
USACE / CESAJ

DEPARTMENT OF THE ARMY CESAJ 01 57 20 (Apr 2006)
U.S. ARMY CORPS OF ENGINEERS

JACKSONVILLE DISTRICT LOCAL MASTER GUIDE SPECIFICATION

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SECTION 01 57 20

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12/13

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DEPARTMENT OF THE ARMY CESAJ 01 57 20 (Apr 2006)
U.S. ARMY CORPS OF ENGINEERS

JACKSONVILLE DISTRICT LOCAL MASTER GUIDE SPECIFICATION

SECTION 01 57 20

ENVIRONMENTAL PROTECTION
12/13

NOTE: This guide specification covers the requirements for environmental protection during construction activities.

Comments and suggestions are welcome. Using e-mail for feedback is encouraged. Comments should be directed to:

Planning Division, Environmental Branch,
POC Mr. Paul Karch, 904-232-2168
(paul.j.karch@usace.army.mil).

ALL COMMENTS RECEIVED WILL BE DISSEMINATD TO THE PROPER OFFICE FOR RESPONSE.

PART 1 GENERAL

NOTE: This guide specification contains requirements which may be included in projects when applicable; requirements will be added, deleted, or modified as necessary to satisfy project conditions.

1.1 SCOPE

This Section covers prevention of environmental 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 damage is defined as the presence of hazardous, physical, chemical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances; affect other species, biological communities, or ecosystems; or degrade the quality of the environment for aesthetic, cultural, and/or historical purposes. The control of environmental damage requires consideration of land, water, and air, and includes management of visual aesthetics, noise, solid waste, radiant energy and radioactive materials, as well as other pollutants.

1.2 REFERENCES

1.2.1 Miscellaneous Environmental Laws And Regulations

NOTE: APPLICABLE TO ALL PROJECTS.

There are numerous environmental laws and regulations. At the Federal level, the applicable laws and regulations include compliance with the Clean Water Act (CWA); Clean Air Act (CAA); Coastal Zone Management Act (CZMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Endangered Species Act (ESA); Fish and Wildlife Coordination Act (FWCA); Marine Protection, Research, and Sanctuaries Act (MPRSA); Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA); National Environmental Policy Act (NEPA); National Historic Preservation Act (NHPA); National Pollution Discharge Elimination System (NPDES); Research and Sanctuaries Act; Native American Graves Protection and Repatriation Act (NAGPRA); Resource Conservation and Recovery Act (RCRA); Rivers and Harbors Act (R&H); Safe Drinking Water Act (SDWA); Toxic Substance Control Act (TSCA); Wild and Scenic Rivers Act (WSRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Marine Mammal Protection Act (MMPA); Migratory Bird Treaty Act; Code of Federal Regulations (CFRs); Executive Orders; and, Environmental Protection Agency (EPA) requirements.

1.2.2 NEPA Compliance

The Contractor shall meet the NEPA compliance measures specified in the [Environmental Assessment (EA)] [Environmental Impact Statements (EIS)].

1.2.3 Publication Reference(s)

NOTE TO SPEC WRITER: Issue (date) of references included in project specifications need not be more current than provided by the latest change to this guide specification.

The publication(s) listed below form(s) a part of this specification to the extent referenced. The publication(s) [is] [are] referred to in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 Safety and Health Requirements Manual

NOTE: Delete above reference publication if not a requirement for subparagraph "Beach Placement Restrictions" below.

EM 1110-1-1003 (1996) NAVSTAR Global Positioning System Surveying

NOTE: Delete above reference publication if Hopper Dredges are not applicable to project work;

refer to subparagraph "Hopper Dredge Equipment" below.

ER 1110-1-5 (1984) Plant Pest Quarantined Areas and Foreign Soil Samples

NOTE: Delete above reference publication if not applicable to this project.

1.3 QUALITY CONTROL

The Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. The Contractor shall record on daily quality control reports or attachments thereto, any problems in complying with laws, regulations and ordinances, and corrective action taken.

1.4 PERMITS AND AUTHORIZATIONS

GENERAL NOTE: Use the next two paragraphs for projects in Florida where there is 1 acre or more of clearing and grubbing. Otherwise, delete both paragraphs.

The Contractor is responsible for obtaining NPDES Stormwater Construction Generic Permit to provide coverage under the National Pollutant Discharge Elimination System (NPDES) Generic Permit for Stormwater Discharges from Construction Activities (CGP) pursuant to Rule 62-621.300(4), F.A.C. The Contractor is advised to contact FDEP's NPDES Stormwater Program at (850) 245-7522 or toll free at (866) 336-6312, or to download application information from http://www.dep.state.fl.us/water/stormwater/npdes/construction1.htm prior to commencement of construction.

Offsite Dewatering. The issuance of this permit does not constitute coverage under the NPDES General Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity pursuant to 62-621.300(2), F.A.C. If any offsite discharges will occur due to construction dewatering activities, then coverage under the aforementioned General Permit may be required, and the permittee is advised to review Rule 66-621.300(2), F.A.C. At least 30 days before beginning use of the General Permit, the permittee must notify this office of its intent by letter. If the proposal meets applicable criteria for use of the General Permit, then the Department does nothing, and the permittee may proceed with the project while abiding by all conditions of the General Permit.

NOTE: Below, delete all but the last unbracketed paragraph within PERMITS AND AUTHORIZATIONS if the Government obtains no permits. Delete "In addition to the above," in the first set of brackets and capitalize the subsequent letter if the two paragraphs above are deleted.

The Contractor shall comply with all requirements under the terms and conditions set out in the following permit(s) and authorization(s) obtained by the Corps of Engineers listed below.

a. Florida Department of Environmental Protection Permit No. []; Effective Date: []; Expiration Date: [] [and Modifications issued on []].

a. Puerto Rico Environmental Quality Board dated [].

b. [].]

The above permits indicate issuing agency approval of work required by this contract. Permits and environmental compliance documents are available at the following web address: http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalCompliance.aspx

NOTE: Below, delete the word "other" in brackets if all of the above paragraphs within PERMITS AND AUTHORIZATIONS have been deleted. Otherwise, delete only the brackets.

The Contractor shall obtain and comply with the requirements of all [other] permits or licenses required for construction of this project in accordance with the Clause PERMITS AND RESPONSIBILITIES of Section 00700 CONTRACT CLAUSES in Volume 1.

1.5 SUBMITTALS

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Submit the following preconstruction submittal items no later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G, DO

NOTE: Applicable to ALL projects. BE SURE TO SELECT APPROPRIATE REFERENCE/AGENCY.

No later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later, the Contractor shall

submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Government will 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 his 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 Government reserves the right to require the Contractor to make changes to the Environmental Protection Plan or operations if the Contracting Officer 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:

NOTE TO SPEC WRITER: DELETE ITEMS LISTED BELOW THAT
DO NOT APPLY AND ADD ITEMS, IF NECESSARY, THAT DO
APPLY. REMEMBER TO RE-ALPHABETIZE.

a. A list of Federal, ~~State~~~~Commonwealth~~~~Territorial~~, 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 to be preserved within authorized work areas. The Contractor shall prepare a listing of methods to protect resources needing protection, i.e., 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 procedures 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 excavations or embankments for haul roads, stream 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. Traffic control plan.

h. Methods of protecting surface and ground water during

construction activities.

i. Spill prevention. 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, [StateCommonwealth Territorial](#), 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 identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

l. Plan of borrow area(s).

m. A statement as to the person who shall be responsible for implementation of the Environmental Protection Plan. The Contractor 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. Recycling and Waste Management Plan. Executive Order 12873 of 20 October 1993 requires a number of considerations in planning a project. Fallen trees should not be burned or buried. Mulching, composting, and other uses for trees should be considered. Also, recovery of metals at the job site, including aluminum cans, should be considered with proceeds to be retained by the Contractor. Non-Federal recycling and waste minimization efforts shall also be incorporated into this plan.

o. A statement as to the person who shall be responsible for turbidity monitoring and reporting to be performed. Method of turbidity monitoring and reporting that will be performed. [The turbidity monitoring requirements of any special areas such as outstanding Florida waters.](#)

NOTE: Delete above if TURBIDITY MONITORING is not required.

[p. Operational plan to achieve protection of sea turtles during hopper dredge\(s\) operation.](#)

NOTE: Delete above if HOPPER DREDGE is not a requirement.

q. Construction activities shall be conducted in a manner as not to impact migratory birds or induce their nesting.

 NOTE: Delete above if BIRD NESTING MONITORING is
 not a requirement.

r. Steps to be taken to construct the project in such a
 manner as not to impact gopher tortoises.

 NOTE: Delete above if GOPHER TORTOISE MONITORING is
 not a requirement.

[s. A protection and education plan for the Eastern indigo
 snake.]

 NOTE: Delete above if EASTERN INDIGO SNAKE
 MONIOTORING is not a requirement.

[t. The Contractor shall provide one whale observer text
 mailbox per dredge e-mail address or telephone number to receive
 real time whale alerts throughout the calving season.]

 NOTE: Above paragraph is for offshore dredging or
 disposal projects. Otherwise delete.

[u. Invasive and Nuisance Species Decontamination Plan.]

 NOTE: Above paragraph is for non-dredging (upland)
 projects only. Otherwise delete.

[SD-02 Shop Drawings

Turtle Deflector Device; G, DO

 NOTE: Delete submittal requirement in its entirety
 if HOPPER DREDGE is not a requirement.

If the Contractor proposes to use a hopper dredge for this work,
 detail drawings shall be submitted showing the proposed device and
 its attachment to the Contractor's equipment no later than 20
 calendar days after award or 5 calendar days after Notice to
 Proceed, whichever is later. Contractor's drawings to be
 submitted shall include the approach angle for any and all depths
 to be dredged during this contract. A copy of the approved
 drawings and calculations shall be available on the vessel during
 the life of this contract. No dredging work shall be allowed to
 commence until approval of the installed turtle deflector device.]

Copies of Blasting Plan

NOTE: Delete of not applicable.

Submit as required in subparagraph "Blasting" near the end of this section.

SD-07 Certificates

Qualifications

NOTE: Delete submittal requirement if MONITORING FOR SEA TURTLE EGGS is not a requirement.

The Contractor shall submit a copy of Florida Fish and Wildlife Conservation Commission (FF&WCC) permit for handling of sea turtle eggs.

Sea Turtle Nesting Monitor and Relocation Qualifications

NOTE: Delete submittal requirement if MONITORING FOR SEA TURTLE EGGS is not a requirement.

Submit qualifications and permit no later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later. The Contractor shall have a FF&WCC permitted subcontractor approved by the Contracting Officer to accomplish the sea turtle monitoring and relocation (as necessary) of this section unless he demonstrates to the satisfaction of the Contracting Officer the capability to accomplish sea turtle monitoring and recovery by obtaining a permit from the FF&WCC to take turtles.

Bird Monitoring Qualifications; G, DO

NOTE: Delete submittal requirement if BIRD NESTING MONITORING is not a requirement; however, IF BIRD NESTING MONITORING IS REQUIRED, fill in blank with appropriate Area Office.

No later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the bird monitor/observer. Appropriate qualifications for bird monitor/observer shall be a demonstrated ability to find and/or identify bird species, nesting behavior, eggs and nests, and habitat requirements. The Contractor shall consult with and coordinate all monitoring plans and activities with [].

Manatee Observer Qualifications (Clamshell Only); G, DO

**NOTE: Use this only if Clamshell is used.
Otherwise delete this paragraph.**

No later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the manatee observer. Appropriate qualifications for manatee observer shall be demonstrated experience monitoring manatees and their behaviors in association with in-water construction projects.

Eastern Indigo Snake Observer; G, DO

NOTE: Delete submittal requirement if EASTERN INDIGO SNAKE protection is not a requirement.

No later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later, the Contractor shall furnish to the Contracting Officer for approval, the qualifications of the eastern indigo snake observer.

Sea Turtle Non-Capture Trawling (For Hopper Dredges Only)

NOTE: Delete submittal requirement if Hopper Dredge along Atlantic Coast is not a requirement.

Within 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later, the Contractor shall submit non-capture trawling supervisor qualifications to the Contracting Officer. Trawling supervisor shall be a biologist approved by NMFS. The Contractor shall consult and coordinate qualifications with Ms. Terri Jordan at 904-232-1817 or Mr. Paul Stodola at 904-232-3271.

Sea Turtle Trawling and Relocation (For Hopper Dredges Only) Permit

NOTE: Delete submittal requirement if Hopper Dredge along Gulf Coast is not a requirement.

No later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later, the Contractor shall submit a certified copy of National Marine Fisheries Service (NMFS) permit for sea turtle trawling and relocation as well as a statement as to the person responsible for implementation of the NMFS permit.

SD-11 Closeout Submittals

Logs/Final Summary Report

Contractor shall submit as specified, logs and final summary report of sightings and incidents with endangered species.

Eastern Indigo Snake Monitoring Report

NOTE: Delete submittal requirement if EASTERN
INDIGO SNAKE MONIOTORING is not a requirement.

Contractor shall submit an Eastern indigo snake monitoring
report to the appropriate U.S. Fish and Wildlife (FWS) Field
Office within 60 calendar days of the conclusion of clearing
phases. The report shall be submitted whether or not Eastern
indigo snakes are observed. The report shall contain any
sightings of Eastern indigo snakes, summaries of any relocated
snakes if relocation was approved for the project (e.g., locations
of where and when they were found and relocated), and other
obligations required by the State that may or may not be
stipulated in the permit.

Project Environmental Summary Sheet

NOTE: Applicable to ALL projects.

Contractor shall submit within 30 calendar days following
completion of the project, a written report of the absence or
occurrence of environmental incidents. In addition, for
construction activities whose anticipated duration is more than
one calendar year, the Contractor shall complete a sheet each May
31st (plus/minus 14 days).

Logs/Summary of Bird Nesting Monitoring

NOTE: Delete submittal requirement if BIRD NESTING
MONITORING is not a requirement.

Contractor shall submit as specified, logs and summary of
monitoring detailing nesting and nesting success.

