

Jeb Bush  
Governor

# Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Colleen M. Castille  
Secretary

## CONSOLIDATED JOINT COASTAL PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

**PERMITTEE/AUTHORIZED ENTITY:**

Captiva Erosion Prevention District  
c/o Richard Spadoni  
Coastal Planning & Engineering, Inc.  
2481 N.W. Boca Raton Blvd.  
Boca Raton, FL 33431

Permit/Authorization No.: 0200269-001-JC

Date of Issue: November 9, 2004

Expiration Date: November 9, 2014

County: Lee

Project: Captiva and Sanibel Islands  
Nourishment Project

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This permit is issued under the authority of Chapter 161 and Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62 and 40, Florida Administrative Code (F.A.C.). Pursuant to Operating Agreements executed between the Department of Environmental Protection (Department) and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

**ACTIVITY DESCRIPTION:**

The applicant is authorized to construct a beach nourishment project along the shorelines of Captiva and Sanibel Islands. The Captiva Island project area shoreline extends approximately 25,100 linear feet from FDEP control monument R-84 to R-109. The Sanibel Island project area shoreline extends approximately 8,500 linear feet from R-110 to R-118 with no fill placement at the location of the Clam Bayou temporary drainage channel (historic Old Blind Pass) between R-114 and R-115. During the initial nourishment project, approximately 1.8 million cubic yards of sand will be dredged from two offshore borrow areas, Borrow Area IIIA and Borrow Area IV, using hopper dredges. Borrow Areas IIIB and VI will be utilized during the maintenance dredging event authorized under the 10-year permit interval. The elevation of the design beach berm inclines from +7.0 feet (NGVD) at the dune line to +5.0 feet (NGVD) at the crest of the seaward edge of beach face, and a seaward slope of 1:12 (V:H) to the existing profile. The project includes reconstruction and a 150-foot seaward extension of the existing groin at Redfish Pass. The project may also involve the temporary placement of sand within two stockpile/re-handling areas located along the pipeline corridors offshore of R-105 and R-88.

The activity includes consideration of an application for a 10-year sovereign submerged lands public easement (Instrument No. 40410, BOT File No. 360229915) containing 228.89

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acres or 9,970,604 square feet, more or less for the Borrow Area IIIA; 193.63 acres or 8,434,428 square feet, more or less, for Borrow Area IIIB; 282.18 acres or 12,291,729 square feet, more or less, for Borrow Area IV; and 182.40 acres or 7,945,473 square feet, more or less, for Borrow Area VI; and a public easement containing 1.10 acres or 48,000 square feet, more or less, for the terminal groin at Redfish Pass for the life of the structure (Instrument No. 40419).

The applicant has also requested a variance that will be acted upon separately as File No. 0200269-002-EV. The variance is from the provisions of Rule 62-4.244(5)(c), F.A.C. to establish a temporary mixing zone that extends 200 meters offshore and 1,500 meters downcurrent from the point of discharge to State waters at the beach disposal area. The variance does not apply to discharges within 1,500 meters of Redfish Pass and Blind Pass (if a connection between the Gulf of Mexico and the waters of Pine Island Sound Aquatic Preserve exists).

**ACTIVITY LOCATION:**

The proposed activity is located in Lee County in Sections 15, 22, 26, 27, 35, Township 45 South, Range 21 East; and Sections 2, 3, 11, 13, 14, Township 46 South, Range 21 East in the Gulf of Mexico, Class III Waters. Borrow Area IIIA is located approximately 5.5 miles and Borrow Area IIIB is located approximately 6.5 miles offshore of northern Sanibel Island. Borrow Area IV is located approximately 8.4 miles and Borrow Area VI is located approximately 8.3 miles offshore of the center of Captiva Island.

This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act. This permit also constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands owned by the Board of Trustees of the Internal Improvement Trust Fund, pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Department has the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, F.A.C., and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. In addition to the above, this proprietary authorization has been reviewed in accordance with Chapter 253, F.S., Chapter 18-21 and Section 62-343.075, F.A.C., and the policies of the Board of Trustees.

As staff to the Board of Trustees, the Department has reviewed the activity described above, and has determined that the beach fill placement area, four submerged pipeline corridors, and two offshore, sand stockpile areas qualify for a letter of consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is

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consistent with the terms and conditions herein. Therefore, consent is hereby granted, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

As staff to the Board of Trustees, the Department has reviewed the activity described above, and has determined that excavation of the offshore borrow area and extension of the terminal groin at Redfish Pass require a Public Easement for the use of those lands, pursuant to Chapter 253.77, F.S. The Department intends to issue the Public Easement, subject to the recommended fees and conditions in the previously issued *Consolidated Intent to Issue Joint Coastal Permit, Authorization to Use Sovereign Lands, and Variance*.

The final documents required to execute the Public Easement have been sent to the Division of State Lands. The Department intends to issue the Public Easement, upon satisfactory execution of those documents. **You may not begin construction of this activity on state-owned, sovereign submerged lands until the Public Easement has been executed to the satisfaction of the Department.**

A copy of this authorization has been sent to the U. S. Army Corps of Engineers (USACOE) for review. The USACOE may require a separate permit. Failure to obtain this authorization prior to construction could subject you to enforcement action by that agency. You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof. **This permit and authorization to use sovereign submerged lands is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the General Conditions and Specific Conditions, which are a binding part of this permit and authorization.** You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities.

**GENERAL CONDITIONS:**

1. All activities authorized by this permit shall be implemented as set forth in the plans and specification approved as a part of this permit, and all conditions and requirements of this permit. The permittee shall notify the Department in writing of any anticipated deviation from the permit prior to implementation so that the Department can determine whether a modification of the permit is required pursuant to section 62B-49.008, Florida Administrative Code.

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2. If, for any reason, the permittee does not comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Bureau of Beaches and Coastal Systems and the South District office of the Department with a written report containing the following information: a description of and cause of noncompliance; and the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

3. This permit does not eliminate the necessity to obtain any other applicable licenses or permits which may be required by federal, state, local, special district laws and regulations. This permit is not a waiver or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of sovereignty land of Florida seaward of the mean high-water line, or, if established, the erosion control line, unless herein provided and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State. The permittee is responsible for obtaining any necessary authorizations from the Board of Trustees of the Internal Improvement Trust Fund prior to commencing activity on sovereign lands or other state-owned lands.

5. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

6. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee. The issuance of this permit does not convey any vested rights or any exclusive privileges.

7. This permit or a copy thereof, complete with all conditions, attachments, plans and specifications, modifications, and time extensions shall be kept at the work site of the permitted activity. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

8. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel with proper identification and at reasonable times, access to the premises where the permitted activity is located or conducted for the purpose of ascertaining compliance with the terms of the permit and with the rules of the Department and to have access to and copy any records that must be kept under conditions of the permit; to inspect the facility, equipment, practices, or operations regulated or required under this permit; and to sample or monitor any

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substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.

9. At least forty-eight (48) hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Bureau of Beaches and Coastal Systems and the South District office of the Department a written notice of commencement of construction indicating the actual start date and the expected completion date and an affirmative statement that the permittee and the contractor, if one is to be used, have read the general and specific conditions of the permit and understand them.

10. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the State Historic Preservation Officer and the Bureau of Beaches and Coastal Systems.

11. Within 30 days after completion of construction or completion of a subsequent maintenance event authorized by this permit, the permittee shall submit to the Bureau of Beaches and Coastal Systems and the South District office of the Department, a written statement of completion and certification by a registered professional engineer. This certification shall state that all locations and elevations specified by the permit have been verified; the activities authorized by the permit have been performed in compliance with the plans and specifications approved as a part of the permit, and all conditions of the permit; or shall describe any deviations from the plans and specifications, and all conditions of the permit. When the completed activity differs substantially from the permitted plans, any substantial deviations shall be noted and explained on two copies of as-built drawings submitted to the Department.

**SPECIFIC CONDITIONS:**

1. Pursuant to Chapter 161.141 Florida Statutes, prior to construction of the beach nourishment project, the Board of Trustees must establish the line of mean high water for any area affected by this project that does not already have an Erosion Control Line (ECL). This is required to establish the boundary line between sovereignty lands of the state bordering on the Gulf of Mexico and the upland properties. No work shall commence until the Erosion Control Line has been executed and recorded to the satisfaction of the Department.

2. No work shall be performed on private upland property until and unless the required construction easements from upland property owners have been obtained. The beach fill area to be constructed seaward of the established Erosion Control Line shall remain sovereign lands and shall be accessible to the general public. Additionally, the resulting additions to upland property are also subject to a public easement for traditional uses of the sandy beach consistent with uses that would have been allowed prior to the need for the restoration project in accordance with Chapter 161.141, Florida Statutes.

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3. Prior to each nourishment event, the permittee shall conduct a pre-construction conference with all contractors, the engineer of record, the Florida Fish and Wildlife Conservation Commission (FWC), the marine turtle permit holder, and a staff representative of the Department to establish an understanding among the parties as to the items specified in the general and specific conditions of the permit. The pre-construction conference will be held at least 30 days prior to construction activities. The permittee shall provide a minimum of 10 days advance written notification to the following offices advising of the date, time and location of the pre-construction conference. The permitted person(s) responsible for egg relocation on both Captiva and Sanibel Islands shall also be notified at least 10 days prior to the meeting date and shall be present at the pre-construction conference. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.

DEP, Bureau of Beaches and Coastal Systems  
Attention - JCP Compliance Officer  
Mail Station 300  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000  
Phone: (850) 487-4471  
fax: (850) 488-5257

DEP, South District Office  
Submerged Lands & Environmental Resources Program  
2295 Victoria Ave, Suite #364  
Ft. Myers, Florida 33901-3881  
Phone: (239) 332-6975

FWC, ISMS  
620 South Meridian Street  
Tallahassee, Florida 32399-1600  
Phone: (850) 922-4330

4. No work shall be conducted under this permit until the permittee has received a written Notice to Proceed from the Department. A separate Notice to Proceed shall be required for subsequent maintenance and/or emergency nourishment events conducted under this permit. At least 30 days prior to the requested date of issuance of the Notice to Proceed, the permittee shall submit the following for review and approval by the Department:

a. A detailed ***Physical Monitoring Plan***, as described in Specific Condition No. 8 (Physical Monitoring section), indicating the performance of the beach fill project and identifying erosion and accretion patterns within the monitored area. In addition, the

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report shall include a comparative review of project performance to performance expectations and identification of adverse impacts attributable to the project.

b. ***A Final Sediment Quality Control / Quality Assurance Plan***, as required by Rule 62B-41.008(1)(k)4.b., F.A.C. Once approved by the Department, compliance with the Plan shall be a specific condition of this permit and must be incorporated in the relevant Terms and Conditions of the construction contracts. The Plan shall include project-specific sediment quality specifications for grain size distribution, color, and carbonate composition to ensure that the sediment from the borrow sites will meet the standards in Rule 62B-41.007(2)(j), F.A.C., for the exclusion of non-compatible fill material. The Plan shall provide quality control procedures for excavating sediment from within the authorized horizontal and vertical limits of the permitted borrow sites; for monitoring and reporting the quality of sediment as it is placed on the beach; and for altering construction operations if the sediment does not comply with the project specific sediment quality specifications or stopping the dredging operation if the specifications cannot be attained. Further, the Plan shall provide procedures for testing the quality of the sediment after it is placed and methods for remediation of any areas of fill material that do not comply with the sediment quality specifications.

c. Two hard copies and an electronic copy of detailed ***final construction plans and specifications*** for all authorized activities, including a vessels operations plan. These documents shall be signed and sealed by the design engineer who must be registered in the State of Florida, and shall bear the certifications specified in Rule 62B-41.007(4), F.A.C. The plans and specifications shall include a description of the beach construction methods to be utilized and drawings and surveys which show all biological resources and work spaces (e.g., anchoring area, pipeline corridors, staging areas, boat access corridors, etc.) to be used for this project.

