

SECTION 01 35 43

ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section covers prevention of environmental pollution and damage as the result of construction operations under this contract and for those measures set forth in other Technical Requirements of these specifications. For the purpose of this specification, environmental pollution and damage are defined as the presence of chemical, physical, or biological elements or agents, which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental pollution and damage requires consideration of air, water, and land, and includes management of visual aesthetics, noise, solid waste, radiant energy and radioactive materials, as well as other pollutants.
- B. Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. Contractor shall record on daily quality control reports or attachments thereto, any problems in complying with laws, regulations and ordinances, and corrective action taken.
- C. Contractor shall comply with all requirements under terms and conditions set forth in the following environmental permits and authorizations for this project:
- Florida Department of Environmental Protection permit 45-0291060 (001-EE, 002-EI, 003-EM) and File No. 45-75835-009-EE (Fernandina Harbor Marina) (**APPENDIX B**)
 - U.S. Army Corps of Engineers Regional General Permit Verification SAJ-2016-00719 (RGP-SCW), Modification SAJ-2008-03402 (SP-SCW), and SAJ-1997-02063 (SP-BAL) (Fernandina Harbor Marina) (**APPENDIX C**)

Copies of these environmental permits are appended to these contract documents. The Contractor shall familiarize himself and his personnel with these and any other permits issued for this project and comply with all requirements under the terms and conditions set forth therein. The contractor shall be responsible for any fines resulting from violations of construction conditions set forth in the environmental permits. The Contractor shall include all costs for preparation and submittal of required reporting within each relative bid item. It is the Contractor's responsibility to obtain all other relevant Federal, State and local permits at no cost to the Owner. The Contractor shall be responsible for any delays and costs resulting from failure to comply with these and all federal, state and local environmental protection laws and regulations.

1.2 SUBMITTALS

The following submittals shall be submitted in accordance with SECTION 01 33 00 SUBMITTAL PROCEDURES.

- A. Environmental Protection Plan
1. At or before the scheduled pre-construction meeting, the Contractor shall submit in writing an Environmental Protection Plan that is specific to this project. The Engineer may, at its discretion, consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan no later than 30 calendar

days after receipt of Notice to Proceed. Acceptance of the Contractor's plan shall not relieve the Contractor of its responsibility for adequate and continuing control of pollutants and other environmental protection measures. Acceptance of the plan is conditional and predicated on satisfactory performance during construction. The Engineer reserves the right to require the Contractor to make changes to the Environmental Protection Plan or operations if the Engineer determines that environmental protection requirements are not being met. No physical work at the site shall begin prior to acceptance of the Contractor's Plan or an interim plan covering the work to be performed. The Environmental Protection Plan shall include but not be limited to the following:

- a. A list of federal, state, and local laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations and permits.
- b. Methods for protection of features and resources to be preserved within authorized work areas. The Contractor shall prepare a listing of methods to protect resources needing protection, i.e., submerged natural resources, mangroves, trees, shrubs, vines, grasses and ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, archeological, and cultural resources.
- c. Procedures to be implemented to provide the required environmental protection and to comply with the applicable laws and regulations. The Contractor shall provide written assurance that immediate corrective action will be taken to correct pollution of the environment due to accident, natural causes, or failure to follow the procedure set out in accordance with the environmental protection plan.
- d. A permit or license for and the location of the solid waste disposal area.
- e. Drawings showing locations of any proposed temporary and permanent excavations or embankments for haul roads, steam crossing, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.
- f. Environmental monitoring plans for the job site, including land, water, air, and noise monitoring.
- g. Methods for protection of Endangered Species.
- h. Methods for protecting surface and groundwater during construction activities.
- i. Spill prevention Plan. The Contractor shall specify all potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, ground, water, wetlands, or drainage areas. The plan shall specify the Contractor's provisions to be taken to meet Federal, State, and local laws and regulations regarding labeling, storage, removal, transport, and disposal of potentially hazardous substances.
- j. Spill contingency plan for hazardous, toxic or petroleum material.
- k. Work area plan showing the proposed activity in each portion of the area and identify the areas of limited use or non-use. Plan should include measures for marking the limits of use areas.
- l. Plan inclusive of construction limits and dredging procedures.
- m. A statement identifying the Contractor's personnel who shall be responsible for implementation of the Environmental Protection Plan. The Contractor's personnel responsible shall report directly to the Contractor's top management and shall have the authority to act for the Contractor in all environmental protection matters.
- n. A Certification Letter must be signed acknowledging the Contractor has a copy of all environmental permits and licenses applicable to the project and understand the conditions in the permits. The Certification Letter (see **APPENDIX J**) shall be attached to the Environmental Protection Plan.