Comprehensive Final Report

NOTE: Delete submittal requirement if GOPHER
TORTOISE MONITORING is not a requirement.

Contractor shall submit as specified, a compilation of all data
and maps prepared during the surveys and all information regarding
relocation of gopher tortoises.

Logs/Summary of Marine Turtle Nesting and Relocation

NOTE: Delete submittal requirement if MONITORING
FOR SEA TURTLE EGGS is not a requirement.

Contractor shall submit as specified, logs and summary of marine turtles nesting and relocation.

Endangered Species Observer Program Final Report
Non-Capture Trawl Sweeping Daily Logs

NOTE: Delete submittal requirement if HOPPER DREDGE is not used or not on the ATLANTIC COAST.

Within 30 calendar days following completion of work, the Contractor shall submit an Endangered Species Observer Program Final Report, including Load Data Forms, Daily Load Forms, Weekly Summaries and Incidental Take Forms, and submit the Non-Capture Trawl Sweeping Daily Logs.

Blasting After Action Report

NOTE: Delete if not applicable.

Submit as required in subparagraph "Blasting" near the end of this section.

1.6 SUBCONTRACTORS

Assurance of compliance with this section by subcontractors shall be the responsibility of the Contractor.

1.7 NOTIFICATION

NOTE: Select appropriate agency.

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with the aforementioned Federal, StateCommonwealth Territorial, or local laws or regulations, permits and other elements of the Contractor's environmental protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of proposed corrective action and take such action as may be approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspension.

Additionally, the Contractor shall notify the Contracting Officer, in writing, of the absence or occurrence of environmental incidents, as required on the Project Environmental Summary Sheet, copy on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Refer to paragraph SUBMITTALS above.

1.8 CONTRACTOR PERSONNEL QUALIFICATIONS IN POLLUTION CONTROL

NOTE: Select appropriate agency/Section reference.

The Contractor's personnel shall be qualified to perform all phases of environmental protection, including methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and careful installation and monitoring of the project to ensure adequate and continuous environmental pollution control. Quality Control and supervisory personnel shall be thoroughly knowledgeable of Federal, StateCommonwealthTerritorial, and local laws, regulations, and permits as listed in the Environmental Protection Plan submitted by the Contractor. Quality Control personnel will be identified in the Quality Control Plan submitted in accordance with Section 01 45 04 CONTRACTOR QUALITY CONTROL.01 45 05 DREDGING/BEACH FILL PLACEMENT - CONTRACTOR QUALITY CONTROL.

NOTE: PAYMENT PARAGRAPH IS LOCATED IN CESAJ SECTION 01 22 00 MEASUREMENT AND PAYMENT.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

NOTE: Select appropriate agency.

For contract work, the Contractor shall comply with all applicable Federal, StateCommonwealthTerritorial, or 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 at least during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications. Environmental protection shall be as stated in the following subparagraphs.

3.1.1 General Project Environmental Design and Installation Criteria

Some project sites have features that shall not be impacted in any way, including cultural, historic, or archeological features. At all sites, the Contractor shall minimize disturbance to existing features at the site to the extent possible, including vegetative, topographic, and drainage pattern features. Wetland impacts (temporary access, detours, staging areas, and other work area impacts) to project sites should be avoided and may require separate permitting action. Any wetlands temporarily impacted shall have its soil restored upon project completion. Expansion of previously permitted project footprints may likewise require separate permitting action.

In all cases, the installation of temporary systems to aid construction shall provide for protection of the environment during handling, installing, storing, utilizing, transporting, servicing, testing, refilling, transferring, pumping, processing, removing waste products, repairing and maintaining systems and their components. Necessary protection shall also be considered that would prevent contamination of the environment from impacts to the systems caused by storm water runoff and

flooding. Retrofit of temporary systems on project sites to modern environmental protection design standards shall also be considered.

In the event environmental protection measures fail, the Contractor shall implement procedures to control and correct environmental damage. The Contractor shall coordinate with the Contracting Officer if environmental protection measures fail.

3.1.1.1 Petroleum-Based Systems Environmental Design and Installation Criteria

NOTE: DELETE IF NOT APPLICABLE; ONLY APPLICABLE TO PERMANENT STRUCTURES ON-SITE INSTALLED OR REPAIRED THAT REQUIRE PETROLEUM BASED SYSTEMS.

HOWEVER, IF APPLICABLE, EDIT SUBPARAGRAPH FOR APPROPRIATE AGENCY; FOR EXAMPLE, REFERENCES TO STATE OF FLORIDA, SFWMD, AND FAC MAY NOT BE APPLICABLE TO PROJECT IN COMMONWEALTH/TERRITORY.

For petroleum-based systems, a statement of site suitability shall be provided and shall include what would be necessary to prevent adverse impact to water quality; natural resources; habitat; historic, cultural, and archeological sites; and fragile local resources in the event of a fuel spill. Human error and mechanical/electrical failure of components without human intervention shall also be considered in the design with regard to spills. Additionally, appropriate noise and emissions controls shall be incorporated into the design, including vapor and exhaust controls.

At a minimum, environmental protection design requirements shall also include the following: (1) stationary tanks and piping shall have secondary containment features; (2) approved materials and corrosion protection systems shall be utilized; (3) system leaks shall be readily detected and contained without human intervention; and, (4) overfill containment systems shall be provided.

Applicable Federal, ~~StateCommonwealthTerritorial~~, and local codes and requirements shall be strictly adhered to in the design, including those of the U.S. Environmental Protection Agency (EPA), the State of Florida, the South Florida Water Management District (SFWMD), and other local governing agencies such as those of counties and municipalities. In the case of the State, requirements include Chapter of the Florida Administrative Code (FAC) such as 62-17 (Approved Materials), 62-252 (Vapor Emissions), 62-296 (Emissions), 62-761 (Underground Storage Tanks), and 62-762 (Aboveground Tanks). Note that Chapters 62-761 and 62-762 of the FAC may be combined into one Chapter. Best Management Practices from the applicable agencies shall also be adhered to in the design.

3.1.1.2 Sewage-Based Systems Environmental Design and Installation Criteria

NOTE: EDIT SUBPARAGRAPH FOR APPROPRIATE AGENCY; FOR EXAMPLE, REFERENCES TO STATE OF FLORIDA, SFWMD, AND FAC MAY NOT BE APPLICABLE TO PROJECTS IN COMMONWEALTH/TERRITORY.)

In general, there shall be no waste or debris discharges of any kind for a project unless authorized by the Contracting Officer. This shall include the Contractor's providing sufficient temporary sanitary equipment and facilities for the project. The design and/or installation of temporary or permanent sewage systems shall ensure that waters will be free of effects of sewage discharges. Applicable Federal, StateCommonwealthTerritorial, or local codes and requirements regarding sewage shall be strictly adhered to in the design, such as those of the EPA and, in the case of the State, Chapter 62-620 (Wastewater Facilities) of the FAC. Best Management Practices from the applicable agencies shall also be adhered to in the design.

3.1.2 Protection of Land Resources

Prior to the beginning of any construction, the Contractor shall identify all land resources to be preserved or avoided within the Contractor's work area. Materials displaced into uncleared areas shall be removed. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without special permission from the Contracting Officer. The Contractor shall engage a qualified tree surgeon to perform all tree surgery. The Contractor shall be responsible to 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, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs.

3.1.2.1 Work Area Limits

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 which are to be saved and protected shall also be marked or fenced. The Contractor shall protect from damage all existing trees designated to remain. Protection of tree roots shall be provided against noxious materials in solution caused by run-off or spillage. Fires shall be located outside the canopy of protected trees. No materials, trailers, or equipment shall be stored within the drip line of any protected tree. 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.

NOTE: Delete below paragraph if not applicable to this project.

[The Contractor shall thoroughly clean all construction equipment and tools at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present. The Contractor shall consult with the U.S. Department of Agriculture (USDA) regarding additional cleaning requirements that may be necessary. In addition, if this contract involves the identification, shipping, storage, testing, or disposal of soils from such a quarantined area, the Contractor agrees to

comply with the provisions of ER 1110-1-5 and attachments. The Contractor agrees to assure compliance with this obligation by all subcontractors.]

3.1.2.2 Protection of Landscape

**NOTE: Delete subparagraph in its entirety if NOT
dredging from land or utilizing upland disposal area.**

**However, IF APPLICABLE, delete bracketed information
when features ARE NOT defined on drawings.**

Trees and their roots, shrubs, vines, grasses, land forms, and other landscape features [indicated and defined on the drawings to be preserved] shall be clearly identified and protected by fencing or any other approved techniques. Protection of trees shall be as illustrated in the Tree Protection Plan Detail on the first web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below. Tree protection fencing shall be placed before excavation or grading is begun and maintained in place until construction is complete. Branches of protected trees, if required, shall be removed to clear for construction and pruning shall subsequently be performed to restore the natural shape of the entire tree. Branches or roots, if required, shall be cut with sharp pruning instruments and not broken or chopped. Protected trees shall be fertilized to compensate for root loss with 6-6-6 as per manufacturer's application direction. Any damage to tree crowns or roots shall be repaired promptly after damage occurs.

a. Trench or Bore Under Trees: Where trenching for utilities is required within tree driplines, the Contractor shall hand dig under and around roots or bore under them. The Contractor shall protect roots from drying and cover exposed roots within an hour as specified in subparagraph "Excavation for Structures" below. No lateral roots which interfere with new construction shall be cut. Boring is permitted.

b. Excavation for Structures: Where excavating for new construction is required within tree drip lines, the Contractor shall hand excavate to minimize damage to root systems. The Contractor shall use narrow tine pitchforks and comb soil to expose roots. The Contractor shall relocate roots in backfill areas. If large, main lateral roots are encountered that are exposed beyond the excavation limits, the Contractor shall bend and relocate these roots without breaking or girdling. If roots are encountered immediately adjacent to new construction such that relocation is not practical, the Contractor shall saw roots approximately 3" back from the new construction, seal with tree wound dressing, and protect any exposed embankment of roots from drying by covering with straw and black plastic. The Contractor shall irrigate affected areas daily until final grade conditions are established and the exposed roots are backfilled properly for continued plant growth.

c. Replacement: The Contractor shall remove dead or damaged protected trees determined, by the Government, to be incapable of restoration to normal health growth. The Contractor shall replace each removed tree up to 4" caliper with tree of equal specie and size. For each tree removed larger than a 4" caliper, the Contractor shall replace the tree with one 4" caliper tree per 4" caliper increment or fraction thereof.

[d. Grade Change: See Section 31 00 00 EARTHWORK for method of handling grade changes at existing trees to be protected during construction.]

NOTE: Subparagraph above is applicable ONLY if UFGS Section 02300A EARTHWORK is used. This is a requirement of Environmental Branch.

3.1.2.3 Unprotected Erodible Soils

NOTE: Delete subparagraph in its entirety if not applicable.

Earthwork brought to final grade shall be finished as indicated in the contract drawings. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in instances where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the areas developed as approved by the Contracting Officer.

3.1.2.4 Disturbed Areas

NOTE: Fill in blanks and choose appropriate agency.

NOTE TO SPEC WRITER: APPLICABLE ONLY TO UPLAND CONSTRUCTION WORK.

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but 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 measures required by area wide plans approved under paragraph 208 of the Clean Water Act.
- b. Erosion and Sedimentation Control Devices: The Contractor shall construct or install temporary and permanent erosion and sedimentation control features as directed by the Contracting Officer. Temporary velocity dissipation devices shall be placed along drainage courses so as to provide for non-erosive flows. Temporary erosion and sediment control measures such as berms, dikes, drains, sediment traps, sedimentation basins, grassing, mulching, baled hay or straw, and silt fences shall be maintained until permanent drainage and erosion control facilities are completed and operative. For silt fences, the filter fabric is to be of nylon, polyester, propylene, or ethylene yarn of at least 50 lb/in strength and able to withstand a flow rate of at least 0.3 gal/ft sq/minute. The fabric should contain ultraviolet ray inhibitors and stabilizers and be a minimum of 36 inches in width. The

toe of the fence shall be buried at least 8 inches deep to prevent undercutting and shall be secured to posts by suitable staples, tie wire, or hog rings. Posts shall have a cross section of at least 1-1/2" x 1-1/2" hardwood or 2"x4" softwood, and a minimum of 4 foot in length. Fence shall be overlapped to the next post if fabric joints are necessary.

c. Sediment Basins: Sediment from construction areas shall be trapped in temporary or permanent sediment basins. The basins shall accommodate the runoff of a local 24-hour storm. After each storm, the basins shall be pumped dry and accumulated sediment shall be removed as necessary to maintain basin effectiveness. Overflow shall be controlled by paved weir or by vertical overflow pipe, draining from the surface. The collected topsoil sediment shall be reused for fill on the construction site, and/or conserved (stockpiled) for use at another site(s). The Contractor shall institute effluent quality monitoring programs as required by [StateCommonwealthTerritorial](#) and local environmental agencies.

3.1.2.5 Contractor Facilities and Other Work Areas

Locate facilities, staging and other work areas as indicated in Section 01 50 02 TEMPORARY CONSTRUCTION FACILITIES, and in compliance with permits listed in the paragraph PERMITS AND AUTHORIZATIONS above and obtained for performance of work. Borrow or dredge material management (DMMA) areas shall be managed to minimize erosion and to prevent sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby watercourses, wetlands, or lakes. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment. If there is suspicion that sediment may be unsuitable for disposal at a specified location, the Contractor shall immediately take measures to contain the suspect sediment and notify the Contracting Officer.

3.1.2.6 Solid Wastes

NOTE: Select appropriate reference and agency.

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination. Solid waste materials shall be hauled to a solid waste disposal site [shown on the drawings] [approved by the Contracting Officer]. The Contractor shall comply with Federal, [State CommonwealthTerritorial](#) and local regulations pertaining to the use of the solid waste disposal site.

3.1.2.7 Fuel, Oil, and Lubricants

NOTE: Select appropriate agency.