The permittee shall also submit plans and specifications for the installation of signage to mark the shore protection structure in accordance with Section 327.40, F.S., for navigation and boating safety. In addition, signage shall be provided along the shoreline adjacent to the terminal groin structure to warn recreational beach users of hazardous conditions to swimmers in the immediate vicinity of the structure. The permittee or their assignee approved by the Department shall maintain the signage in perpetuity unless the structures are removed.

d. ***Turbidity monitoring qualifications***. Construction at the project site shall be monitored closely to assure that turbidity levels do not exceed the compliance standards established in this permit. Accordingly, an individual familiar with beach construction techniques and turbidity monitoring shall be present at all times when fill material is discharged on the beach. This individual shall have authority to alter construction techniques or shut down the dredging or beach construction operations if turbidity levels

exceed the compliance standards established in this permit. The names and qualifications of those individuals performing these functions along with 24-hour contact information shall be submitted for approval.

e. Written verification that the *Erosion Control Line* has been executed and recorded.

f. The proposed *Shorebird Management Plan* (SMP), dated January 2004, shall be revised and resubmitted to the FWC and DEP for approval. This plan shall include monitoring of shorebirds onsite during and after project construction; methods for post-construction site management; and, mitigation for unavoidable impacts to shorebirds or their habitats.

5. The permittee shall construct and maintain a shore-parallel sand dike at the beach placement area at all times during hydraulic discharge on the beach to meet turbidity standards prescribed by this permit.

6. During all dredging operations, the permittee shall require the dredging contractor to have electronic positioning equipment that continuously measures the vertical and horizontal location of the dredge at all times during construction operation. The horizontal positioning equipment shall be installed on the dredge so as to monitor the actual location of the dredge equipment and be interfaced with the depth-monitoring device. This equipment shall provide a permanent record of the position referenced to State Plane Coordinates and NGVD. The Contractor shall provide telemetry of the instantaneous dredging positioning and digging functions of the project dredges that accommodates electronic charting functions by the Permittee at a remotely located system. As part of the final report, the permittee shall provide a daily record of the position of the dredge equipment which includes the dredge area limits with actual and maximum authorized dredge depths referenced to State Plane Coordinates and NGVD. Vertical and horizontal accuracy of the positioning equipment shall also be reported.

#### **MONITORING REQUIRED:**

7. **Water Quality Monitoring.** Turbidity monitoring in the vicinity of the borrow area, beach nourishment sites, and sand stockpile areas (if utilized), shall be monitored during construction. Turbidity will be measured at background and compliance stations.

##### **A. Borrow Sites:**

Frequency: Every six hours during dredging.

Location: Background: at least 500 meters in the opposite direction of the prevailing current flow, clearly outside of any visible turbidity plume generated by



the project. Samples shall be collected from the surface and mid-depth.

Compliance: no more than 150 meters downcurrent from the dredge site, within the densest portion of any visible turbidity plume. Samples shall be collected from the surface and mid-depth.

**B. Beach Nourishment Site when working **more than** 1,500 meters from Redfish Pass and Blind Pass (if open connection between the Gulf of Mexico and waters of the Pine Island Sound Aquatic Preserve exists at Blind Pass):**

**Frequency:** Every six hours during pumping operations, re-grading below the MHW line, or other in-water work.

**Location:** Background: at a point approximately 300 meters upcurrent from the discharge point, clearly outside of any turbidity plume generated by the project. Samples shall be collected from the surface and mid-depth at the same distance offshore as the compliance station.

Compliance: at a point approximately 200 meters offshore and no more than 1,500 meters downcurrent from the point of discharge into State waters, within the densest portion of any visible turbidity plume. Samples shall be collected from the surface and mid-depth.

**C. Beach Nourishment Site when working **within** 1,500 meters of Redfish Pass and Blind Pass (if open connection between the Gulf of Mexico and waters of the Pine Island Sound Aquatic Preserve exists at Blind Pass):**

**Frequency:** Every six hours during pumping operations, re-grading below the MHW line, groin construction, or other in-water work.

**Location:** Background: at a point approximately 300 meters upcurrent from the discharge point, clearly outside of any turbidity plume generated by the project. Samples shall be collected from the surface and mid-depth at the same distance offshore as the compliance station.

Compliance: at a point approximately 150 meters offshore and no more than 150 meters downcurrent from the point of discharge into State waters, within the densest portion of any visible turbidity plume. Samples shall be collected from the surface and mid-depth.

**D. Sand Stockpile/Re-Handling Areas (if utilized during project construction)**

**Frequency:** Every six hours during pumping operations.

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- Location:** Background: at a point approximately 300 meters upcurrent from the discharge point, clearly outside of any turbidity plume generated by the project. Samples shall be collected from the surface and mid-depth at the same distance offshore as the compliance station.
- Compliance:** at a point approximately 1,500 meters downcurrent from the point of discharge into State waters, within the densest portion of any visible turbidity plume. Samples shall be collected from the surface and mid-depth.

Weekly summaries of all monitoring data shall be submitted to the JCP Compliance Officer of the Bureau of Beaches and Coastal Systems and to the Southwest District Office within one week of collection, with documents containing the following information: (1) “**Permit Number 0200269-001-JC**”; (2) “**Captiva and Sanibel Islands Nourishment Project**” (3) dates and times of sampling and analysis; (4) a statement describing the methods used in collection, handling, storage and analysis of the samples; (5) a map indicating the sampling locations, current direction, plume configuration and the location of the dredge and discharge point(s); and (6) a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data. Monitoring reports shall also include the following information for each sample that is taken: a) time of day samples taken; b) depth of water body; c) depth of sample; d) antecedent weather conditions; e) tidal stage and direction of flow; f) wind direction and velocity; and g) DGPS position.

The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at the compliance sites are greater than 29 NTUs above the associated background turbidity levels (0 NTUs above associated background turbidity levels when construction is within 150 meters of the OFW boundary at the entrance to Redfish Pass and Blind Pass, if open), construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.

8. **Physical Monitoring.** Pursuant to 62B-41.005(16), F.A.C., physical monitoring of the project is required through acquisition of project-specific data to include, at a minimum, topographic and bathymetric surveys of the beach, offshore, and borrow site areas, aerial photography, and engineering analysis. The monitoring data is necessary in order for both the project sponsor and the Department to regularly observe and assess, with quantitative measurements, the performance of the project, any adverse effects which have occurred, and the need for any adjustments, modifications, or mitigative response to the project. The scientific monitoring process also provides the project sponsor and the Department information necessary to plan, design, and optimize subsequent follow-up projects, potentially reducing the need for

and costs of unnecessary work, as well as potentially reducing any environmental impacts that may have occurred or be expected.