B. Manatee Observation

1. Personnel: All Contractor personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. When in water work is being performed, at least one person shall be designated as a manatee observer. That person shall have experience in manatee observation and be equipped with polarized sunglasses to aid in observation.

The manatee observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of in-water construction activities. ~~Moved of a work barge or other associated vessels, shall not be performed after sunset, when the potential of spotting manages is negligible.~~

2. Daily Reports: Observers shall maintain a daily log detailing manatee sightings, work stoppages, and other protected species-related incidents. An example form is provided in **APPENDIX J**.
3. Summary Report: Within thirty (30) days of project completion, the Contractor shall submit a summary report detailing all activities noted in the observer logs, the location and name of project, and the dates and times of work.

C. Turbidity and Water Quality Management and Monitoring Plan

1. At least fifteen (15) calendar days before the scheduled pre-construction conference, the Contractor shall submit a detailed turbidity and water quality management and monitoring plan to the Engineer for approval. At a minimum, this plan should specifically detail specific project equipment, techniques, procedures, and sequencing including all feasible turbidity reduction measures, applicable regulatory standards, anticipated handling, transport and disposal of dredged materials and all efforts to preserve adjacent or downstream resources. The document, including both narrative and illustrative documentation, shall also describe in detail the specific turbidity and sedimentation monitoring, sampling and reporting protocols proposed.
2. The Contractor shall also include specific details and drawings that specifically describe how the overall dredging operations and turbidity control measures will not adversely impact marine mammals. Barrier details and drawings — including the location, method of securing, and monitoring schedule — to avoid manatee entanglement, entrapment, and movement impedence.

D. Turbidity Monitoring Reports

1. During construction, the Contractor shall submit daily monitoring reports containing the turbidity data gathered. Monitoring reports shall be submitted to the Engineer via e-mail on a daily basis. All sampling and analyses shall be in accordance FDEP-approve field procedures and laboratory methods as specified in Chapter 62-160. All reports shall contain the following information:
 - a. Permit number
 - b. Project name
 - c. Dates of sampling and analysis
 - d. Turbidity sampling results
 - e. Description of data collection methods (via a statement describing the methods use in collection, handling, storage, sample analysis, and date that the sampling meter was last calibrated)
 - f. Time of day profile was taken
 - g. Depth of sample
 - h. Depth of water body
 - i. Weather conditions at time of sampling
 - j. Tidal stage and direction of flow
 - k. Wind direction and velocity
 - l. Water temperature.
 - m. Map indicating sampling locations, dredging and discharge locations, and direction of tidal flow
 - n. Statement and signature by the individual responsible for implementation of the sampling program attesting to the authenticity, precision, limits of detection, and accuracy of the data.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All upland erosion/turbidity control devices shall be installed pursuant to Chapter 6 of The Florida Land Development Manual, A Guide to Sound Land and Water Management, prior to the commence of construction activities. The devices shall remain functional at all times.

2.2 SILTATION FENCES

- A. The siltation fences shall be geotechnical woven or non-woven fabric conforming to the applicable application requirement of Section 985 of the Florida Department of Transportation "Standards Specifications for Road and Bridge Construction." The type and size of posts and wire mesh reinforcement will be at the option of the Contractor an applicable to the installation conditions.

2.3 EROSION CONTROL MATTING

- A. Erosion control matting shall be woven, biodegradable geotechnical fabric. It shall be used to temporarily stabilize channels or steep slopes until vegetation is established. The type selected shall be comparable to the vegetation cover applied for the particular installation. The material shall be stapled in place at 18 inches on center with a minimum matting lap of 4 inches.

2.4 HAY OR STRAW BALES

- A. Hay or straw bales shall be individual bales each entrenched 4 inches into the soil. The bales shall be clean, fresh hay or straw. Bales shall be replaced when they become clogged with silt, deteriorate, or after a period of 3 weeks, whichever occurs first. The particular application may require that bales be staked into the ground with rebar.

2.5 TURBIDITY SCREENS

- A. Floating turbidity screens with weighted skirts that extend to within 1 foot of the bottom and shall be placed at the construction site (dredge and DMMA discharge) where feasible. The Contractor is responsible for ensure that turbidity control devices are inspected daily and maintained in good working order so that there are no violations of water quality standards outside of the mixing zone. The Contractor is solely responsible for ensuring that the turbidity screens (1) do not impact seagrasses; (2) avoid manatee entanglement and entrapment; and (3) do not impede manatee movement.