Fuel, oil, and lubricants shall be managed so as to prevent spills and evaporation. To prevent spills, fuel dispensers shall have a 4-foot

square, 16-gauge metal pan with borders banded up and welded at corners right below the bibb. 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. Petroleum waste generated shall be stored in marked corrosion-resistant containers and recycled or disposed of in accordance with 40 CFR 279, [StateCommonwealth Territorial](#), and local regulations.

3.1.2.8 Hazardous Waste

NOTE: Select appropriate agency.

Hazardous wastes are defined in 40 CFR 261. The Contractor shall ensure that hazardous wastes are stored and disposed of in accordance with 40 CFR 261 and [StateCommonwealthTerritorial](#) and local regulations. The Contractor shall ensure that hazardous wastes are packed, labeled, and transported in accordance with 49 CFR 173 and [StateCommonwealthTerritorial](#) and local regulations.

3.1.2.9 Hazardous Materials

NOTE: Select appropriate agency.

The Contractor shall ensure that hazardous materials are labeled, stored, and transported in accordance with 49 CFR 173, [StateCommonwealthTerritorial](#) and local regulations.

3.1.2.10 Disposal of Other Materials

Other materials than previously discussed (Construction and Demolition, vegetative waste, etc.) shall be handled as directed.

3.1.3 Preservation and Recovery of Historic, Archeological, and Cultural Resources

NOTE: If areas are not designated on drawings, the first two subparagraphs may be deleted and other subparagraphs used without reference to paragraph number.

3.1.3.1 Applicable Law

A number of Federal laws require protection of cultural resources. Two laws, in particular, can be potentially involved with dredging activities: (1) the National Historic Preservation Act, as amended; and, (2) the Abandoned Shipwreck Act.

3.1.3.2 Known Resources

If known historic, archeological and cultural resources within the

Contractor's work area(s) are present, it will be designated as a "potentially significant cultural resource" on the contract drawings or other documents. If so designated, the Contractor shall install protection for these resources and shall be responsible for their preservation during the contract's duration. The Contractor shall not distribute maps or other information on these resource locations except for distribution among the Contractor's staff with a "need to know" technical responsibility for protecting the resources.

3.1.3.3 Inadvertent Discoveries

If, during construction activities, the Contractor observes items that may have historic or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate Corps staff may be notified and a determination for what, if any, additional action is needed. Examples of historic, archeological and cultural resources are bones, remains, artifacts, shell, midden, charcoal or other deposits, rocks or coral, evidences of agricultural or other human activity, alignments, and constructed features. The Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from further removing, or otherwise damaging, such resources.

The possibility of encountering submerged cultural resources is inherent in dredging and snagging operations. Such findings could include shipwrecks, shipwreck debris fields (such as steam engine parts), prehistoric watercraft (such as log "dugouts"), and other structural features intact or displaced. The materials may be deeply buried in sediment, resting in shallow sediments or above them, or protruding into water. Suspected cultural materials inadvertently gathered from a water-saturated context should be kept moist by re-immersion, spraying, or some other expedient means of wetting until the appropriate Corps staff provide further directives. No interviews or other contact with media shall occur without clear authorization from the Contracting Officer or the appropriate Corps representative.

3.1.3.4 Claims for Downtime due to Inadvertent Discoveries

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 Contracting Officer. Contract adjustments resulting from compliance with this paragraph shall be determined in accordance with Clause DIFFERING SITE CONDITIONS of Section 00700 CONTRACT CLAUSES in Volume 1.

3.1.4 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface, ground waters, and wetlands. The Contractor shall plan his operation and perform all work necessary to minimize adverse impact or violation of the water quality standard. Special management techniques as set out below shall be implemented to control water pollution by the listed construction activities which are included in this contract. The Contractor's construction methods shall protect wetland and surface water areas from damage due to mechanical grading, erosion, sedimentation and turbid

discharges. There shall be no storage or stockpiling of equipment, tools, or materials within wetlands or along the shoreline within the littoral zone unless specifically authorized.

3.1.4.1 Washing and Curing Water

Waste waters directly derived from construction activities shall not be allowed to enter water areas. These waste waters 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. Analysis shall be performed and results reviewed and approved by Corps staff before water in retention ponds is discharged.

3.1.4.2 Cofferdam and Diversion Operations

NOTE: Delete subparagraph in its entirety if not applicable.

Construction for dewatering, removal of cofferdams, tailrace excavation, and tunnel closure shall be controlled at all times to limit the impact of water turbidity on the habitat for wildlife and impacts on water quality for downstream use.

3.1.4.3 Stream Crossings

NOTE: Delete subparagraph in its entirety if not applicable. However, if applicable, select appropriate agency.

Stream crossings shall be controlled during construction. Crossings shall provide movement of materials or equipment without violating water pollution control standards of the Federal, [StateCommonwealthTerritorial](#) or local government.

3.1.4.4 Monitoring of Water Areas

All water areas affected by construction activities shall be monitored by the Contractor.

3.1.4.5 Turbidity

NOTE: Select appropriate agency; for the Virgin Islands, delete both references.

HOWEVER, IF SECTION 01 57 25 TURBIDITY AND DISPOSAL MONITORING IS USED, DELETE FIRST BRACKETED PARAGRAPH AND USE SECOND BRACKETED PARAGRAPH.

The Contractor shall conduct his operations in a manner to minimize turbidity. Also, the Contractor shall conform to all water quality standards as prescribed by [Chapter 62-302, State of Florida, Department of Environmental Protection \(FDEP\)](#)[the Puerto Rico Water Quality Standards Regulation of the Puerto Rico Environmental Quality Board.](#)

[The Contractor shall conduct his operations in a manner to minimize turbidity. Refer to Section 01 57 25 TURBIDITY AND DISPOSAL MONITORING for further instructions.]

3.1.4.6 Oil, Fuel, and Hazardous Substance Spill Prevention and Mitigation

NOTE: Select appropriate agency.

The Contractor shall prevent oil, fuel, or other hazardous substances from entering the air, ground, drainage, local bodies of water, or wetlands. This shall be accomplished by design and procedural controls. In the event that a spill occurs despite the design and procedural controls, the following shall occur:

(1) Immediate action shall be taken to contain and cleanup any spill of oil, fuel or other hazardous substance.

(2) Spills shall be immediately reported to the Contracting Officer.

(3) Spill contingency planning shall be strictly in accordance with the criteria of 40 CFR, Part 109.

(4) To control the spread of any potential spill, absorbent materials shall be readily available and capable of absorbing the contents of the single largest tank.

(5) To control the spread of any potential spill, the Contractor shall provide a written certification of commitment of manpower, equipment, and materials required to expeditiously cleanup and dispose of spill materials.

a. Spill Preventive Systems: System design and installation requirements have been discussed at the beginning of this Section. Temporary or portable tanks shall conform to applicable Federal, State Commonwealth/Territorial and local codes and requirements and shall not be placed where they may be affected by storm, flooding, or washout. Diversionary structures for spills shall be put in place in advance where practical. Both spill preventive systems and any deviations from associated requirements shall be approved by the Contracting Officer prior to implementation.

b. Liabilities: The Contractor shall be liable in the amounts established in 40 CFR, Part 113 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 the provision of 33 CFR, Part 153.

3.1.4.7 Wetlands Protection

a. The Contractor shall determine the location of wetlands within the project area and adjacent to the project area from the information provided in the contract documents. The Contractor shall instruct all personnel associated with the project of the presence of wetlands if the wetlands are located within 1,000 feet of staging areas, access roads or any other areas used during construction activities.

b. All construction personnel shall be advised that there are civil and criminal penalties for harming or destroying wetlands beyond actions specifically identified, anticipated, and authorized in these specifications and associated plans and environmental documents. The Contractor shall erect a silt fence at least 30 feet upland and along the entire length of all wetland delineation lines adjacent to the work site and staging areas, prohibit all access into the wetland, and ensure compliance with the paragraph "Protection of Water Resources" above.

c. The Contractor shall not anchor, place pipelines, or stage equipment in a manner that will cause any damage to wetlands beyond those specifically identified, anticipated, and authorized in these specifications and associated drawings and environmental documents. Anchoring, placing pipeline, or staging equipment shall be avoided in these sensitive wetland areas. If such activities cannot be done without affecting sensitive areas outside the construction area identified in the contract documents, the activities shall cease, and the Contracting Officer and Chief, Environmental Branch (904-232-1665) shall be immediately notified (no later than the morning following the working day if the incident occurs after normal working hours). Any actual incident involving damage to, or disturbance of, wetlands shall be reported.

3.1.4.8 []

NOTE: If applicable, specify additional operations unique to this contract.

[]

3.1.5 Protection of Fish and Wildlife Resources

The 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 shall be listed in the Contractor's Environmental Protection Plan prior to the beginning of construction operation.

In the event that a threatened or endangered species is harmed as a result of construction activities, the Contractor shall cease all work and notify the Contracting Officer. The order of contact within the Corps of Engineers shall be as follows:

Order of Contact of Corps Personnel

<u>Title</u>	<u>Telephone Number</u>
Corps, Inspector	Onsite/After hours to be provided
[Area] [Resident] [Antilles] Engineer, []]
(CESAJ-[]-[])	To be provided
Chief, Environmental Branch	
Planning Division (CESAJ-PD-E)	904-232-1665
Chief, Construction Division	
(CESAJ-CD)	904-232-1639

3.1.5.1 Endangered Species Protection

**NOTE: USE THE FOLLOWING SUBPARAGRAPHS WHEN ONLY
 MANATEES ARE INVOLVED. BE SURE TO SELECT APPROPRIATE
 ACT OR REGULATION.**

The Contractor shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees.

a. Civil and Criminal Penalties: All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the [Florida Manatee Sanctuary Act](#) [Commonwealth of Puerto Rico Endangered Species Regulation](#). The Contractor may be held responsible for any manatee harmed, harassed, or killed as a result of construction activities.

b. Siltation Barriers: If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

c. Vessel/Boat Operation: All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom, and vessels shall follow routes of deep water whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits. Mooring bumpers shall be placed on all barges, tugs, and similar large vessels wherever and whenever there is a potential for manatees to be crushed between two moored vessels. The bumpers shall provide a minimum stand-off distance of 4 feet.

d. Manatee Sighting: If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease within the waterway to ensure protection of the manatee. Construction activities shall not resume until the manatee has departed the project area. If construction activity shall cease, notify the Contracting Officer.

e. Manatee Signs: Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8-1/2" x 11" reading, "CAUTION: MANATEE HABITAT/IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA." In the absence of a vessel, a temporary 3' x 4' sign reading "CAUTION: MANATEE AREA" will be posted adjacent to the issued construction permit. A second temporary sign measuring 8-1/2" x 11" reading "CAUTION: MANATEE HABITAT. EQUIPMENT MUST BE SHUTDOWN

IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION" shall be posted at the dredge operator control station and at a location prominently adjacent to the issued construction permit. The Contractor shall remove the signs upon completion of construction. Sample Manatee Caution Signs are on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

f. Manatee Sighting Reports: Any collisions with a manatee or sighting of any injured or incapacitated manatee shall be reported immediately to the Corps of Engineers by notifying the personnel indicated in the table "Order of Contact of Corps Personnel" above. The Contractor shall also immediately report any collision with and/or injury to a manatee to the Florida Wildlife Conservation Commission "Manatee Hotline" 1-888-404-FWCC (3922) as well as the U.S. Fish and Wildlife Service, [Jacksonville Field Station at 904-232-3336 for North Florida] [Vero Beach Field Office at 772-562-3909 for South Florida] [Boqueron Field Office at 787-851-7273 for Puerto Rico].

NOTE: Fill in all blanks and select appropriate reference. ALSO BE SURE TO SELECT APPROPRIATE FIELD OFFICE ADDRESS FROM LIST BELOW FOR SUBMISSION OF LOG. ADDRESS OF FIELD OFFICE CAN BE FOUND IN SECTION 01330 SUBMITTAL PROCEDURES.

g. Manatee Monitoring (Clamshell Only): During clamshell dredging operations, a dedicated observer shall monitor for the presence of manatees. The dedicated observer shall have experience in manatee observation and be equipped with polarized sunglasses to aid in observing. Nighttime lighting of waters within and adjacent to the work area shall be illuminated, using shielded or low-pressure sodium-type lights, to a degree that allows the dedicated observer to sight any manatee on the surface within 200 feet of the operation. The dredge operator shall gravity-release the clamshell bucket only at the water surface, and only after confirmation that there are no manatees within the safety distance identified in the standard construction conditions.

h. Report Submission: The Contractor shall maintain a log detailing sightings, collisions, or injuries to manatees occurring during the contract period. The data shall be recorded on forms provided by the Contracting Officer (sample Daily Manatee Reporting Log is on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below). All data in original form shall be forwarded directly to Chief Environmental Branch, P. O. Box 4970, Jacksonville, Florida, 32232-0019, within 10 days of collection and copies of the data shall be supplied to the Contracting Officer. Following project completion, a report summarizing the above incidents and sightings shall be submitted to the following:

Florida Fish and Wildlife Conservation Commission
Imperiled Species Management Division
620 South Meridian Street, Mail Stop 6A
Tallahassee, Florida 32399-1600

Chief, Environmental Branch
U.S. Army Corps of Engineers (CESAJ-PD-E)
P.O. Box 4970

Jacksonville, Florida 32232-0019

[Area] [Resident] [Antilles] Engineer, []
U.S. Army Corps of Engineers (CESAJ-[]-[])
[]
[]

[U.S. Fish and Wildlife Service
6620 Southpoint Drive South, Suite 310
Jacksonville, Florida 32216-0912]

[U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559]

[U.S. Fish and Wildlife Service
P. O. Box 491
Boqueron, Puerto Rico 00622-0491]

**NOTE: USE THE FOLLOWING PARAGRAPHS WHEN MANATEES,
SEA TURTLES AND/OR WHALES ARE INVOLVED; delete
reference to WHALES if not applicable (dredging).
Also include GOPHER TORTOISES, EASTERN INDIGO
SNAKES, BALD EAGLES AND CRESTED CARACARA when
applicable. However, there are no CRESTED CARACARA
in Jacksonville and any reference to them should be
deleted. SELECT APPROPRIATE REFERENCE.**

The Contractor shall instruct all personnel associated with the project of the potential presence of manatees[,] [and] sea turtles[,] [dolphins and whales] in the area, and the need to avoid collisions with and harming these animals. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees[,] [or] sea turtles[,] [dolphins or whales] which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and/or the Florida Manatee Sanctuary Act. The Contractor shall be held responsible for any manatee, sea turtle[,] [or whale] harmed, harassed, or killed as a result of construction activities.