**Prior to issuance of the first Notice to Proceed, the permittee shall submit a detailed Monitoring Plan subject to review and approval by the Department.** The Monitoring Plan shall indicate the project's predicted design life.

The approved Monitoring Plan can be revised at any later time by written request of the permittee and with the written approval of the Department. If subsequent to approval of the Monitoring Plan there is a request for modification of the permit, the Department may require revised or additional monitoring requirements as a condition of approval of the permit modification.

As guidance for obtaining Department approval, the plan shall generally contain the following items:

a. Topographic and bathymetric profile surveys of the beach and offshore shall be conducted within 90 days prior to commencement of construction, and within 60 days following completion of construction of the project. Thereafter, monitoring surveys shall be conducted annually for a period of three (3) years, then biennially until the next beach nourishment event or the expiration of the project design life, whichever occurs first. The monitoring surveys shall be conducted during a spring or summer month and repeated as close as practicable during that same month of the year. If the time period between the immediate post-construction survey and the first annual monitoring survey is less than six months, then the permittee may request a postponement of the first monitoring survey until the following spring/summer. A prior design survey of the beach and offshore may be submitted for the pre-construction survey if consistent with the other requirements of this condition.

The monitoring area shall include profile surveys at each of the Department of Environmental Protection's DNR reference monuments within the bounds of the beach fill area and along at least 5,000 feet of the adjacent shoreline on both sides of the beach fill area. For those project areas that contain erosion control structures, such as groins or breakwaters, additional profile lines shall be surveyed at a sufficient number of intermediate locations to accurately identify patterns of erosion and accretion within this subarea. All work activities and deliverables shall be conducted in accordance with the latest update of the Bureau of Beaches and Coastal Systems (BBCS) *Monitoring Standards for Beach Erosion Control Projects, Sections 01000 and 01100*.

b. Bathymetric surveys of the borrow area(s) shall be conducted within 90 days prior to commencement of construction, and within 60 days following completion of construction of the project concurrently with the beach and offshore surveys required

above. Thereafter, monitoring surveys of the borrow areas shall be dependent on their location. Borrow sites located in tidal inlet shoals or in nearshore waters above the depth of closure for littoral transport processes shall be at two (2) year intervals concurrently with the beach and offshore surveys required above. These biennial monitoring surveys are not required for borrow sites located below the depth of closure for littoral transport processes. A prior design survey of the borrow area may be submitted for the pre-construction survey if consistent with the other requirements of this condition.

Survey grid lines across the borrow area(s) shall be spaced to provide sufficient detail for accurate volumetric calculations but spaced not more than a maximum of 500 feet apart, and shall extend a minimum of 500 feet beyond the boundaries of the borrow site. For borrow sites located in tidal inlet shoals, bathymetric surveys of the entire shoal complex, including any attachment bars, shall be conducted unless otherwise specified by the Department based upon the size of the shoal and the potential effects of the dredging on inlet processes. In all other aspects, work activities and deliverables shall be consistent with the *BBCS Monitoring Standards for Beach Erosion Control Projects, Section 01200*.

c. Aerial photography of the beach shall be taken concurrently with the post-construction survey and each annual and biennial monitoring survey required above, as close to the date of the beach profile surveys as possible. The limits of the photography shall include the surveyed monitoring area as described above. All work activities and deliverables shall be conducted in accordance with the latest update of the *BBCS Monitoring Standards for Beach Erosion Control Projects, Section 02000*.

d. The permittee shall submit an engineering report and the monitoring data to the BBCS within 90 days following completion of the post-construction survey and each annual or biennial monitoring survey.

The report shall summarize and discuss the data, the performance of the beach fill project, and identify erosion and accretion patterns within the monitored area. In addition, the report shall include a comparative review of project performance to performance expectations and identification of adverse impacts attributable to the project.

Appendices shall include plots of survey profiles and graphical representations of volumetric and shoreline position changes for the monitoring area. Results shall be analyzed for patterns, trends, or changes between annual surveys and cumulatively since project construction.

e. Monitoring reports and data shall be submitted to the Bureau of Beaches and Coastal Systems in Tallahassee. Failure to submit reports and data in a timely manner constitutes grounds for revocation of the permit. When submitting any monitoring

information to the Bureau, please include a transmittal cover letter clearly labeled with the following at the top of each page: **"This monitoring information is submitted in accordance with Item No. [XX] of the approved Monitoring Plan for Permit No. 0200269-001-JC for the monitoring period [XX]."**

**9. Hardbottom monitoring.** Natural hardbottom formations/patches consisting of various encrusting sponges, fire coral (*Millepora* sp.), barnacles, and gorgonians (*Leptogorgia virgulata*) are located approximately 500 feet from the sand stockpile area/pipeline corridor offshore of R-105 in water depths of 26 to 28 feet. No significant impacts to these hardbottom communities resulting from project construction are authorized. Significant impacts include burial and/or sedimentation upon epibenthos that result in mortality of epifauna/epiflora; a reduction in recruitment rates to a level where the existing epibenthic communities are no longer sustainable; or a negative shift in taxonomic composition and size-class distribution of the major taxonomic groups.

If the sand stockpile area offshore of R-105 is utilized during project construction, biological monitoring of the hardbottom formations/epibiota adjacent to the sand stockpile site shall be conducted during the pre-construction phase, mid-point of the construction phase after the dredge moves to another pump-out location along the shoreline, immediately after project construction, and six months post-construction. Immediately prior to construction (pre-construction phase), qualified marine biologists on SCUBA shall map the perimeter(s) of the hardbottom formation(s)/epibiota using DGPS positioning, and the area of exposed hardbottom/epibiota shall be quantified. A pre-construction plan view drawing of the exposed hardbottom formation(s)/epibiota shall be produced by overlaying the results of the field mapping onto site bathymetry and side-scan sonar survey data (May 2003). A statistically sufficient number of 30-meter long, cross-shore transects shall be permanently established during the pre-construction monitoring dependent upon the area of exposed hardbottom/epibiota. Upon completion of the pre-construction field mapping and prior to transect establishment, the permittee and/or designated consulting biologist shall consult with FDEP Beaches staff for approval of the number and locations of the proposed transects. Transect lengths may be adjusted dependent upon existing conditions; and transects may extend over sand/shell hash if the exposed hardbottom patches are less than 30 meters in width. DGPS positioning of the beginning and end points of the transects shall be recorded in the field, and the transect locations shall be overlaid onto the plan view drawings.

