue to be used for the placement of newly excavated sediment for the proposed deepening and long-term maintenance of the proposed action. The existing diked CDFs will not be expanded as a result of the proposed action. Cadmium-laden sediment would be placed and covered in CDF 14A and 14B, which are located in South Carolina. These impacts to the environment are fully discussed within the Federal Consistency Determination for the South Carolina Coastal Zone Management Program (see Appendix J) and in the Sediment Quality Evaluation (see Appendix M). There will be no unconfined placement of dredged sediment in South Carolina. The Corps would deposit both new work sediment and rock to construct the broad berm at the lower end of the Sediment Basin, to allow natural processes to later fill that basin.

The Federal Consistency Determination for South Carolina's Coastal Zone Management Program was submitted to the Office of Ocean and Coastal Resource Management in the South

Carolina Department of Health and Environmental Control for review and concurrence as part of the DEIS review process.

The SC DHEC-OCRM did not initially concur that the SHEP was consistent with the SCCMP based on concerns about the project's impacts on the dissolved oxygen regime in Savannah Harbor, to Shortnose sturgeon and Striped bass habitats, to tidal freshwater marsh and saltmarsh, and from potential impacts of dredged material placement on a site proposed for a Jasper marine terminal. The Corps met with SC DHEC staff and provided additional information to address their concerns. As a result of the joint process described in Section 6.02.1 regarding the South Carolina water quality certification, on November 15, 2011 the SC DHEC staff determined there is reasonable assurance that the SHEP is fully consistent with enforceable provisions of the SC CMP, and the SC DHEC-OCRM removed their objection to the Federal Consistency Determination for South Carolina's Coastal Zone Management Program. The SC DHEC Board's Final Agency Decision, SC DHEC's water quality certification, and the SC DHEC-OCRM letter on the project's consistency with the SC coastal management plan can be found in Appendix Z.

6.20 Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. 6901 et seq.

RCRA controls the management and disposal of hazardous waste. Dredged material from Corps civil works projects is excluded from the definition of hazardous waste under 40 CFR 261.4(g), 33 CFR 336.1 and 33 CFR 336.2.

6.21 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), 42 U.S.C. 9601 et seq.

CERCLA governs the liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous substance disposal sites. As discussed in EIS Section 5.24, Hazardous and Toxic Wastes, none of the sediments that would be excavated or dredged during the project would be considered a hazardous substance under CERCLA or addressed under that law.