[In addition, the Contractor shall instruct all personnel associated with the project of the potential presence of [gopher tortoises,] [Eastern indigo snakes,] [bald eagles] [,] [and] [crested caracara] in the area, and the need to avoid harming these animals. The Contractor shall be held responsible and liable for any of the above-mentioned animals that are harmed, harassed, or killed as a result of construction activities. In the event that a threatened or endangered species is harmed as a result of construction activities, the Contractor shall cease all work and notify the Contracting Officer.]

a. Siltation Barriers: If siltation barriers are used, they shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exit from essential habitat.

b. Special Operating Conditions:

(1) All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in waters where the draft of the vessel provides less than a four-foot clearance from the bottom, and vessels shall follow routes of deep water whenever possible. Boats used to transport personnel shall be shallow-draft vessels, preferably of the light-displacement category, where navigational safety permits. Mooring bumpers shall be placed on all barges, tugs, and similar large vessels wherever and whenever there is a potential for manatees to be crushed between two moored vessels. The bumpers shall provide a minimum stand-off distance of four feet.

(2) If a manatee(s) is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease within the waterway to ensure protection of the manatee. Construction activities shall not resume until the manatee has departed the project area.

NOTE: Delete subparagraph below if RIGHT WHALES are not applicable.

(3) During the period December through March, barges or dredges moving through the designated critical habitat of the right whale (*Eubalaena glacilis*) shall take the following precautions. The Contractor shall provide one whale observer text message mailbox per dredge to receive real time whale alerts throughout the calving season. The whale observer text message mailbox e-mail address or telephone number shall be provided to Terri Jordan-Sellers at terri.jordan-sellers@usace.army.mil. During evening hours or when there is limited visibility due to fog or sea states greater than Beaufort 3, the tug/barge or dredge operator shall slow down to 5 knots or less when traversing between areas if whales have been spotted within 15 nautical miles (nm) of the vessel's path within the previous 24 hours. During the period 1 December through 30 March, daily aerial surveys within 15 nautical miles (nm) of the dredging and disposal sites will be conducted by others to monitor for the presence of the right whale. Right whale sightings will be immediately communicated by marine radio to the dredging Contractor's dredge. In addition, the tug/barge or dredge operator shall maintain a 500-yard buffer between the vessel and any whale. The area designated as critical habitat in the southeastern United States encompasses waters between 31 degrees 15 seconds N (approximately located at the mouth of the Altamaha River, GA) and 30 degrees 15 seconds N (approximately Jacksonville, FL) from the shoreline out to 15 nm offshore; and the waters between 30 degrees 15 seconds N and 28 degrees 00 seconds N (approximately Sebastian Inlet, FL) from the shoreline out to 5 nm. If a stranded/injured/incapacitated whale is observed within the construction site, the Contractor is requested to immediately contact the NMFS Whale Stranding Network pager number at 305-862-2850. The Contractor shall report all right whale

sightings to the Florida Fish and Wildlife Conservation Commission Wildlife Alert Toll-Free Number 1-888-404-3922 (FWCC) or for cell phone customers *392 (*FWC) or #392 (#FWC).

NOTE: Delete subparagraph below if SEA TURTLES are not applicable.

(4) All turtle takes shall be immediately reported to the Contracting Officer. Dredging operations shall cease if 3 turtles or 2 endangered turtles are taken until the Contracting Officer notifies the Contractor to resume dredging.

(5) If a turtle is taken by hopper dredge (dead or alive), a copy of the official incident take report shall be e-mailed in PDF format to takereport.nmfsser@noaa.gov and the Contracting Officer.

c. Manatee Monitoring (Clamshell Only): During clamshell dredging operations, a dedicated observer shall monitor for the presence of manatees. The dedicated observer shall have experience in manatee observation and be equipped with polarized sunglasses to aid in observing. Nighttime lighting of waters within and adjacent to the work area shall be illuminated, using shielded or low-pressure sodium-type lights, to a degree that allows the dedicated observer to sight any manatee on the surface within 200 feet of the operation. The dredge operator shall gravity-release the clamshell bucket only at the water surface, and only after confirmation that there are no manatees within the safety distance identified in the standard construction conditions.

d. Manatee Signs: Prior to commencement of construction, each vessel involved in construction activities shall display at the vessel control station or in a prominent location, visible to all employees operating the vessel, a temporary sign at least 8-1/2" x 11" reading, "CAUTION: MANATEE HABITAT/IDLE SPEED IS REQUIRED IN CONSTRUCTION AREA." In the absence of a vessel, a temporary 3' x 4' sign reading "CAUTION: MANATEE AREA" shall be posted adjacent to the issued construction permit. A second temporary sign measuring 8-1/2" x 11" reading "CAUTION: MANATEE HABITAT. EQUIPMENT MUST BE SHUTDOWN IMMEDIATELY IF A MANATEE COMES WITHIN 50 FEET OF OPERATION" shall be posted at the dredge operator control station and at a location prominently adjacent to the issued construction permit. The Contractor shall remove the signs upon completion of construction. Sample Manatee Caution Signs are on the first web site indicated in the paragraph CONSTRUCTION FORMS AND DETAILS below.

3.1.5.2 Endangered Species Observers (Hopper Dredge Only)

NOTE: Delete word in bracket if there are no whales.

During dredging operations, observers approved by the National Oceanic and Atmospheric Administration - Fisheries (NOAA-Fisheries) sea turtles, sturgeon and [whales] shall be aboard to monitor for the presence of the species. Observer coverage shall be 100 percent (24hr/day) and shall be conducted year round. During transit to and from the disposal area, the observer shall monitor from the bridge during daylight hours for the

presence of endangered species, especially the Northern right whale, during the period December through March. During dredging operations, while dragheads are submerged, the observer shall continuously monitor the inflow and/or overflow screening for turtles and/or turtle parts and sturgeon and/or sturgeon parts. Upon completion of each load cycle, dragheads should be monitored as the draghead is lifted from the sea surface and is placed on the saddle in order to assure that sea turtles that may be impinged within draghead are not lost and un-accounted for. Observers shall physically inspect dragheads and inflow and overflow screening/boxes for threatened and endangered species take.

a. Monitoring Reports: The results of the monitoring shall be recorded on the appropriate observation sheets. There is a sheet for each load, a daily summary sheet, and a weekly summary sheet. In addition, there will be a post dredging summary sheet. Observations sheets will be completed regardless of whether any takes of sturgeon (Gulf, Shortnose or Atlantic), whales, or sea turtles occur. In the event of any sea turtle or sturgeon (Gulf, Atlantic or Shortnose) take by the dredge, appropriate incident reporting forms shall be completed. Additionally, all specimens shall be photographed with a digital camera. These photographs shall be attached to respective reports for documentation. Dredging of subsequent loads shall not commence until all appropriate reports are completed from the previous dredging load to ensure completeness and thoroughness of documentation associated with the incidental take Reports shall be submitted to the Corps within 24-hours of the take. Copies of the forms shall be legible. Observer forms may be accessed on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

b. Endangered Species Observer(s): A list of endangered species observer-biologists (ESOs) that have been NMFS-approved to monitor threatened/endangered species takes by hopper dredges can be obtained by contacting NOAA Fisheries' Northeast Region, Protected Resources Division. The main contact is Ms. Julie Crocker; she can be reached at julie.crocker@noaa.gov or 978-281-9300 ext.6530.

c. Digital Photographs: The Contractor shall use a digital camera, with an image resolution capability of at least 300 dpi, in order to photographically report all incidental takes, without regard to species, during dredging operations. Immediately following the incidental take of any threatened or endangered species, images shall be provided, via email, CD, DVD, or USB (thumb/flash/jump drive) to the Contracting Officer's Representative in a .JPG or .TIF format and shall accompany incidental take forms. The nature of findings shall be fully described in the incidental take forms including references to photographs.

3.1.5.3 Manatee, Sea Turtle, and Whale Sighting Reports

NOTE: Fill in all blanks and select appropriate reference.

Any take concerning a manatee, sturgeon, sea turtle or whale; or sighting of any injured or incapacitated manatees, sea turtles, or whales shall be reported immediately to the Corps of Engineers by notifying the personnel indicated in the table "Order of Contact of Corps Personnel" above.

A copy of the incidental take report shall be provided to the Contracting Officer within 24 hours of the incident. The Contractor shall also immediately report any collision with and/or injury to a manatee to the Florida Fish and Wildlife Conservation Commission "Manatee Hotline" 1-888-404-FWCC (3922) as well as the U.S. Fish and Wildlife Service, [Jacksonville Field Office 904-731-3336 for North Florida] [Vero Beach Field Office 772-562-3909 for South Florida]Boqueron Field Office 787-851-7273 for Puerto Rico. If a sea turtle is taken by the dredge (live or dead), or lethally taken by the sweep trawler or relocation trawler, the contractor shall email a PDF version of the incidental take report to NOAA-Fisheries Southeast Region at the following email address within 24 hours of the take - takereport.nmfs@noaa.gov also providing a cc copy to the Contracting officer.

3.1.5.4 Disposition of Turtles or Turtle Parts

NOTE: Hopper dredge.

a. Turtles Taken by Hopper Dredge:

(1) Dead Turtles: Upon removal of sea turtle and/or parts from the draghead or screening, observers shall take photographs as to sufficiently document major characteristics of the turtle or turtle parts including but not limited to dorsal, ventral, anterior, and posterior views. For all photographs taken, a backdrop shall be prepared to document the dredge name, observer company name, contract title, time, date, species, load number, location of dredging, and specific location taken (draghead, screening, etc.). Carcass/turtle parts shall also be scanned for flipper and Passive Integrated Transponder (PIT) tags. Any identified tags shall be recorded on the "Sea Turtle Incidental Take Form" that is included in the "Endangered Species Observer Program Forms" located on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Also, fill out the load report and take photos for submission Turtle parts which cannot be positively identified to species, on board the dredge or barge(s) shall be preserved by the observer(s) for later identification. A tissue sample shall be collected from any lethally taken sea turtle and submitted under the process stated in the "Protocol for Collecting Tissue Samples from Turtles for Genetic Analysis" found in the CONSTRUCTION FORMS AND DETAILS below. All genetic samples collected shall be submitted to NMFS within 30 days of collection, and verification of submittal to NMFS shall be provided to the Contracting Officer's Representative. After all data collection is complete, the sea turtle/parts should be marked (spray paint works well), weighted down and disposed of in accordance with the direction of the contracting officer.

(2) Live Turtles: Observer(s) shall measure, weigh, scan for PIT tags, tag (Iconnel flipper and PIT tags (if PIT tag not located during scan, and only if observer is qualified to tag using PIT tags)), and photograph any live turtle(s) incidentally taken by the dredge. Observer(s) (or their authorized representative) shall coordinate with the contracting officer's representative and Environmental branch staff to transport, as soon as possible, the live turtle(s) taken by the dredge to an

approved rehabilitation facility such as Sea World in Orlando, Florida.

NOTE: Include this subparagraph (b) for Gulf Coast projects only. Otherwise, delete this paragraph. Delete subparagraph (b) if no relocation trawler is used.

b. Turtles Taken by Relocation Trawler:

(1) Live Turtles: At least one (1) crewmember, who possesses the required permits for handling endangered species, experienced in sea turtle capture or is a National Oceanic and Atmospheric Administration (NOAA) Fisheries-approved observer, shall be on board the trawler during the trawl and act as the sea turtle trawling and relocation supervisor. Only a NOAA Fisheries-approved observer or observer candidate in training under the direct supervision of a NOAA Fisheries-approved observer shall conduct the sampling operations of tagging, measuring, weighing and collecting tissue samples from turtles. Each turtle that is captured shall be identified to species and age class (juvenile, sub-adult, adult), digitally photographed, scanned for Passive Integrated Transponder (PIT) tags, measured, tagged (Inconel flipper tag and PIT tag, if one not located by scan, and only if observer is qualified to tag using PIT tags), and released and the data recorded on the "Sea Turtle Tagging and Relocation Report" FOUND IN CONSTRUCTION FORMS AND DETAILS below. External tags shall also be noted and data recorded into the observer's log. Turtles shall be released at locations at least 3 nautical miles (nmi) away from the project area, at time intervals designated by the Sea Turtle Trawling and Relocation Supervisor who is proficient in the viable handling and relocating of sea turtles.

Weight/Size Measurements and Tissue Collection. Turtles shall be measured, tagged, and weighed when safely possible, prior to release. Turtle measurements shall be recorded and shall include, at a minimum, weight when possible, straight-line length, straight-line width, body depth, and tail length. Turtles shall be tagged with NMFS No. 681 Inconel tags in each of the front flippers and PIT tags according to NOAA-Fisheries protocol (found at http://www.sefsc.noaa.gov/turtles/TM_579_SEFSC_STRTM.pdf). Aseptic conditions shall be maintained for tags and tag attachment. A tissue sample shall be collected from any trawl captured turtle and submitted under the process stated in the "Protocol for Collecting Tissue Samples from Turtles for Genetic Analysis" found in the CONSTRUCTION FORMS AND DETAILS below. All genetic samples collected shall be submitted to NMFS within 30 days of collection, and verification of submittal to NMFS shall be provided to the Contracting Officer's Representative. The Contractor shall be responsible for obtaining permits related to trawling from the appropriate State agencies.