During each monitoring event, epibenthic species abundance and richness shall be quantitatively assessed using a 0.5 m<sup>2</sup> quadrat sampled at 3 meters intervals along the transects. Within each quadrat, percent cover of attached epibenthos, including fleshy and calcareous macroalgae, turf algae, crustose coralline algae, sponges, hydroids, scleractinian corals, octocorals, tunicates, barnacles, and fire coral, *Millepora* sp., shall be assessed to the nearest one percent. Macroalgae and octocorals shall be identified to the genus level, and scleractinian corals shall be identified to the species level. The total number of species within each quadrat shall be

recorded, and the total number of individual colonies of octocorals, scleractinian corals, and *Millepora* sp. shall also be recorded in each quadrat. Additionally, the size class distribution of these organisms shall be evaluated according to the following classification: scleractinians shall be classified into the following size classes by diameter: (a) recruits: < 2 cm, (b) 2 cm – 5 cm; (c) 5 – 25 cm; (d) > 25 cm; and octocorals/branching *Millepora* sp. shall be classified into the following two size classes by height: a) < 10 cm; (b) > 10 cm. Percent cover of sediment, including unconsolidated shell hash, shall be also assessed in each quadrat. The quadrat data shall be summarized along each transect for overall species richness/abundance along the transects. Quantitative digital video documentation of the transects shall be obtained during each monitoring event following standard protocol (camera will be held perpendicular to substrate at a constant distance of 40 cm, and swim speed will be less than 4.5 meters/minute).

Two hard copies and one electronic copy of a pre-construction monitoring report, including the plan-view drawing of the exposed hardbottom formation(s) with transect locations overlaid onto site bathymetry data; representative, 35-mm still photographs of the quadrats; Excel spreadsheets of the raw data and summary data along the transects, and video transects (in digital and VHS format) shall be submitted to FDEP within 45 days of completion of the pre-construction survey. Within 45 days of completion of the six month post-construction survey, two hard copies and one electronic copy of a comprehensive impact assessment, including accompanying raw data, summary data, and photographic documentation, shall be submitted to the FDEP. This comprehensive report/impact assessment shall summarize the observations and data throughout the entire monitoring period, including a detailed evaluation of short-term and long-term impacts to epibenthos related to sedimentation/burial from the adjacent sand stockpile area. Additionally, if the mid-point construction and/or immediate post-construction monitoring surveys suggest significant impacts to epibiota as defined above, the FDEP shall be notified within one (1) day of discovery of the impact. FDEP staff may conduct a site inspection following notification of the impact, and a separate impact evaluation may be necessary for the State's evaluation of compensatory mitigation. The permittee shall submit an interim report to the FDEP within 30 days of completion of the survey and impact assessment.

If the results of the construction/post-construction biological monitoring reveal significant impacts to these hardbottom communities adjacent to the sand stockpile area at R-105, compensatory mitigation shall be required for these impacts. The amount of compensatory mitigation shall be determined by the extent of the impact revealed by the monitoring, and a time lag coefficient shall be applied to offset the temporal habitat loss. The time lag coefficient shall be based on the time differential between the burial and the creation of replacement habitat, plus two years for colonization and maturation of epibenthos.

10. **Sea turtle monitoring.** In order to ensure that marine turtles are not adversely affected by the construction activities authorized by this permit, the permittee shall adhere to the following conditions:

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- a. All fill material placed shall be analogous to that which naturally occurs within the project location or vicinity in quartz to carbonate ratio, color, median grain size, and median sorting.
- b. Beach nourishment shall be started after October 31 and be completed prior to May 1.
- c. Pending authorization for incidental take of sea turtles by the U.S. Fish & Wildlife Service, groin construction/rehabilitation and beach nourishment shall be started after October 31 and shall be completed before May 1. In the event that incidental take of sea turtles is authorized by the U.S. Fish & Wildlife Service for this project, construction-related activities for groin improvements and beach nourishment may occur on the nesting beach (seaward of existing coastal armoring structures or the dune crest) during sea turtle nesting season in accordance with the following conditions, except as required for shorebird protection. Any additional terms and conditions included in the Incidental Take Permit (ITP) shall be incorporated into this permit through a minor modification.
  - i) A daily marine turtle nest survey of the nesting beach in the vicinity of the project (including areas of beach access) shall be conducted starting April 1 and continue through October 31.
  - ii) Only those nests that may be affected by beach nourishment activities shall be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation.
  - iii) Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in place unless other factors threaten the success of the nest. Such nests will be marked and the actual location of the clutch determined. A circle with a radius of ten (10) feet, centered at the clutch, shall be marked by stake and survey tape or string. No construction activities shall enter this circle and no adjacent construction shall be allowed which might directly or indirectly disturb the area within the staked circle.
  - iv) Nests deposited within areas within the groin construction area shall be marked and left in place unless other factors threaten the success of the nest. Such nests will be marked and the actual location of the clutch determined. A circle with a radius of ten (10) feet, centered at the clutch, shall be marked by stake and survey tape or string. No construction activities shall enter this circle and no adjacent construction shall be allowed which might directly or indirectly disturb the area within the staked circle.
  - v) No construction activity may commence until completion of the marine turtle survey each day.
  - vi) It is the responsibility of the permittee to ensure that the project area and all access sites are surveyed for marine turtle nesting activity. All nesting surveys,

nest relocations, screening or caging activities, etc., shall be conducted only by persons with prior experience and training in these activities and who is duly authorized to conduct such activities through a valid permit issued by the Fish and Wildlife Conservation Commission (FWC), pursuant to Florida Administrative Code 68E-1.

d. Immediately after completion of the beach fill placement event and prior to April 15 for 3 subsequent years if placed sand still remains on the beach, the beach shall be tilled as described below. During the 3 years following each fill placement event, the permittee may measure sand compaction in the area of restoration in accordance with a protocol agreed to by the FWC, the Department, the U.S. Fish & Wildlife Service, and the applicant to determine if tilling is necessary. At a minimum, the protocol provided under i) and ii) below shall be followed. If required, the area shall be tilled to a depth of 24 inches. All tilling activity must be completed prior to April 15. An annual summary of compaction surveys and the actions taken shall be submitted to the FWC. If the project is completed during the nesting season, tilling shall not occur in areas where nests have been left in place or relocated unless authorized by the U.S. Fish and Wildlife Service in an Incidental Take Statement. A report on the results of compaction monitoring shall be submitted to the FWC prior to any tilling actions being taken. This condition shall be evaluated annually and may be modified if necessary to address sand compaction problems identified during the previous year.

i) Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area) and one station shall be midway between the dune line and the high water line (normal wrack line).

ii) At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lay over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports shall include all 18 values for each transects line, and the final 6 averaged compaction values.

iii) If the average value for any depth exceeds 500 psi for any two or more adjacent stations, then that area shall be tilled prior to April 15. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the FWC shall be required to determine if tilling is required. If a few values



exceeding 500 psi are present randomly within the project area, tilling shall not be required.

iv) Compaction measurements and tilling shall not occur within or adjacent to areas being utilized for nesting by shorebirds.

e. Visual surveys for escarpments along the beach fill area shall be made immediately after completion of the beach nourishment project and prior to April 1 for the following three years if placed sand still remains on the beach. All scarps shall be leveled or the beach profile shall be reconfigured to minimize scarp formation. In addition, weekly surveys of the project area shall be conducted during the two nesting seasons following completion of fill placement as follows:

i) The number of escarpments and their location relative to DNR-DEP reference monuments shall be recorded during each weekly survey and reported relative to the length of the beach surveyed (e.g., 50% scarps). Notations on the height of these escarpments shall be included (0 to 2 feet, 2 to 4 feet, and 4 feet or higher) as well as the maximum height of all escarpments.

ii) Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by April 15. Any escarpment removal shall be reported relative to R-monument.

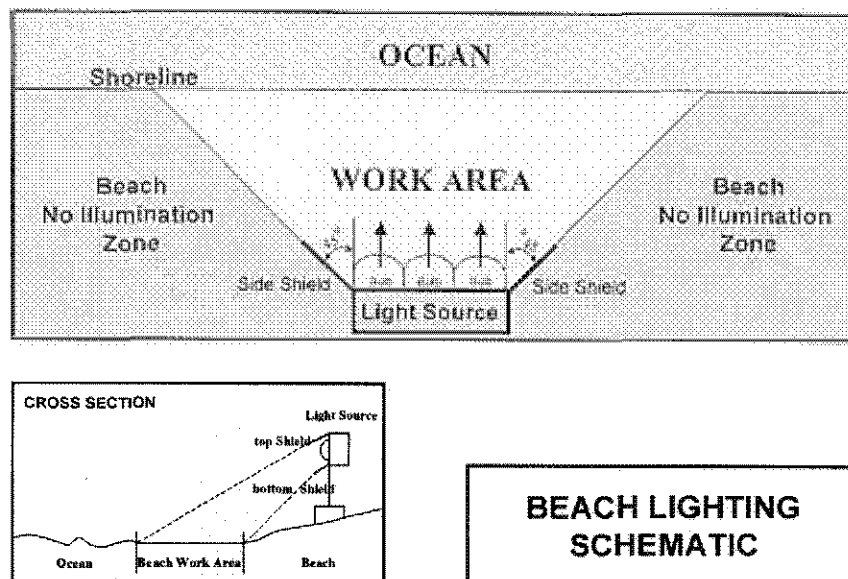
iii) If weekly surveys during the marine turtle nesting season document subsequent reformation of escarpments that exceed 18 inches in height for a distance of 100 feet, the FWC shall be contacted immediately to determine the appropriate action to be taken. Escarpments that exceed 18 inches in height for a distance of 100 feet shall be reported in writing to the Department and FWC within 3 days of the survey. This report shall include the number and location of nests in the vicinity of the escarpment. Upon written notification, the permittee shall level escarpments in accordance with mechanical methods prescribed by the FWC.

iv) No scarp removal shall occur within or adjacent to areas being utilized for nesting by shorebirds.

f. From April 1 through October 31, staging areas for construction equipment shall be located off the beach. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. All construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system or interfering with nesting shorebirds.

g. From April 15 through October 31, all project lighting shall be limited to the immediate area of active construction only and shall be the minimal lighting necessary to comply with U.S. Coast Guard and/or OSHA requirements. Stationary lighting on the

beach and all lighting on the dredge shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to minimize illumination of the nesting beach and water (Figure 1).



h. A lighting survey shall be conducted from the renourished berm prior to April 1 of the first nesting season following nourishment. A report summarizing all lights visible, using standard survey techniques for such surveys, shall be submitted to FWC by April 15 and documenting all compliance and enforcement action. Additional lighting surveys shall be conducted as required to ensure compliance with the Beach Lighting Ordinance on private, commercial, and public property. All violations must be addressed and, if possible, remediated prior to sea turtle nesting season.

i. Reports on all nesting activity shall be provided for the initial nesting season following the completion of construction and for a minimum of two additional nesting seasons. Monitoring of nesting activity shall include daily surveys and any additional measures authorized by the FWC. Reports submitted shall include daily report sheets noting all activity, nesting success rates, hatching success of all relocated nests, hatching success of all nests left in place (if any), dates of construction and names of all personnel involved in nest surveys and relocation activities. Data should be reported separately for the nourished areas and for an equal length of adjacent beach that is not nourished, if available, in accordance with the Table 1. Summaries of nesting activity shall be submitted in electronic format (Excel spreadsheets). All reports should be submitted by January 15 of the following year.

**Table 1**  
**Marine Turtle Monitoring for Beach Restoration Projects**

The following monitoring is required for beach restoration projects. Reports summarizing the nesting should be submitted to the Tequesta office with a copy to the Tallahassee office by January 15 of the subsequent year. Data for nesting activity on the nourished beach and on an equal length of beach that is not nourished shall be reported separately, and should include numbers of nests lost to erosion or washed out. Summaries of nesting activity shall be submitted in electronic format (Excel spreadsheets).