PART 3 - EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

- A. General
 - 1. For contract work, the Contractor shall comply with all applicable federal, state, and local laws and regulations. The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract. Contractor shall confine his activities to areas defined by the drawings and specifications. Environmental protection shall be as stated in

the following paragraphs. Failure to meet the requirements of these Specifications for environmental protection may result in Work stoppages or termination for default. No part of the time lost due to any such Work stoppages shall be made the subject of claims for extensions of time or for excess costs or damages by Contractor. If Contractor fails or refuses to promptly repair any damage caused by violation of provisions of these Specifications, the Owner may have the necessary Work performed and charge the cost thereof to Contractor.

3.2 PROTECTION OF LAND RESOURCES

- A. Before beginning any construction, Contractor shall identify all land resources to be preserved within Contractor's work area. Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms without special permission from Engineer. Contractor shall engage a qualified tree surgeon to perform all tree surgery, and shall repair injuries to bark, trunk, branches, and roots of protected trees by dressing, cutting, and painting as specified for Class I Fine Pruning, of the National Arborist Association Pruning Standards for Shade Tree or as per State's Agricultural Extension Agency Guidelines, immediately as occurrences arise. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs.
- B. Work Area Limits
 - 1. The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas approved by the Engineer. Temporary movement or relocation of the Contractor facilities shall be made only upon approval by the Engineer.
 - 2. Prior to any construction, the Contractor shall mark the areas that are not required to accomplish all work to be performed under this contract. Isolated areas within the general work area that are to be saved and protected shall also be marked or fenced. Protect from damage all existing trees designated to remain. Protect tree roots from noxious materials in solution caused by run-off or spillage. No materials, trailers, or equipment shall be stored within the drip line of any protected tree.
 - 3. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor shall convey to his personnel the purpose of marking and/or protection of all necessary objects.
- C. Protection of Landscape
 - 1. With exception of the Contractor Staging and Storage area, the District will not allow vegetation to be disturbed or removed from the DMMA nor perimeter road and access areas. Please refer to the Project Drawings for the allowable vegetation removal area. The vegetation removed in the Contractor offloading, staging, and storage area shall be minimized to the extent possible.
 - 2. Trees and their roots, shrubs, vines, grasses, land forms, and other landscape features (indicated, defined, and delineated on the Drawings to be preserved, such as wetlands) shall be clearly identified and protected by fencing or any other approved techniques. Place tree protection fencing before excavation or grading is begun and maintain in place until construction is complete.
- D. Disturbed Areas

1. The Contractor shall effectively prevent erosion and control sedimentation through approved methods include, but are not limited to, the following:
 - a. Retardation and Control of Runoff: Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, and by any other erosion control measures necessary.
 - b. The Contractor shall select, implement, and maintain erosion and sediment control measures as required by local, state, and federal laws and regulations.

E. Disposal of Solid Wastes

1. Solid wastes (excluding clearing debris) shall be placed in containers that are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination. The Contractor shall transport all solid waste off the properties within the project limits and dispose of it in compliance with federal, state, and local requirements for solid waste disposal. Discarded materials other than those that can be handled in the solid waste category will be handled as directed by the Engineer.

F. Dispensing of Fuel

1. Fuel dispensers shall have a 4-foot square, 16-gauge metal pan with borders banded up and welded at corners right below the bib. Edges of the pans shall be 8-inch minimum in depth to ascertain that no contamination of the ground takes place. Pans shall be cleaned by an approved method immediately after every dispensing of fuel and wastes disposed of offsite in an approved area. Should any spilling of fuel occur the CONTRACTOR shall immediately recover the contaminated ground and dispose of it offsite in an approved area.

G. Disposal of Chemical Waste

1. Chemical waste shall be stored in corrosion resistant containers, removed from the work area and disposed of in accordance with Federal, State, and local regulations.