(2) Dead Turtles: Any turtle found dead in the nets during relocation trawling efforts shall be digitally photographed, measured, weighed (if possible), scanned for tags. The carcass should then be placed on ice and kept cold (but not frozen) as

quickly as possible and the Florida State Sea Turtle Salvage and Stranding network pager (1-800-241-4653, ID#274-4867) should be called between 8am-8pm seven days a week to arrange for the carcass to be transferred to the FSTSSN for necropsy. If the take occurs between 8pm and 8am, the turtle should be kept on ice (but not frozen) until the FSTSSN can be contacted. If the FSTSSN decides not to recover the carcass for necropsy, the carcass should be marked (spray paint works well), weighted down and disposed of in accordance with the direction of the contracting officer.

Weight/Size Measurements and Tissue Collection. Turtles shall be measured, and weighed. Turtle measurements shall be recorded and shall include, at a minimum, weight when possible, straight-line length, straight-line width, body depth, and tail length. The Carcass shall also be scanned for flipper and Passive Integrated Transponder (PIT) tags. Any identified tags shall be recorded on the "Sea Turtle Incidental Take Form" that is included in the Endangered Species Observer Program Forms located on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. A tissue sample shall be collected from any lethally taken sea turtle and submitted under the process stated in the "Protocol for Collecting Tissue Samples from Turtles for Genetic Analysis" found in the CONSTRUCTION FORMS AND DETAILS below. All genetic samples collected shall be submitted to NMFS within 30 days of collection, and verification of submittal to NMFS shall be provided to the Contracting Officer's Representative. The Contractor shall be responsible for obtaining permits related to trawling from the appropriate State agencies.

3.1.5.5 Report Submission

NOTE: Fill in all blanks. ALSO BE SURE TO SELECT APPROPRIATE FIELD OFFICE ADDRESS FROM LIST BELOW FOR SUBMISSION OF LOG. ADDRESS OF FIELD OFFICE CAN BE FOUND IN SECTION 01 33 00 SUBMITTAL PROCEDURES.

The Contractor shall maintain a log detailing all incidents, including sightings, collisions with, injuries, or killing of manatees, sturgeon (Gulf, Shortnose or Atlantic), sea turtles or whales occurring during the contract period. The data shall be recorded on forms provided by the Contracting Officer (sample forms are on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below). All data in original form shall be forwarded directly to Chief, Environmental Branch, P. O. Box 4970, Jacksonville, Florida, 32232-0019, within 10 days of collection and copies of the data shall be supplied to the Contracting Officer. Following project completion, a report summarizing the above incidents and sightings shall be submitted to the following:

Chief, Environmental Branch
U.S. Army Corps of Engineers (CESAJ-PD-E)
P.O. Box 4970
Jacksonville, Florida 32232-0019

[Area] [Resident] [Antilles] Engineer, []
U.S Army Corps of Engineers (CESAJ-[]-[])
[]

[]

[U.S. Fish and Wildlife Service
7915 Baymeadows Way, Suite 200
Jacksonville, Florida 32256-7517]

[U.S. Fish and Wildlife Service
1339 20th Street
Vero Beach, Florida 32960-3559]

[U.S. Fish and Wildlife Service
P. O. Box 491
Boqueron, Puerto Rico 00622-0491]

[National Marine Fisheries Service
Protected Species Management Branch
263 13th Avenue South
St. Petersburg, Florida 33701]

Florida Fish and Wildlife Conservation Commission
Imperiled Species Management Section
620 South Meridian Street, Mail Stop 6A
Tallahassee, Florida 32399-1600

3.1.5.6 Hopper Dredge Equipment

NOTE: Use when HOPPER DREDGE is applicable.

Hopper dredge dragheads shall be equipped with rigid sea turtle deflectors which are rigidly attached. Deflectors shall be solid with no openings in the face. Other designs will be considered provided sufficient information is included indicating a particular modification is effective in minimizing potential turtle takes. Government technical staff will coordinate with NOAA Fisheries on the effectiveness of this alternate design. A recommendation from Government technical staff and NOAA Fisheries will be provided to the Contracting Officer for final approval or disapproval of the alternate design. The contractor shall not presume that a decision on an alternative design will be provided during the contracting period. The Contractor's unit price shall be based on the original, solid faced deflector design. No adjustment in unit price will be made for the approval or denial of an alternate deflector design. No dredging shall be performed by a hopper dredge without an installed turtle deflector device approved by the Contracting Officer. Sample Turtle Deflector Design Details are on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

a. Deflector Design:

- (1) The leading vee-shaped portion of the deflector shall have an included angle of less than 90 degrees. Internal reinforcement shall be installed in the deflector to prevent structural failure of the device. The leading edge of the deflector shall be designed to have a plowing effect of at least 6" depth when the drag head is being operated. Appropriate instrumentation or indicator shall be used and kept in proper calibration to insure the critical "approach angle". (Information Only Note: The design "approach angle" or the angle of lower drag

head pipe relative to the average sediment plane is very important to the proper operation of a deflector. If the lower drag head pipe angle in actual dredging conditions varies tremendously from the design angle of approach used in the development of the deflector, the 6" plowing effect does not occur. Therefore, every effort should be made to insure this design "approach angle" is maintained with the lower drag pipe.)

(2) If adjustable depth deflectors are installed, they shall be rigidly attached to the drag head using either a hinged aft attachment point or an aft trunnion attachment point in association with an adjustable pin front attachment point or cable front attachment point with a stop set to obtain the 6" plowing effect. This arrangement allows fine-tuning the 6" plowing effect for varying depths. After the deflector is properly adjusted there shall be NO openings between the deflector and the drag head that are more than 4" by 4".

b. In Flow Basket Design:

(1) The Contractor shall install baskets or screening over the hopper inflow(s) with no greater than 4" x 4" openings. The method selected shall depend on the construction of the dredge used and shall be approved by the Contracting Officer prior to commencement of dredging. The screening shall provide 100% screening of the hopper inflow(s). The screens and/or baskets shall remain in place throughout the performance of the work.

(2) The Contractor shall install and maintain floodlights suitable for illumination of the baskets or screening to allow the observer to safely monitor the hopper basket(s) during non-daylight hours or other periods of poor visibility. Safe access shall be provided to the inflow baskets or screens to allow the observer to inspect for turtles, turtle parts or damage.

c. Hopper Dredge Operation:

(1) The Contractor shall operate the hopper dredge to minimize the possibility of taking sea turtles and to comply with the requirements stated in the Incidental Take Statement provided by the National Marine Fisheries Service in their Biological Opinion.

(2) The turtle deflector device and inflow screens shall be maintained in operational condition for the entire dredging operation.

(3) When initiating dredging, suction through the drag heads shall be allowed just long enough to prime the pumps, then the drag heads shall be placed firmly on the bottom. When lifting the drag heads from the bottom, suction through the drag heads shall be allowed just long enough to clear the lines, and then shall cease. Pumping water through the drag heads shall cease while maneuvering or during travel to/from the disposal area.

(Information Only Note: Optimal suction pipe densities and velocities occur when the deflector is operated properly. If the required dredging section includes compacted fine sands or stiff clays, a properly configured arrangement of teeth may enhance dredge efficiency which reduces total dredging hours and "turtle

takes." The operation of a drag head with teeth shall be monitored for each dredged section to insure that excessive material is not forced into the suction line. When excess high-density material enters the suction line, suction velocities drop to extremely low levels causing conditions for plugging of the suction pipe. Dredge operators should configure and operate their equipment to eliminate all low level suction velocities. Pipe plugging in the past was easily corrected, when low suction velocities occurred, by raising the drag head off the bottom until the suction velocities increased to an appropriate level. Pipe plugging cannot be corrected by raising the drag head off the bottom. Arrangements of teeth and/or the reconfiguration of teeth should be made during the dredging process to optimize the suction velocities.)

(4) Raising the drag head off the bottom to increase suction velocities is not acceptable. The primary adjustment for providing additional mixing water to the suction line should be through water ports. To insure that suction velocities do not drop below appropriate levels, the Contractor's personnel shall monitor production meters throughout the job and adjust primarily the number and opening sizes of water ports. Water port openings on top of the drag head or on raised stand pipes above the drag head shall be screened before they are utilized on the dredging project. If a dredge section includes sandy shoals on one end of a tract line and mud sediments on the other end of the tract line, the Contractor shall adjust the equipment to eliminate drag head pick-ups to clear the suction line.

(5) Near the completion of each payment section, the Contractor shall perform sufficient surveys to accurately depict those portions of the acceptance section requiring cleanup. The Contractor shall keep the drag head buried a minimum of 6 inches in the sediment at all times. Although the over depth prism is not the required dredging prism, the Contractor shall achieve the required prism by removing the material from the allowable over depth prism.

(6) During turning operations the pumps shall either be shut off or reduced in speed to the point where no suction velocity or vacuum exists.

(7) These operational procedures are intended to stress the importance of balancing the suction pipe densities and velocities in order to keep from taking sea turtles. The Contractor shall develop a written operational plan to minimize turtle takes and submit it as part of the Environmental Protection Plan.

(8) The Contractor shall comply with all requirements of this specification and the Contractor's accepted Environmental Protection Plan. The contents of this specification and the Contractor's Environmental Protection Plan shall be shared with all applicable crew members of the hopper dredge.

d. Hopper Dredge Lighting Requirements: From May 1st through October 31st, sea turtle nesting and emergence season, all lighting aboard hopper dredges and hopper dredge pumpout barges operating within three nautical miles of sea turtle nesting beaches shall be limited to the minimal lighting necessary to comply with U.S. Coast Guard and OSHA

requirements. All non-essential lighting on the dredge and pumpout barge shall be minimized through reduction, shielding, lowering and appropriate placement of lights to reduce potential disorientation effects on female sea turtles approaching the nesting beaches and sea turtle hatchlings heading seaward.

3.1.5.7 Sea Turtle Non-Capture Trawl Sweeping Trawling and Relocation (For Hopper Dredges Only)

NOTE: Atlantic Coast Only. Delete if NON-CAPTURE TRAWL SWEEPING requirement not needed. IF PARAGRAPH IS USED, IT WILL REQUIRE ADDITIONAL ITEMS FOR BIDDING SCHEDULE. ALSO, SELECT APPROPRIATE STATE/Commonwealth Agency and Field Office.

a. Non-Capture Trawl Sweeping: Non-capture trawl sweeping, as specified herein, will be at the option and discretion of the Contracting Officer to aid in preventing the taking of sea turtles during dredging operations with the approved turtle deflector in place. Within eight (8) hours after receiving written directions from the Contracting Officer, the Contractor shall begin trawl sweeping to clear turtles from the vicinity of the dredge. Non-capture trawl sweeping shall be performed so as to not interfere with dredging operations.

b. Non-Capture Trawl Sweeping Period: Non-capture trawl sweeping shall be conducted as described below:

(1) A day of non-capture trawl sweeping shall be defined as 24 hours of continuous trawling.

(2) Non-capture trawl sweeping may be conducted as 24 hours of trawling as a continuous trawl; however, two separate crews shall be available on board to work 12-hour shifts.

(3) For pay purposes, a day of trawling is defined as 24 hours of trawling.

c. Non-Capture Trawl Sweeping Requirements: Conduct non-capture trawl sweeping operations in the vicinity of dredge operations, but maintain a safe distance from the dredge. Trawl equipment used (trawling nets) and trawl sweeping operations shall be conducted such that no sea turtles or other marine organism by-catch are captured. As much as possible, non-capture trawl sweeping shall be conducted to maximize the amount of time during each 24-hour trawl day that the trawl equipment (trawling nets) sweeps the bottom sediment in the vicinity of the dredging operation (maximize the bottom time with the trawling equipment).

d. Non-Capture Trawl Sweeping Equipment:

(1) To reduce the chances of sea turtles becoming entangled and caught in the net webbing during non-capture trawl sweeping, use standard flat-style shrimp trawling nets. Nets shall have one to two-inch webbing holes, the webbing should be made of nylon material (preferably dipped).

(2) The bag end of these nets shall be completely cut out so that the nets remaining on the rigging are approximately 30 to 50 feet long. The nets shall be long enough to provide a trailing length of net in the water to "stimulate turtles" to move but not be long enough to be able to twist when being pulled in the water; being pulled up and onto the deck; the vessel is stationary; or the trawl vessel turns while trawling. This net length may be shorter or longer depending on the specific configurations of the trawler and its rigging, but shall be set up to specifically prevent the twisting of the net. The nets shall be installed and adjusted such that organisms are not being collected (turtles and other by-catch).

(3) The bag end of the nets shall be cut away to create a large open end on the nets. The webbing shall be monitored so that tears and rips do not occur in the remaining webbing that might entangle and capture organisms (particularly turtles).

(4) To ensure that the lead line and mouth of the trawl nets maintain contact with the sea floor as best as possible, the lead line of each net shall be rigged with weights, mud rollers, tickler chains and/or trawling cookies (as appropriate for the environmental conditions and sediment type).

(5) For the first 48 hours after beginning non-capture trawling operations, pull and check the nets every hour to evaluate and document the status of the nets (particularly twisting of the tail end) and net contents (turtles and other bycatch). After the first 48-hours and appropriate net configuration has been established, gradually increase trawling times to a maximum of 2-3-hours.

e. Turtle Handling and Endangered Species Permits: No sea turtles are to be intentionally captured during non-capture trawl sweeping operations. No endangered species permits to handle sea turtles are required for non-capture trawl sweeping. Should a sea turtle become entangled in the trawling nets, the nearest marine facility shall be notified for arrangements to be made to transfer the animal as needed.

f. Reporting: A daily log shall be kept for each non-capture trawl sweeping operation. The results of each trawl shall be recorded on the Sea Turtle Trawling Report posted on the second web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Positions at the beginning and end of each tow shall be determined from GPS positioning equipment. Tow speed shall be recorded at the approximate midpoint of each tow. See EM 1110-1-1003, paragraph 5.3 and Table 5-1, for acceptable GPS criteria. Data to be recorded in the "comments" field shall also include:

(1) Description of dredge proximity during each sweep.

(2) General notes as appropriate (e.g. condition of equipment at the end of each sweep, snags occurring during each sweep, incidental debris, etc.).

g. Report Submission: Following completion of the project, a copy of the Contractor's log regarding non-capture trawl sweeping shall be forwarded to the Chief, Environmental Branch and the Area Engineer within 10 working days.