Characteristic	Parameter	Measurement	Variable
Nesting Success	False crawls - number	Visual assessment of all false crawls	Number and location of false crawls in fill areas and nonfill areas: any interaction of the turtle with obstructions, such as groins, seawalls, or scarps, should be noted.
	False crawl - type	Categorization of the stage at which nesting was abandoned	Number in each of the following categories: emergence-no digging, preliminary body pit, abandoned egg chamber.
	Nests	Number	The number of marine turtle nests in filled and nonfilled areas should be noted. If possible, the location of all marine turtle nests shall be marked on map of project, and approximate distance to sea walls or scarps measured using a meter tape. Any abnormal cavity morphologies should be reported as well as whether turtle touched groins, seawalls, or scarps during nest excavation
		Lost Nests	The number of nests lost to inundation, erosion or the number with lost markers that could not be found.
	Lighting Impacts	Disoriented sea turtles	The number of disoriented hatchlings and adults shall be documented and reported in accordance with existing FWC protocol for disorientation events.

j. In the event a hopper dredge is utilized for sand excavation, all conditions in the National Marine Fisheries Service (NMFS) *Biological Opinion for Dredging of Gulf of Mexico Navigation Channels and Sand Mining Borrow Areas Using Hopper Dredges by COE Galveston, New Orleans, Mobile, and Jacksonville Districts* (Consultation Number F/SER/2000/01287) must be followed, and the FWC shall be sent copies of the reports specified in the Biological Opinion.

k. In the event a sea turtle nest is excavated during construction activities, all work shall cease in that area immediately and the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

l. Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the FWC at 1-888-404-FWCC. Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological materials in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

11. The proposed work may occur within the secondary protection zone (within 1,500 feet) of bald eagle nest LE-022B. If beach nourishment is scheduled to occur during bald eagle nesting season (October 1 through May 15), consultation with staff of the Florida Fish and Wildlife Conservation Commission (FWC) and U.S. Fish & Wildlife Service shall be required at least 15 days prior to initiation of construction activities. If the nest is determined to be active at the time of the proposed beach nourishment, the permittee shall request a permit modification from the Department to reflect additional restrictive and/or prohibitive conditions for the protection of the bald eagle nest recommended by the FWC and USFWS.

12. **Shorebirds.** In order to ensure that nesting shorebirds are not adversely affected by the construction activities authorized by this permit, the permittee shall adhere to the following conditions:

a. No beach nourishment, operation, transportation or storage of equipment or materials is authorized in important shorebird habitat, including the critical wildlife area at Bowman's Beach, from R-116 to R-118 and an adjacent buffer area, from R-116 to R-115, from February 1 through August 31. Construction activities will be prohibited or limited within the buffer zone to minimize impacts to shorebirds engaged in courtship or nesting behavior on the adjacent beach, or in areas where piping plovers occur or winter migrants congregate in significant numbers.

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- i) Any and all construction activities, including movement of vehicles, should be prohibited in the buffer zone.
  - ii) The width of the buffer zone shall be increased if birds appear agitated or disturbed by construction or other activities in adjacent areas.
  - iii) Modifications to this buffer zone may be implemented upon approval by FWC as needed.
  - iv) Designated buffer zones must be posted with clearly marked signs around the perimeter. These markings shall be maintained until nesting is completed or terminated, the chicks fledge, or piping plovers or winter migrants depart.
  - v) No construction activities or stockpiling of equipment shall be allowed within the buffer area.
- b. Shorebird surveys should be conducted by trained, dedicated individuals using accepted, appropriate ecological survey procedures (for example, see "*Breeding Season Population Census Techniques for Seabirds and Colonial Waterbirds Throughout North America*" at URL: <http://www.mp2-pwrc.usgs.gov/cwb/manual/>). The shorebird nesting season generally is 1 April – 1 September, but some nesting may occur through September. In addition, the imperiled snowy plover (*Charadrius alexandrinus*) may nest as early as February along the west coast and panhandle of Florida.
- i) Nesting season surveys shall begin on February 1 or 45 days prior to construction commencement, whichever is later, and be conducted daily throughout the construction period or through September if no shorebird nesting activity is observed.
  - ii) For projects conducted in piping plover habitat, surveys to detect piping plovers or concentrations of other wintering or migratory shorebirds should begin 14 days prior to construction commencement and be conducted once every 2 weeks.
  - iii) Each shorebird species observed, a rough estimate of numbers of each species, the location of the birds, and their activity (e.g., foraging, resting, nesting, courtship behavior) should be logged and reported to the FWC Regional Wildlife Diversity Conservation Biologist monthly.
  - iv) The FWC Regional Wildlife Diversity Conservation Biologist shall be contacted at (863) 648-3205 within 24 hours if shorebird nesting occurs within or immediately adjacent to the project area.
- c. Buffer Zones and Travel Corridors. Within the project area, the permittee shall establish a 300 ft-wide buffer zone around any location where shorebirds have been engaged in courtship or nesting behavior, or around areas where piping plovers occur or winter migrants congregate in significant numbers. Any and all construction activities, including movement of vehicles, should be prohibited in the buffer zone.
- i) The width of the buffer zone shall be increased if birds appear agitated or disturbed by construction or other activities in adjacent areas.

- ii) Site-specific buffers may be implemented upon approval by FWC as needed.
  - iii) Designated buffer zones must be posted with clearly marked signs around the perimeter. These markings shall be maintained until nesting is completed or terminated, the chicks fledge, or piping plovers or winter migrants depart.
  - iv) No construction activities or stockpiling of equipment shall be allowed within the buffer area.
  - v) FWC-approved travel corridors should be designated and marked outside the buffer areas. Heavy equipment, other vehicles, or pedestrians may transit past nesting areas in these corridors. However, other activities such as stopping or turning, shall be prohibited within the designated travel corridors adjacent to the nesting site.
  - vi) Where such a travel corridor must be established within the project area it should avoid critical areas for shorebirds (known nesting sites, wintering grounds, FWC-designated Critical Wildlife Areas, and USFWS-designated critical piping plover habitat) as much as possible, and be marked with signs clearly delineating the travel corridor from the shorebird buffer areas described above.
  - vii) To the degree possible, the permittee should maintain some activity within these corridors on a daily basis, without directly disturbing any shorebirds documented on site or interfering with sea turtle nesting, especially when those corridors are established prior to commencement of construction. Passive methods to modify nesting site suitability must be approved by the FWC Wildlife Diversity Conservation Biologist for that region.
- d. Notification. If shorebird nesting occurs within the project area, a bulletin board will be placed and maintained in the construction area 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 ACT”**.
- e. Tilling. All tilling and scarp removal should be conducted outside the shorebird nesting season. If necessary, contractors should contact the FWC Regional Wildlife Diversity Conservation Biologist at (863) 648-3205 to obtain data on known shorebird nesting areas. It is the responsibility of the contractors to avoid tilling or scarp removal in areas where nesting birds are present.
- i) A relatively even surface, with no deep ruts or furrows, shall be created during tilling. To do this, chain-linked fencing or other material shall be dragged over those areas as necessary after tilling.
  - ii) The slope between the mean high water line and the mean low water line must be maintained in such a manner as to approximate natural slopes.

f. If it will be necessary to extend construction pipes past a known shorebird nesting site or over-wintering area for piping plovers, then whenever possible, pipes should be placed landward of the site before birds are active in that area. No sand shall be placed seaward of a known shorebird nesting site during the shorebird nesting season.