H. Disposal of Discarded Materials

1. Discarded materials other than those that can be included in the solid waste category shall be handled as directed.

3.3 PROTECTION OF WATER RESOURCES

A. General

1. The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. The Contractor shall conduct his operations in a manner to minimize erosion, and shall conform to all water quality standards as prescribed all other relevant Federal, State and local regulatory criteria. Special management techniques as set out below shall be implemented to control water pollution by the listed construction activities that are included in this contract. In the event of unforeseen conditions, the Engineer may require the use of control features or methods other than those indicated or proposed by the Contractor.
2. Storage, stockpiling or access of equipment on, in, over or through seagrass (or other aquatic vegetation) beds is prohibited unless a work area or ingress/egress corridor is specifically approved by this permit. Refer to the Project Drawings. Anchoring or

spudding of vessels and barges within beds of aquatic vegetation or over hardbottom areas is prohibited.

B. Turbidity Control

1. Turbidity shall be monitored and conducted in accordance with techniques described in the FDEP Standard Operating Procedure (SOP) for field turbidity measurements:
 - a. Every four (4) hours during all dredging and every six (6) hours during discharge operations.
 - b. Background: At one-foot below surface, mid-depth, and one-foot above bottom, clearly outside the influence of any artificially generated turbidity plume.
 - 1) Dredge Site: approximately 100 feet up-current of the work site and clearly outside the influence of construction activities.
 - 2) DMMA Discharge: approximately 100 feet in the opposite direction in the prevailing current flow.
 - c. Compliance: At one-foot below surface, mid-depth, and one-foot above bottom, within the densest portion of any visible turbidity plume generated by this project.
 - 1) Dredge Site and DMMA Discharge: Immediately outside the authorized 150-meter mixing zone surrounding the work sites and within the densest portion of any visible turbidity plume.
 - d. See **APPENDIX J** for a sample Turbidity Monitoring Report Form.
2. The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If turbidity monitoring (collected and recorded during daylight hours only) shows an increase in compliance sampling turbidity greater than 29 NTU above background, the Contractor shall:
 - a. Notify the Engineer and Florida Department of Environmental Protection (904-256-1654) at the time the violation is first detected.
 - b. Immediately cease all work contributing to the water quality violation.
 - c. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices.
 - d. Perform turbidity monitoring
 - e. Resume construction activities once turbidity levels outside turbidity curtains fall below 29 NTUs.
3. Work Delay
 - a. Delays in work due to the fault or negligence of the Contractor or Contractor's failure to comply with the required turbidity requirements shall not be compensable.

C. Washing and Curing Water

1. Wastewaters directly derived from construction activities shall not be allowed to enter surface water areas. These wastewaters shall be collected and placed in retention ponds where suspended materials can be settled out or the water evaporates so that pollutants are separated from the water.
2. The Contractor shall provide siltation fences, hay bales, and other means and materials to prevent the pollution of the Intracoastal Waterway, streams, canals, lakes, ditches, rivers, and other water improvements including on-site retention areas from siltation from erosion, run off, concrete truck wash, mortar mixer cleanout, and other construction activities. Under no circumstances will material delivery trucks be cleaned out on District property. The Contractor is responsible for arranging for proper clean out facilities.
3. The Contractor shall take sufficient precautions to prevent discharge of fuels, oils, bitumen, calcium chloride, and other harmful materials to the surface and ground water.

D. Oil Spill Prevention

1. Prevent oil or other hazardous substances from entering the ground, drainage, or local bodies of water. Provide containment, diversionary structures, or equipment to prevent discharged oil from reaching a watercourse. Take immediate action to contain and clean up any spill of oily substances, petroleum products, and hazardous substances. Immediately report such spills to the Engineer. Provide one or more of the following preventive systems at each oil storage site. The provision of such preventive systems shall be approved by the Engineer prior to tank installation and use.
 - a. Dikes, berms, retaining walls, culverting, curbing, guttering, or other similar structures shall be capable of containing the contents of the largest single tank.
 - b. Spill diversion ponds shall be capable of containing the contents of the largest single tank.
 - c. Absorbent materials shall be capable of absorbing the contents of the largest single tank.
2. Oil Storage Tank Installation: All oil storage tank installation shall be constructed so that a secondary means of containment is provided for the entire contents of the largest single tank. Dikes and other structures shall be positioned or located so as to provide a secondary containment identical to that required for non-mobile storage tanks. Storage tanks shall be located where they will not be subject to flooding or washout. When it is determined that the installation of containment structures or equipment to prevent discharged oil from reaching a watercourse is not practicable, a clear demonstration of such impracticability shall be submitted to the Engineer for approval prior to installation or use of the storage tank. The following shall also be provided to the Engineer for approval prior to installation use of the storage tank.
 - a. An oil spill contingency plan.
 - b. A written certification of commitment of manpower, equipment, and materials required to expeditiously control and remove the discharge oil.
3. Liabilities: Contractor shall be liable for the damage caused by oil spills when it can be shown that oil was discharged as a result of willful negligence or willful misconduct. The penalty for failure to report the discharge of oil shall be in accordance with state and federal laws.