 NOTE: Gulf Coast Only. Delete if SEA TURTLE RISK ASSESSMENT AND RELOCATION requirement not needed. IF PARAGRAPH IS USED, IT WILL REQUIRE ADDITIONAL ITEMS FOR BIDDING SCHEDULE. ALSO, SELECT APPROPRIATE STATE/Commonwealth Agency and Field Office.

a. Sea Turtle Trawling and Relocation: Sea turtle relocation via trawling shall be conducted following the take of two sea turtles, without regard to species, and continue until the end of dredging or as directed by the Contracting Officer. The results of each trawl shall be recorded on Sea Turtle Trawling Report on the second web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. An interim trawling report shall be submitted within 24 hours after the third turtle take. A final report shall be prepared after the completion of all trawling efforts. Both reports shall be submitted in hard copy and electronic format to the Contracting Officer, and shall summarize the results of the trawling (with all forms and including total trawling times, number of trawls and number of captures). Any turtles captured during the survey shall be measured and tagged in accordance with standard biological sampling procedures with sampling data recorded on Sea Turtle Tagging and Relocation Report on the second web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Any captured sea turtles shall be from the work area at least 3 miles from the location recorded on the Sea Turtle Tagging and Relocation Report form.

b. Sea Turtle Trawling Procedures: An approved sea turtle trawling and relocation supervisor shall provide researchers and nets to capture and relocate sea turtles, shall conduct Sea Turtle Risk Assessment Survey, and shall conduct any initiated sea turtle trawling. Turtles shall be captured with trawl nets to determine their relative abundance in the channel during dredging. Methods and equipment shall be standardized including data sheets, nets, trawling direction to tide, length of station, length of tow, and number of tows per station. Data on each tow shall be recorded using Sea Turtle Trawling Report on the second web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. The trawler shall be equipped with two 60-foot nets constructed from 8-inch mesh (stretch) fitted with mud rollers and flats as specified in Turtle Trawl Nets Specifications on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Paired net tows shall be made for 10 to 12 hours per day or night. Trawling shall be conducted with the tidal flow using repetitive 15-30 minute (total time) tows in the channel. Tows shall be made in the center, green and red sides of the channel such that the total width of the channel bottom is sampled. Positions at the beginning and end of each tow shall be determined from GPS Positioning equipment. Tow speed shall be recorded at the approximate midpoint of each tow. Refer to EM 1110-1-1003, paragraph 5.3 and Table 5-1, for acceptable GPS criteria.

c. Water Quality and Physical Measurements: Water temperature measurements shall be taken at the water surface each day using a laboratory thermometer. Weather conditions shall be recorded from visual observations and instruments on the trawler. Weather conditions, air temperature, wind velocity and direction, sea

state-wave height, and precipitation shall be recorded on the Sea Turtle Trawling Report on the second web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. High and low tides shall be recorded.

d. Initiation of Trawling: Initiate trawling if two turtles are taken. The Contractor must initiate trawling and relocation activity in the dredging area within 8 hours of the occurrence of the take. Trawling shall continue until suspended by the Contracting Officer.

e. Approved Trawling Supervisor: Trawling shall be conducted under the supervision of a biologist approved by the NMFS. A letter of approval from NMFS shall be provided to the Contracting Officer prior to commencement of trawling.

f. Turtle Excluder Devices: Approval for trawling for sea turtles without Turtle Excluder Devices (TEDs) must be obtained from NMFS. Approval for capture and relocation of sea turtles must be obtained from the Florida Fish and Wildlife Conservation Commission (FF&WCC) Puerto Rico Department of Natural Environmental Resources (PRDNER). Approvals must be submitted to the Contracting Officer prior to trawling.

g. Report Submission: Following completion of the project, a copy of the Contractor's log regarding sea turtles shall be forwarded to the Chief, Environmental Branch and the Area Engineer within 10 working days.

3.1.5.8 Suspension of Dredging (Hopper Dredge Only)

NOTE: Use this paragraph for hopper dredges on the Atlantic Coast only. Delete otherwise.

3.1.5.8.1 Excessive Turtle Take

Sea turtle non-capture trawl sweeping shall be conducted following the take of two endangered sea turtles, or two sea turtles within 24-hours, without regard to species, and continue until the end of dredging or as directed by the Contracting Officer. The Contracting Officer may direct the Contractor to either immediately suspend dredging operations or to implement 24-hour, non-capture trawl sweeping within eight (8) hours and continue dredging. Such trawling in the vicinity of the dredge shall be conducted continuously, stopping after every 4 to 6 hours to check the condition of the trawl equipment. No sea turtles are to be captured using this trawling technique. Trawl equipment used to conduct non-capture trawl sweeping in the vicinity of the dredge shall be as specified above. During subsequent dredging, dredging may be suspended by the Contracting Officer if: (1) two sea turtles are taken by a dredge in any one day; (2) when a total of five turtles are taken by a dredge for any one specific project; (3) when a dredging window deadline is reached; or (4) when the total number of turtles taken within Corps' South Atlantic Division is determined to be excessive.

3.1.5.8.2 Equipment Breakdown

Should there be a breakdown of equipment that would cause the trawler to leave the area where dredging is underway during any period of time when

non-capture trawl sweeping is required, the dredge may continue to operate for up to 48 hours, as long as no turtles are taken, and subject to the discretion of the Contracting Officer. Should there be dangerously high seas that would cause the trawler to leave the dredging area when non-capture trawl sweeping is required, the dredge may continue to operate, as long as no turtles are taken; subject to the discretion of the Contracting Officer.

3.1.5.8.3 General Guidelines for Corps Discretionary Authority to Initiate Turtle Trawling

These guidelines are included for information only. In general, there shall be a heightened awareness of the potential to take turtle under the following conditions:

- a. Any time water temperature reaches or exceeds 55 degrees F (13 degrees C).
- b. Work is ongoing from the beginning of October through early December, and in March and April.
- c. Other Districts in the Corps of Engineers South Atlantic Division (CESAD) have taken turtles.
- d. Work has entered a rocky area or cleanup area where the deflector cannot rest properly on the bottom.

3.1.5.9 Sea Turtle Beach Nest Monitoring

NOTE: Use the following when MONITORING OF SEA TURTLES ON THE BEACH is required. Project Manager to check permit to see if dredging window will change monitoring dates. ALSO, USE APPROPRIATE WINDOW DATE AND SELECT APPROPRIATE STATE/Commonwealth Agency and Field Office.

- a. Sea Turtle (Work Stoppage) Window and Monitoring: If dredging and placement of material in the beach fill area along Florida Beaches has commenced on or before [March 1st], turtle monitoring and nest location shall commence on [March 1st] and continue concurrently with the performance of work. If dredging and placement of material on Florida Beaches has not commenced prior to [March 1st], the Contractor shall commence turtle monitoring and nest location activities for a period of 65 days prior to performing any work (including movement of equipment) in the beach fill area or commence turtle monitoring on [March 1st] whichever date is later. In such case, after turtle monitoring and nest location activities have been performed for a period of 65 days, the Contractor shall commence work in the beach fill area and continue the monitoring activities concurrently with performance of the work. In any case turtle monitoring and nest location/relocation activities are required through November 30th or until completion of the work on Florida Beaches, whichever is earlier.
- b. Daily Visual Inspection: Turtle monitoring activities shall include performance of daily visual inspections of the beach at sunrise by a person permitted by the FF&WCCPRDNER for handling sea turtle eggs. Any nests discovered shall be excavated and relocated prior to

9:00 a.m. to a nearby self-release beach location where artificial lighting and/or other disturbances shall not interfere with successful incubation, hatching nor hatchling orientation. A log of the results of turtle egg monitoring and recovery activities shall be kept and a copy submitted weekly to the Chief, Environmental Branch, Jacksonville District (sample Marine Turtle Nesting Summary Report form is on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below).

c. Turtle Subcontractor: The Contractor shall have a FF&WCCPRDNER permitted subcontractor approved by the Contracting Officer to accomplish the sea turtle monitoring of this section unless he demonstrates to the satisfaction of the Contracting Officer the capability to accomplish sea turtle monitoring and recovery by obtaining a permit from the FF&WCCPRDNER to take turtles.

d. Report Submission: Following completion of the project, a copy of the Contractor's log regarding sea turtles shall be forwarded to the Chief, Environmental Branch and the Area Engineer.

3.1.5.10 Beach Placement Restrictions

NOTE: Add appropriate dates for respective County nesting periods: ESCAMBIA COUNTY south through PASCO COUNTY: May 1 to November 30; PINELLAS COUNTY south through MONROE COUNTY: April 1 to November 30; DADE COUNTY: April 1 to November 30; NASSAU COUNTY south through VOLUSIA COUNTY: April 15 to November 30; and, BREVARD COUNTY south through BROWARD COUNTY: March 1 to November 30.

a. Equipment Lighting During Sea Turtle Nesting Period [to]: Direct lighting of the beach and near shore waters shall be limited to the immediate construction area and shall comply with safety requirements. Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the waters surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity of lighting plants should be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields should be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area. Refer to Beach Lighting Schematic on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below.

b. Pipeline Placement: Any construction pipes placed parallel to the shoreline shall be placed as far landward as possible up to the vegetated dune line.

c. Beach Tilling: Till the fill area between the landward edge and the seaward edge of the top of the berm with equipment operated so as to penetrate and loosen beach sand (a) to a depth of 36 inches and (b) laterally without leaving unloosened compact sand between the adjacent paths of tines or penetrating part of the equipment. (Suitable equipment is Caterpillar D9L/No. 9 Adjustable Parallelogram Multishank Ripper, or equal.) The Contractor shall be careful not to drag the

beach where rock structures have been covered with less than 3 feet of sand.

3.1.5.11 Escarpments

NOTE: IF APPLICABLE, EDIT PARAGRAPH ACCORDINGLY.
DELETE LAST BRACKETED SENTENCE IF SHORE PROTECTION
PROJECT IS NOT LOCATED IN DADE COUNTY.

[Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project.] [The Contractor shall perform daily visual surveys for escarpments along finished sections of the beach nourishment area that have not been accepted by the Contracting Officer as complete.] Results of the surveys shall be submitted to the Contracting Officer. Escarpments that [interfere with sea turtle nesting] [or] that exceed 18 inches in height for a distance of 100 feet or more shall be mechanically leveled by the Contractor to the natural beach contour[.] [by (insert date).] If the project is completed during the main part of the nesting season [{insert applicable date}], [escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place.] [nourished beaches shall be surveyed monthly for escarpments by the protocol stated above.] [Once a beach section is accepted by the Contracting Officer as complete, Dade County Department of Environmental Resources Management (DERM) will take over the responsibility for visual surveys and escarpment removal.]

3.1.5.12 Hardground/Reef Protection

NOTE: Delete if not a requirement. Applies to
shore protection projects using a borrow site and a
pipeline running over hardbottom or hardbottom
adjacent to beach.

Existing hardground/reef areas within the Contractor's work area will be so designated on the contract drawings and precaution will be taken to preserve these resources as they existed prior to construction. The Contractor shall install all protection for these resources so designated on the drawings and shall be responsible for their preservation during this contract. Pipelines will be placed only in approved areas and anchoring will be permitted in sandy areas only. Pipeline will be monitored for leaks. Any leaks that develop shall be repaired immediately, especially over hardgrounds/reefs, and the pumpout operations shall be shutdown until repairs are completed. Refer to Section 35 20 25 BEACH FILL.

NOTE: Use the paragraph below only for Miami
Harbor, Port Everglades and Palm Beach Harbor
dredging projects going to ODMDS. Otherwise, delete
the paragraph.

Due to the presence of hardbottom reefs adjacent to the channel, the Contractor shall stay within the marked entrance channel while in transit from the dredging area to the ODMDS, and on the return trip, until past the last channel marker.

3.1.5.13 Protection of Migratory Bird Species

NOTE: Delete if BIRD NESTING MONITORING is not applicable. Delete items pertaining to upland sites if this is a beach renourishment project.

The Contractor shall keep construction activities under surveillance, management, and control to prevent impacts to migratory birds and their nests. All construction personnel shall be advised that migratory birds are protected by the Florida Endangered and Threatened Species Act of 1977, Title XXVIII, Chapter 372.072, and the U.S. Fish and Wildlife Service pursuant to the Migratory Bird Treaty Act of 1918 and the Endangered Species Act of 1973, as amended. The Contractor may be held responsible for harming or harassing the birds, their eggs or their nests as a result of the construction.

a. Monitoring of Construction Area: In order to meet these responsibilities, the Contractor shall conduct monitoring of the construction area beginning 1 April through 31 August, if construction activities occur during that period. Daily monitoring using the Daily Bird Monitoring Report shall be conducted during the dawn or dusk time frames by a bird monitor approved by the Contracting Officer. (Caution shall be taken by the monitor to avoid disturbance to the nesting birds.) The Contractor shall maintain a daily log detailing monitoring and nesting activity (not all bird species are listed). Sample monitoring report and qualification sheet are on the first web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Within 30 days after completion of construction, a summary of monitoring shall be submitted to the Corps detailing nesting and nesting success/failure including species, number of nests created, location, number of eggs, number of offspring generated during the project and reasons for nesting success or failure, if known.

NOTE: Delete sentence in brackets below if this condition is not in the permit.

b. Nesting Activity Notification: Any nesting activity observed by the Contractor shall be reported immediately to the Contracting Officer who shall have sole authority for any work stoppages, creation of the buffer area, or restart of construction activities. [In addition, notify the personnel indicated in the table "Order of Contact of Corps Personnel" above, and Nancy Douglass, FWC Regional Biologist at (863) 648-3203 or email nancy.douglass@myfwc.com.]