13. **Manatees.** In order to ensure that manatees are not adversely affected by the construction activities authorized by this permit, the permittee shall adhere to the following manatee protection conditions:

a. The permittee/contractor shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s).

b. The permittee/contractor shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act of 1978.

c. Siltation barriers 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.

d. All vessels associated with the project operate at "no wake/idle speed" at all times while in the construction area and while in water where the draft of the vessel provides less than a four foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

e. If a manatee(s) are seen within 100 yards of the active daily construction/dredging operation, all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities shall not resume until the manatee(s) has departed the project area of its own volition.

f. Any collision with and/or injury to a manatee shall be reported immediately to the "FWC Hotline" at 1-888-404-FWCC. **Collision and/or injury should also be reported to the U. S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-772-562-3909) for south Florida.**

g. Temporary signs concerning manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads Caution

Manatee Area will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8 ½" by 11" which reads Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for north Florida or in Vero Beach (1-772-562-3909) in south Florida.

**14. Planting of Dune Vegetation.** Dune vegetation planting shall occur within the next growing season after nourishment is completed along the reconstructed dune between R-88 and R-97. Only Florida native plant species shall be planted, and plant species should consist predominantly of sea oats (*Uniola paniculata*), dune panic grass (*Panicum amarum*), railroad vine (*Ipomea pes-caprae*) and dune sunflower (*Helianthus debilis*). A dune planting plan, which outlines the plant species, spacing of planting units, and monitoring, shall be submitted to the Department for approval at least 30 days prior to planting unit installation. The planted vegetation shall be monitored monthly for 90 days to ensure survivability of the plants. Remedial planting shall occur if mortality is in excess of 50% during any of the three monthly monitoring events. Planting of dune vegetation is authorized to occur during the marine turtle nesting (May 1 through October 31) under the following conditions:

- a. It is the responsibility of the permittee to ensure that the project area and access sites are surveyed for marine turtle nesting activity. All nest surveys, nest relocations screening or caging activities etc. shall be conducted only by persons with prior experience and training in these activities and is duly authorized to conduct such activities through a valid permit issued by the Florida Fish and Wildlife Conservation Commission, pursuant to Florida Administrative Code 68-E.
- b. Marine turtle nest surveys shall be initiated at the beginning of the nesting season or 65 days prior to installation of plants (whichever is later). Surveys shall continue until completion of the project or through September 15 (whichever is earliest). Surveys shall be conducted throughout the project area and all beach access sites.
- c. Any nests deposited in an area not requiring relocation for conservation purposes (as determined by the marine turtle permit holder) shall be left in situ. The marine turtle permit holder shall install an on beach marker at any nest site and a secondary marker located at a point as far landward as possible to ensure that future location of the nest will be possible should the on-beach marker be lost. A series of stakes and survey ribbon or string shall be installed to establish an area of 3 feet radius surrounding the nest. No planting or other activity shall occur within this area nor shall any activity occur which might cause indirect



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impacts within this area. Nest sites shall be inspected daily to ensure nest markers have not been removed.

d. The use of heavy equipment (including trucks) for dune construction, planting, and maintenance is not authorized seaward of the dune crest or armoring structure. A lightweight (ATV style) vehicle, with tire pressures of 10 p.s.i. or less may operate on the beach.

e. Any vegetation planting or placement of irrigation materials shall be installed by hand labor/tools.

f. Irrigation (if proposed) shall be entrenched 1 to 3 inches below grade so as not to pose a barrier to hatchlings and to allow for easy removal. The irrigation system shall be designed and maintained so that watering of the unplanted sandy beach does not occur. In the event a marine turtle nest is deposited within the newly established dune planting area, the permittee shall modify the irrigation system so that watering within 10 feet of the nest does not occur. Daily inspection of the irrigation system shall be accomplished by the permittee to ensure compliance with this condition.

g. All activity shall be confined to daylight hours and shall not occur prior to the completion of all necessary marine turtle surveys and conservation activities within the project area. Nighttime storage of equipment or materials shall be off the beach (landward of the dune crest, existing seawalls or bulkheads).

h. In the event a nest is disturbed or uncovered during planting activity, the permittee shall cease all work and immediately contact the person(s) responsible for marine turtle conservation measures within the project area. If a nest(s) can not be safely avoided during construction, all activity within the affected project area shall be delayed until complete hatching and emergence of the nest.

15. A tree removal plan shall be submitted to the Department and FWC- ISMS for review and approval at least 30 days prior to removal of Australian Pine (*Casuarina equisetifolia*) trees located within the fill template at Bowman's Beach (R-116 to R-118). The plan shall identify the location, species, and number of trees to be removed; construction access, equipment and methods for removal; and a construction schedule. A separate Notice to Proceed with tree removal activities shall be required prior to commencement of work, and the Notice to Proceed may be contingent upon additional permit conditions needed to ensure protection of listed species.

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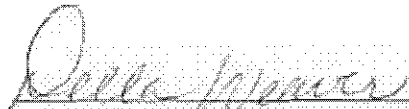
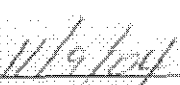
Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION  
BUREAU OF BEACHES AND  
COASTAL SYSTEMS

  
Michael Barnett, P.E., Bureau Chief

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated  
Department Clerk, receipt of which is hereby acknowledged.

   
Deputy Clerk Date

67 pages attached.