3.3 PROTECTION OF WETLANDS

A. General

1. The Contractor shall protect all natural areas both inside and adjacent to the work area from erosion, siltation, scouring, and/or dewatering resulting from his operations. There shall be no storage of tools, materials (e.g., clearing debris, lumber, fill dirt) within wetlands, along the shoreline in the littoral zone, or elsewhere within waters of the state except as specified in the project Specifications and/or Project Drawings. Turbidity/erosion controls shall be installed prior to any clearing, excavation, or placement of fill material and shall be maintained in an effective condition at all locations until construction is completed and disturbed areas are stabilized. Appropriate erosion control barriers shall be placed at the edge of fill slopes adjacent to wetlands to prevent turbid run-off and erosion.

I. Shoreline Vegetation

1. Trimming, alteration or removal of of shoreline vegetation is strictly prohibited. Unauthorized impacts to shoreline vegetation due to construction activities will require mitigation and will result in enforcement action. **Should penalties and mitigation be required (that occurred as a direct result of the Contractor actions) — all cost will be borne by the Contractor at no extra cost to the Owner.**

3.5 PROTECTION OF FISH AND WILDLIFE RESOURCES

- #### A.
- Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection will be listed in Contractor's Environmental Protection Plan prior to the beginning of construction operation. In the event that a threatened or endangered species is harmed because of construction activities, the Contractor shall cease all work and notify the Engineer. The Engineer will provide emergency contact information at the Pre-Construction Meeting.

B. Manatee

1. The Contractor shall comply with the Standard Manatee Construction Conditions for In-Water Work (2011) for all in-water activity.

C. Sea Turtle and Smalltooth Sawfish

1. The Contractor shall comply with National Marine Fisheries Service's "Sea Turtle and Smalltooth Sawfish Construction Conditions dated March 23, 2006.

3.6 PRESERVATION AND RECOVERY OF HISTORIC, ARCHEOLOGICAL, AND CULTURAL RESOURCES

A. Inadvertent Discoveries

1. If, during construction activities, Contractor observes items that may have historic or archeological value, such observations shall be reported immediately to Engineer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources.

B. Claims for Downtime due to Inadvertent Discoveries

1. Upon discovery and subsequent reporting of a possible inadvertent discovery of cultural resources, the Contractor shall seek to continue work well away from, or otherwise protectively avoiding, the area of interest, or in some other manner that strives to continue productive activities in keeping with the contract. Should an inadvertent discovery be of the nature that substantial impact(s) to the work schedule are evident; such delays shall be coordinated with the Engineer. Contract adjustments resulting from compliance with this paragraph shall be determined in accordance with Article 14 of the General Conditions.

3.7 PROTECTION OF AIR RESOURCES

- A. The Contractor shall keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes and work operated or performed by the Contractor in accomplishing the specified construction shall be in strict accordance with the applicable air pollution standards of the State of Florida and all Federal emission and performance laws and standards.

3.8 PROTECTION FROM SOUND INTRUSIONS

- A. The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise and to comply with all federal, state, and local noise ordinances. The use of horns, bells or the use of whistle signals shall be held to a minimum necessary in order to ensure as safe and as quiet an operation as possible.

3.9 POST CONSTRUCTION CLEANUP

- A. The Contractor shall clean up any area(s) used for construction to the satisfaction of the Engineer and Owner.

3.10 MAINTENANCE OF POLLUTION CONTROL FEATURES

- A. The Contractor shall, at his expense, provide routine maintenance of permanent and temporary erosion control features until the project is completed and accepted. If such erosion control features must be reconstructed due to the Contractor's negligence, carelessness, or in the case of temporary erosion control features, failure by the Contractor to install permanent erosion control features as scheduled, such replacement shall be on the Contractor's expense.
- B. If the Contractor through any construction activity degrades, destroys, or impacts the ground cover on any adjoining property including rights-of-way, effected area shall be fully repaired and re-vegetated at the Contractor's expense. Where the area affected is undeveloped with no maintained stand of grass, the area shall be sodded with Bahia, and where affected areas are grassed, the sod shall match the applicable vegetative cover.

-- End of Section --