NOTE: Use following subparagraph (c) only when crested caracara nests are sighted within the project area. IF DELETED, RENUMBER SUBSEQUENT SUBPARAGRAPHS.

c. Presence/Absence Survey: At least 3 visits must be made to each site during April-July. A 6-minute point count (variable circular plot) should be conducted between sunrise and 3 hours after or 1 hour

prior to sunset. If breeding birds are encountered, nests shall be located and observed without disturbance to the nesting activity. Nests shall be marked and visited every 3-5 days to determine fate.

NOTE: Fill in all blanks.

d. Nesting Within Construction Area:

NOTE: Use 300 feet for Tampa Harbor. For all others, use 200 feet.

(1) Should nesting begin within the construction area, a temporary, [200-foot][300-foot] buffer shall be created around the nests and marked with signs to avoid entry. The area shall be left undisturbed until nesting is completed or terminated, and the chicks fledge. The decision to allow construction in a former nesting site will be determined by the Contracting Officer in consultation with the U.S. Fish and Wildlife Service and the FF&WCC. Access to the nesting sites by humans (except limited access when accompanied by the bird monitor or Contracting Officer), equipment or pets under control of the Contractor is prohibited.

(2) If nesting occurs within the construction area, a bulletin board shall be placed and maintained by the Contractor in the contracting shed with the location map of the construction site showing the bird nesting areas and a warning, clearly visible, stating that "BIRD NESTING AREAS ARE PROTECTED BY THE FLORIDA THREATENED AND ENDANGERED SPECIES ACT AND THE FEDERAL MIGRATORY BIRD TREATY ACT".

NOTE: Delete sentences in brackets below if this is a beach renourishment project.

(3) [Birds will find the top of the dike or the flat interior desirable nesting habitat.] If construction activity ceases for any period of time, nesting may occur before work can resume. Any stoppage of activity could induce nesting, subsequently, construction could be altered or stopped to avoid impacting the birds. Areas which are potentially suitable for nesting can be altered to make the area undesirable. One approved method is the placement of stakes at 10- to 15-foot intervals and tie flagging between the stakes in a web fashion. This may dissuade bird nesting until construction can be resumed. [In addition, the disposal area basin can be flooded prior to the beginning of nesting season to the elevation required for displacement from the disposal of dredged material in order to make the basin undesirable for bird nesting.]

e. Bird Monitoring Qualifications: The Contractor's Environmental Protection Plan shall contain the qualifications of the bird monitor and the steps to be taken to construct the project in such a manner as

not to impact migratory birds or induce their nesting. The qualifications of the bird monitor are a demonstrated ability to identify bird species, general and nesting behavior characteristics, nests and eggs, and a knowledge of habitat requirements. In addition, references must be provided to verify non-educational experience. The qualifications shall be submitted on the Bird Monitoring Qualification Sheet.

f. Work Delay: Delays in work due to the fault of negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable. Any adjustments to the contract performance period or price that are required as a result of compliance with this section shall be made in accordance with the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1.

3.1.5.14 Protection of Gopher Tortoise (GT) Populations (Gopherus polyphemus)

NOTE: Delete if GOPHER TORTOISE MONITORING is not applicable.

The Contractor shall keep construction activities under surveillance, management, and control to prevent impacts to GTs and their burrows. All construction personnel shall be advised that GTs are listed by the State of Florida as a Species of Special Concern and protected by the FAC, Chapter 39-27.002(4). The Contractor may be held responsible for taking, harming, or harassing the tortoises, their eggs or their burrows as a result of the construction. The destruction of GT burrows constitutes taking under this law except as authorized by specific permit.

a. General:

(1) In order to meet these responsibilities, the Contractor shall conduct gopher tortoise surveys prior to the beginning of construction activities. The surveys shall be conducted by a qualified gopher tortoise biologist. A list of qualified individuals may be obtained from the FF&WCC.

(2) The Contractor shall stay at least 25 feet from entrances of individual burrows.

b. Gopher tortoises are protected by state law, Chapter 68A - 27.003, FL Administrative Code. Permit guidelines and requirements for gopher tortoises can be found on the Florida Fish and Wildlife Conservation Commission (FFWCC) Wildlife Licenses and Permits page at <http://www.myfwc.com/license/wildlife>. A permit for a GT capture/relocation must be secured from the FFWCC prior to initiating any relocation work. Contact the Contracting Officer and the Project Biologist for further guidance.

c. State Permit Applications: Pursuant to the requirements of Rules 68-25.002 and 68-27.002 of the Wildlife Code of the State of Florida (Title 68A, FAC), a permit for a GT capture/relocation/release project must be secured from the FFWCC prior to initiating any relocation work. Applications shall be submitted at least 30 days prior to the time needed from Office of Environmental Services, Division of Wildlife, Florida Fish and Wildlife Conservation Commission, 620 S.

Meridian Street, Tallahassee, Florida 32399-1600, ATTN: Mr. Rick McCann, Endangered Species Coordinator, telephone 850-488-6661. Permits to capture and release GTs on site will be issued by regional Division of Wildlife or Office of Environmental Services personnel based on telephone requests (field verifications may be conducted by FF&WCC personnel if deemed necessary).

d. Relocation Window: GT relocation within the State of Florida can occur year-round in the geographic area below State Highway 50. Relocation of GTs between State Highway 50 and the counties bordering the State of Georgia, excluding Duval and Suwannee Counties, can only occur between 1 March and 1 December. Relocation within the counties bordering the State of Georgia, including Duval and Suwannee Counties, can only occur between 1 April and 1 October.

e. Application Information: The application will contain, but not be limited to, aerial photography of the donor and recipient sites, a detailed map showing the location of the active and inactive burrows sites, the location and number of acres of GT habitat, the carrying capacity of the recipient site and any management plans for the recipient site.

f. Applicant Qualifications: Applicants for relocation permits shall be suitably trained or experienced in such work. Copies of applicant credentials demonstrating such shall be appended to applications. A list of qualified individuals may be obtained from the FF&WCC.

g. Temporal Considerations:

(1) Tortoises shall not be captured/relocated on days for which the overnight low temperature for that day and the two consecutive days thereafter is forecasted by the U.S. National Weather Service to be below 50 degrees F. This 3-day window of milder overnight temperatures is to allow the relocated tortoises to settle into the recipient site.

(2) During summer months, releases shall not be made during the hottest part of the day at sites where shade is limited.

h. Donor Site Surveys: No more than 60 days prior to relocation, all potential GT habitat on a given development site shall be thoroughly and systematically surveyed using appropriate, biologically sound methodology. Permit applicants are to submit preliminary estimates of the total number of tortoises on a subject site, size of that portion of the site which is potential tortoise habitat, and a general characterization of the habitat. Recommended survey techniques for estimating population density and classification systems for GT habitat types are available from the FF&WCC.

(1) All burrows found to be "active" or "inactive" shall be plotted on maps to facilitate efficient future relocation. Criteria for determining the status of GT burrows may be obtained from the FF&WCC.

i. Recipient Site Selection and Treatment: Sites selected to receive relocated tortoises shall be either of similar habitat character and quality as corresponding donor sites, or demonstrated to be otherwise suitable for GT occupancy.

(1) Sites already occupied by tortoises at or near carrying capacity shall not be selected as recipient sites. In some instances, especially at sites of marginal habitat quality, certain habitat manipulation measures (such as burning) could be employed to improve habitat quality and thereby increase carrying capacity, rendering the site acceptable as a recipient site. In those cases, continuous, periodic management treatments would normally be necessary to maintain carrying capacity at the elevated levels. Permit applications opting for this course shall append their applications with a proposed long-term management plan for recipient sites. Carrying capacity may be determined by the FF&WCC.

(2) Relocation of 20 or fewer tortoises shall be to recipient sites already occupied. Relocation of more than 20 should be to recipient sites either vacant or occupied at population levels substantially below carrying capacity. Carrying capacity criteria may be obtained from FF&WCC.

(3) Recipient sites shall be situated any distance east or west of donor sites, but no more than 50 miles north or south of donor sites unless appropriately justified.

(4) Recipient sites should not overlap or abut sites supporting genetically unique or discrete tortoise populations, or sites supporting populations which otherwise merit protection from genetic swamping. Genetically unique or discrete populations will be determined by the FF&WCC. In instances where such a potential exists, the FF&WCC shall be consulted for a determination as to the site's acceptability.

(5) Recipient sites already occupied by tortoises shall be thoroughly surveyed prior to relocation and all encountered burrows plotted on maps and categorized as "active," "inactive" or "old" per the criteria of the FF&WCC.

j. Capture Methodology: Tortoises shall be excavated from burrows (i.e., with backhoe), trapped, or otherwise captured by non-harmful means. If trapped, five-gallon pitfall bucket traps shall be buried at burrow entrances, shaded and covered with paper or cheesecloth overlain with a thin layer of soil. A hole at least one inch in diameter should be drilled into the bottom of each bucket for drainage. Each bucket shall be checked at least once per day for at least 28 consecutive days. Capture methodology may be modified on persistently wet sites or during periods of heavy rainfall.

k. Transport and Release Methodology: Captured tortoises must be transported without undue delay and under shaded and sanitary conditions. Care shall be taken to avoid any physical damage (i.e., abrasion) to tortoises in transit.

(1) Prior to release, each relocated tortoise shall be sexed (adults only), measured and permanently and uniquely marked by scute-notching. Criteria for marking and measuring relocated GTs may be obtained from the FF&WCC.

(2) On unoccupied recipient sites, relocated individuals shall be released in groups of no more than 20 in the same general

vicinity with access to shade nearby. On already occupied sites, relocated tortoises shall be distributed throughout the site and, when possible, individuals shall be released at "old" or "inactive" burrows, criteria of which is available through the FF&WCC.

l. Reporting: Any tortoise mortality or debilitating injury occurring during the capture, relocation and release phases of a relocation is to be reported to the personnel indicated in the table "Order of Contact of Corps Personnel" above, and Mr. Michael Abbot, Florida Fish and Wildlife Conservation Commission, 1239 SW 10th Street, Ocala, Florida 34474, at telephone number (352)-732-1225.

NOTE: Fill in all blanks.

m. Report Submission: Within 30 days of the final survey, a detailed and comprehensive final report is to be prepared and submitted to the Division of Wildlife, FF&WCC, and U.S. Army Corps of Engineers (Chief, Environmental Branch, P.O. Box 4970, Jacksonville, Florida 32232-0019), such report to include a compilation of all data and all maps prepared during the surveys and all information regarding relocation of the GTs.

n. Qualifications: The Contractor's Environmental Protection Plan shall contain the qualifications of the GT survey/relocation contract and the steps to be taken to construct the project in such a manner as not to impact GTs.

o. Work Delay: Delays in work due to the fault or negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable. Any adjustments to the contract performance period or price that are required as a result of compliance with this section shall be made in accordance with the provisions of the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES in Volume 1.

p. Taking: If the construction work kills tortoises, it will be the Contractor's responsibility to obtain an emergency take permit from the State and the FF&WCC and pay the fine associated with the permit. Taking includes the entombment or killing of gopher tortoises as a result of bulldozing, grading, paving, or building construction. If such occurs, the Contractor shall notify the Contracting Officer and the Project Biologist.

3.1.5.15 Protection of Eastern Indigo Snake Populations

NOTE: Delete if not a requirement. HOWEVER, IF APPLICABLE, MUST INCLUDE PARAGRAPH REGARDING GOPHER TORTOISE POPULATIONS.

a. Monitoring of Construction Area: The Contractor shall coordinate with the Jacksonville District Corps of Engineers, Environmental Studies Section (CESAJ-PD-ES) and the U.S. Fish and Wildlife Service's (FWS) South Florida Field Office during the establishment and implementation of an indigo snake protection/education plan.

b. Qualified Observer: A qualified observer shall be present on site to watch for indigo snakes during all construction and clearing phases of the project. The name(s) and qualifications of the proposed observer shall be submitted to the Contracting Officer for approval. The information submitted should indicate what experience the individual has that would qualify the person to act as an indigo snake observer.

c. Indigo Snake Protection/Education Plan: An indigo snake protection/education plan shall be developed for all construction crews to follow. The plan shall be provided to the Contracting Officer for review and approval at least 30 days prior to any construction or clearing activities. The educational materials for the plan could consist of a combination of posters or videos, pamphlets, and lectures and should include the following information:

- (1) Description of the indigo snake, its habits, and protection under Federal Law;
- (2) Instructions not to injure, harm, harass or kill this species;
- (3) Directions to notify the qualified observer(s) if an indigo snake is sighted;
- (4) Directions to cease construction activity, notify the qualified observer, and allow the indigo snake sufficient time to move away from the site on its own before resuming construction (only a qualified individual, who has been either authorized by a Section 10(a)(1)(A) permit issued by the FWS, or designated as an agent of the State of Florida by the FF&WCC for such activities, is permitted to come in contact with an indigo snake);
- (5) Telephone numbers of pertinent agencies to be contacted if a dead indigo snake is encountered; and,
- (6) Instructions that, if necessary, indigo snakes shall be held in captivity only long enough to transport them to a release site; at no time shall two snakes be kept in the same container during transportation.

d. Gopher Tortoise Burrows: If gopher tortoise burrows are present, refer to subparagraph "Protection of Gopher Tortoise (GT) Populations (Gopherus polyphemus)" above. If gopher tortoise burrows are present, the requester should coordinate with the FF&WCC for information on the relocation program for gopher tortoises. As a part of the relocation program, the FF&WCC reviews and approves preserve areas for gopher tortoises. These same areas may be used for the release of indigo snakes. Therefore, prior to any construction or clearing activities in areas where gopher tortoise burrows have been identified the following measures should be incorporated into the indigo snake plan:

- (1) A qualified individual should map and flag the locations of all gopher tortoise burrows on the site. Prior to actual clearing, the qualified individual should update that initial survey no more than two weeks prior to clearing. These maps should be made available to all construction crews.

(2) In some circumstances, an underground camera may be needed to investigate gopher tortoise burrows for indigo snakes. If an indigo snake is found, and the burrow will be destroyed by construction activity then the burrow should be carefully excavated with a backhoe while monitoring the snake's position and condition with the underground camera. In burrows that are suitable for camera use, the burrow will be carefully excavated with a combination of backhoe and hand excavation. Before excavating any burrow, it is recommended that a strong, flexible tube or hose be inserted into the burrow to the end to mark the course of the entire burrow in case it collapses during excavation. If a backhoe is used, the bucket should be equipped with a straight blade, not a blade with teeth. The excavation must be done with caution to prevent potential injury to an indigo snake.

(3) An indigo snake found in a burrow may be captured and released (by a qualified individual who has been either authorized by a Section 10(a)(1)(A) permit issued by the FWS, or designated as an agent of the State of Florida by the FF&WCC for such activities) immediately into a FF&WCC approved preserve area for gopher tortoises near a marked inactive or abandoned gopher tortoise burrow. Indigo snakes shall be held in captivity only long enough to transport them to a release site; at no time shall two snakes be kept in the same container during transportation. A map of marked inactive or abandoned burrow should be made available to the qualified individual. This will allow for prompt release of an indigo snake.

e. Reporting: Refer to subparagraph "Protection of Gopher Tortoise (GT) Populations (*Gopherus polyphemus*)" above. Reporting of indigo snake mortality or debilitating injury occurring during the capture, relocation and release phases of a relocation will be reported as required in referenced subparagraph.

3.1.5.16 Blasting

 NOTE: Delete if not applicable.

If blasting is proposed during the period of 1 November through 31 March, significant operational delays should be expected due to the increased likelihood of manatees being present within the project area. If possible, avoid scheduling proposed blasting during the period from 1 November through 31 March. In the area where blasting could occur or any area where blasting is required to obtain channel design depth, the following marine mammal (manatees and dolphins) and reptile (sea turtles and crocodiles) protection measures shall be employed before, during and after each blast:

a. No later than 30 calendar days prior to commencement of blasting operations, submit a copy of the blasting plan to each of the Florida Fish and Wildlife Conservation Commission (FF&WCC), the U.S. Fish and Wildlife Service (USFWS), and two locations of the National Marine Fisheries Service (NMFS) for review. Also, submit one copy of each correspondence to the Contracting Officer. The blasting plan shall include information concerning a watch program and details of blasting events. Send correspondence with plan to the addresses tabulated below.

b. This blasting plan shall include information concerning a watch program and details of the blasting plan such as the following:

(1) A list of the observers, their qualifications, and positions for the watch, including a map depicting the proposed locations for boat or land-based observers. Qualified observers shall have prior experience observing for protected marine species (such as manatees, marine turtles, dolphins, etc.) during previous in-water blasting events where blasting activities were similar in nature to this project.

(2) The amount of explosive charge proposed, the explosive charge's equivalency in TNT, how it will be executed (depth of drilling, stemming, in-water, etc.), a drawing depicting the placement of the charges, size of the safety radius and how it will be marked (also depicted on a map), tide tables for the blasting event(s), and estimates of times and days for blasting events (with an understanding this is an estimate, and may change due to weather, equipment, etc.).

c. For each explosive charge placed, three zones shall be calculated, denoted on monitoring reports and provided to protected species observers before each blast for incorporation in the watch plan for each planned detonation. These zones are defined as follows:

(1) Danger Zone: The radius (r) in feet from the detonation beyond which no expected mortality or injury from an open water explosion is likely to occur equals 260 times the cube root (exponent 1/3) of the weight (W) of the explosive charge (tetryl or TNT) in pounds ($r=260 \times W^{(1/3)}$).

(2) Safety Zone (exclusion zone): The approximate distance (s) in feet beyond which injury (Level A Harassment as defined by the MMPA) from an open water explosion is unlikely equals 520 times the cube root (exponent 1/3) of the weight (W) of the explosive charge (tetryl or TNT) in pounds ($s=520 \times W^{(1/3)}$).

(3) Watch Zone: The Watch Zone is three times the radius of the Danger Zone to ensure that animals entering or traveling close to the exclusion zone are spotted and appropriate actions, such as a delay in blasting activities, can be implemented before or as the animal enters the exclusion zone.

Detonation shall not occur if a marine mammal or reptile is known to be (or based on previous sightings, may be) within the circular area around the detonation site within the Safety Zone. Additionally, aerial/vessel surveys shall be conducted within the Safety and Watch Zones.

d. The watch program shall begin at least one hour prior to the scheduled start of blasting to identify the possible presence of manatees, dolphins, marine turtles, crocodiles (Monroe, Dade and Broward Counties), or whales (in the nearshore and offshore areas). The watch program shall continue until at least one half-hour after detonations are complete.

e. The watch program shall consist of a minimum of six protected species observers. Each observer shall be equipped with a two-way radio that shall be dedicated exclusively to the watch. Extra radios

shall be available in case of failures. All of the observers shall be in close communication with the blasting subcontractor in order to halt the blast event if the need arises. If all observers do not have working radios and cannot contact the primary observer and the blasting subcontractor during the pre-blast watch, the blast shall be postponed until all observers are in radio contact. Observers shall also be equipped with polarized sunglasses, binoculars, a red flag for backup visual communication, and a sighting log with a map to record sightings. Climatic conditions shall be suitable for optimal viewing conditions as determined by the observers.

f. The watch program shall include a continuous aerial survey to be conducted by aircraft, as approved by the Federal Aviation Administration. The event shall be halted if an animal(s) is spotted within 500 feet of the perimeter of the danger zone. An "all-clear" signal shall be obtained from the aerial observer before detonation can occur. The blasting event shall be halted immediately upon request of any of the observers. If animals are sighted, the blast event shall not take place until the animal(s) moves out of the area under its own volition. Animals shall not be herded away or harassed into leaving. Specifically, the animals shall not be intentionally approached by project watercraft. If the animal(s) is not sighted a second time, the event may resume 30 minutes after the last sighting.

g. The observers and contractors shall evaluate any problems encountered during blasting events and logistical solutions shall be presented to the Contracting Officer. Corrections to the watch shall be made prior to the next blasting event. If any one of the aforementioned conditions is not met prior to or during the blasting, the watch observers shall have the authority to terminate the blasting event, until resolution can be reached with Contracting Officer. The Contracting Officer will contact FF&WCC, USFWS and NMFS.

h. If an injured or dead marine mammal or marine reptile is sighted after the blast event, the watch observers shall contact the Contracting Officer who will contact the resource agencies at the phone numbers indicated below. The observers shall maintain contact with the injured or dead mammal or reptile until authorities arrive. Blasting shall be postponed until consultations are completed and determinations can be made of the cause of injury or mortality. If blasting injuries are documented, all demolition activities shall cease. The Contractor shall then submit a revised blasting plan to the Contracting Officer, FF&WCC, NMFS and USFWS as required herein.

i. Within 30 days after completion of all blasting events, the primary observer shall submit a report in Adobe (PDF) format to the Contracting Officer, who will provide it to FF&WCC, NMFS and USFWS. The report shall provide a description of the event, number and location of animals seen and what actions were taken when animals were seen. Any problems associated with the event and suggestions for improvements shall also be documented in the report.

**NOTE: Choose correct U.S. Fish and Wildlife Service
address (below) based on location of project.**

The following is agency contact information regarding blasting:

Contact Information

Agency and Address

Incident Reporting Phone Numbers

FFWCC - ISMD
620 South Meridian Street
Mail Stop 6A
Tallahassee, FL 32399-1600

Manatee Hotline: 1-888-404-FWCC (3922)
and 850-922-4300 (manatees)

NMFS-PR1
1315 East West Highway
Silver Spring, MD 20910

Emergency Stranding Hotline:
1-877-433-8299

U.S. Fish and Wildlife Service
[1339 20th Street
Vero Beach, FL 32960-3559]
[6620 Southpoint Drive, South
Suite 310
Jacksonville, FL 32216-0912]

772-572-3909 (manatees and crocodiles)

NMFS-SERO-Protected Species
Management Branch
263 13th Avenue South
St. Petersburg, FL 33701

PRD: 772-570-5312
(sea turtles and sawfish)

3.1.6 Seagrass Protection Measures

NOTE: Delete if not a requirement.

- a. The Contractor shall instruct all personnel associated with the project of the presence of seagrasses, especially the Federally-listed threatened Johnson's Seagrass (*Halophlia johnsonii*), and the need to avoid contact with seagrasses.
- b. All construction personnel shall be advised that there are civil and criminal penalties for harming or destroying seagrasses, especially Johnson's Seagrass which is protected under the Endangered Species Act of 1973, as amended. The Contractor may be held responsible for any seagrasses harmed or destroyed due to construction activities.
- c. The Contractor shall not anchor, place pipeline, or stage equipment in a manner that will cause any damage to seagrasses or hardbottoms. Anchoring, placing pipeline, or staging equipment shall avoid these sensitive areas. If such activities cannot be done without affecting these sensitive areas, the activities shall cease and the Contracting Officer and Chief, Environmental Branch (904-232-1665) shall be immediately notified (no later than the morning following the next working day if the incident occurs after normal working hours). Any actual or potential incident involving damage to, or disturbance of, seagrasses or hardbottoms shall be reported.

3.1.7 Protection of Air Resources

NOTE: Select appropriate agency.

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 (Florida Statute, Chapter 403 and others and Chapters 200 series of the FAC) Commonwealth Territorial and all Federal emission and performance laws and standards, including the U.S. Environmental Protection Agency's Ambient Air Quality Standards. Information regarding Florida Statutes can be obtained from the following web site: <http://www.dep.state.fl.us>.

3.1.7.1 Particulates

NOTE: Include text in brackets projects involving earthwork [The Contractor shall be required to control dust levels in accordance with the safety manual guidance (EM 385-1-1, Chapter 6). Air sampling shall be performed by the Contractor when the Contracting Officer determines that there may be non-compliance with the air pollution standards. The Contractor shall have the air sampling plan prepared by a Certified Industrial Hygienist (CIH). The sampling shall be performed in accordance with the directives of the CIH and under the CIH's supervision. Air sampling directed by the Contracting Officer shall be performed at no additional cost to the Government.]. Otherwise delete.

Particulates, such as dust, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and work areas within or outside the project boundaries free from particulates that would cause air pollution standards to be exceeded or that would cause a hazard or nuisance. The Contractor shall have the necessary equipment and approved methods to control particulates as the work proceeds and before a problem develops.

3.1.7.2 Burning

All burning shall be subject to State Commonwealth Territorial and local requirements, including requirements for burn permits and bans during certain conditions such as droughts.

3.1.7.3 Odors

Odors shall be controlled at all times for all construction activities.

3.1.8 Protection of Sound Intrusions

NOTE: Use if applicable.

The Contractor shall keep construction activities under surveillance and control to minimize damage to the environment by noise.

3.2 POSTCONSTRUCTION CLEANUP

The Contractor shall clean up any area(s) used for construction.

3.3 PRESERVATION AND RESTORATION OF LANDSCAPE AND MARINE VEGETATION DAMAGES

The Contractor shall restore all landscape features and marine vegetation damaged or destroyed during construction operations outside the limits of the approved work areas. Such restoration shall be a part of the Environmental Protection Plan as defined in subparagraph "Environmental Protection Plan" of paragraph SUBMITTALS above. This work shall be accomplished at the Contractor's expense.

3.4 INVASIVE AND NUISANCE SPECIES

NOTE: This paragraph is for upland projects only.
Delete if dredging project.

3.4.1 Prevention of Invasive and Nuisance Species Transfer

The Contractor shall thoroughly clean equipment prior to and following work on the project site to ensure that items/materials including, but not limited to, soil, vegetative debris, eggs, mollusk larvae, seeds, and vegetative propagates are not transported from a previous work location to this project site, nor transported from this project site to another location. Decontamination protocols require cleaning all equipment surfaces, including but not limited to, undercarriages, tires, and sheet metal. All equipment, including but not limited to, heavy equipment, vehicles, trailers, ATV's, and chippers shall be decontaminated. Smaller equipment, including, but not limited to, chainsaws, loppers, shovels, and backpack sprayers, shall be cleaned and inspected to ensure they are free of eggs, vegetative debris, vegetative propagates, etc. The Contractor may utilize any method accepted by the Government; common accepted methods include pressure washing and steam cleaning/washing equipment. Decontamination protocols shall also address clothing and personal protective equipment.

Prior to the commencement of work, the Contractor shall complete and provide an invasive and nuisance species decontamination plan to the Contracting Officer for approval. This plan shall be part of the Environmental Protection Plan as defined in the submittal "Environmental Protection Plan" of paragraph SUBMITTALS above. The decontamination plan shall identify specific decontamination procedures and decontamination sites/locations. Decontamination protocols may vary depending upon the nature of the project site. The Contractor shall ensure all equipment coming onto and leaving the project site is inspected and not harboring materials that would spread, or potentially spread, invasive and nuisance species onto or off the project site. The Contractor shall provide a report verifying equipment brought on site was decontaminated and shall provide a report verifying equipment was decontaminated prior to removal from the project site.

Work delays due to the fault and/or negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable.

3.4.2 Invasive and Nuisance Species Reporting

The Contractor shall report sightings of invasive and nuisance species not identified and documented in the pre-construction condition within 24 hours. The reporting shall include the date, time, location (latitude and longitude preferred), environmental conditions, circumstances surrounding the sighting, disposition/behavior of the species, and any other notable observations. Pictures of the reported species are desirable. Reporting shall be made to the Contracting Officer, [] (PD-E) at (904) 232-[], and [] (OD-A) at (904) 232-[].

3.5 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed facilities and pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.6 CONSTRUCTION FORMS AND DETAILS

**NOTE: The last 2 sentences are only applicable on
projects with Hopper Dredges.**

See the "Construction Forms & Details" module at the following web address:
<http://www.saj.usace.army.mil/About/DivisionsOffices/Engineering/DesignBranch/SpecificationsSection.aspx>. Also, see web site address
<http://el.erdc.usace.army.mil/seaturtles> to obtain the Sea Turtle/Post-Hopper Dredging Project Checklist, Endangered Species Observer Program Forms, Sea Turtle Tagging and Relocation Report, and Sea Turtle Trawling Report. Links to these forms are under the heading "Turtle Information".

-- End of Section --