



# Department of Environmental Protection

Jeb Bush  
Governor

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Tallahassee, Florida 32399-3000

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Secretary

## CONSOLIDATED JOINT COASTAL PERMIT AND INTENT TO GRANT SOVEREIGN SUBMERGED LANDS AUTHORIZATION

**PERMITTEE/AUTHORIZED ENTITY:** Permit/Authorization No.: 0165332-001-JC  
James M. Bowser, P.E., Town Engineer Date of Issue: March 14, 2001  
Town of Palm Beach Expiration Date: March 14, 2011  
360 South County Road County: Palm Beach  
Palm Beach, FL 33480 Project: Phipps Ocean Park Beach Restoration 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 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 project is to construct a 1.9 mile beach restoration project in the vicinity of Phipps Ocean Park. The project is located in the Town of Palm Beach between DEP reference monument R-116 and R-126. Approximately 1.5 million cubic yards of sand is to be dredged from two borrow areas located approximately 3,500 feet offshore and approximately 1.5 and 2.6 miles south of the fill area. The beach fill profile consists of a +9 ft. NGVD berm elevation with an average construction berm width varying from 190 to 455 ft, with a projected life of 8 years. A 3.1 acre artificial reef is proposed for hardbottom mitigation.

### ACTIVITY LOCATION:

Located between Sloans Curve and the Ambassador South II Condominium, including Phipps Ocean Park and the Palm Beach Par 3 Golf Club, located in Palm Beach County, Sections 11, 14, 23, Township 44 South, and Range 43 East, Atlantic Ocean, Class III Waters.

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, 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 mitigation reef area, beach fill placement area and pipeline corridors qualify for a consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is 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 the borrow areas 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 conditions in the previously issued Consolidated Intent to Issue.

The final documents required to execute the public easement (Instrument No. 30601, BOT File No. 500222419) 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, turbidity variance, 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, variance, 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 specifications 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.
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 Office of Beaches and Coastal Systems (Office) and the appropriate 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 or 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 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 Office and the appropriate District office of the Department a written notice of commencement of construction indicating the actual start date and the expected completion date.

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 Office.

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 Office of Beaches and Coastal Systems and the appropriate District office of the Department a written statement of completion and certification by a licensed professional engineer registered in the state of Florida. 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. The terms, conditions, and provisions of the required public easement (Instrument No. 30601, BOT File No. 500222419) for the borrow areas shall be met. Construction of this activity shall not commence on sovereign submerged lands, title to which is held by the Board of Trustees of the Internal Improvement Trust Fund, until all Public Easement documents have been executed to the satisfaction of the Department.

2. Pursuant to Chapter 161.141, prior to construction of the beach restoration project, the board of trustees must establish the line of mean high water for the area to be restored to establish the boundary line between sovereignty lands of the state bordering on the Atlantic Ocean and the upland properties. No work shall commence until the Erosion Control Line has been executed to the satisfaction of the Department.
3. No work shall be conducted until and unless the Department issues a Final Order of Variance (File No. 0165332-002-EV) from the provisions of Rule 62B-41.007(2)(j), F.A.C., to provide a waiver from the requirement that fill material be "free of coarse gravel and cobbles" and to provide a variance from the "greater than 5 percent fines or gravel" standard.
4. No work shall be conducted until and unless the Department issues a Final Order of Variance (File No. 0165332-003-EV) from Rule 62-4.244(5)(c), F.A.C. to establish a temporary mixing zone of 300 meters offshore and 1,000 meters downcurrent from the point of sand discharge onto the beach fill area.
5. No work shall be conducted under this permit for the initial or subsequent beach nourishment events until the permittee has received a written notice to proceed from the Department. Prior to the issuance of the notice to proceed, the permittee shall submit the following:
  - a. *Final plans, specifications, and vessel operations plan - full size copies.* Two copies of detailed final construction plans and specifications for all authorized activities. 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 Department may request additional information as necessary in order to review each subsequent nourishment event. Department approval for subsequent events may be contingent upon the permittee's acceptance of additional conditions which may be determined to be appropriate based upon data submitted to the Department in support of your request or upon the results of previous monitoring data.
  - b. *Final plans and specifications - electronic copies.* The information provided in section (a) above shall also be provided to the Office in electronic format, on compact diskette or other electronic media. Electronic submittals shall be in ArcViewGIS or AutoCAD format or similar, compatible format and clearly referenced as to datum and projection. Electronic files shall be accompanied by corresponding information as to dates of and

responsible parties performing all associated data collection and any other pertinent information about the data collection.

- c. *Sand Quality Control Plan.* A Sand Quality Control Plan shall be provided and be subject to Department approval. The plan shall include: (a) a proposed sampling protocol to monitor the beach fill characteristics during construction; and (b) a contingency plan to remove coarse gravel from the beach fill material if it exceeds an amount that is not beach compatible as shall be defined in the Plan. The proposed Sand Quality Control Plan shall include a plan to monitor the sediment characteristics during construction to ensure that the beach fill will be generally free of rock and that there shall be no concentration greater than 0.7% at any one sample area as prescribed by the Plan.
- d. *Juvenile Green Turtle Monitoring Plan.* Prior to issuance of the notice to proceed, a revised Mitigation Reef Plan shall be submitted to the Department for approval. The revised plan shall include surveys for the occurrence of juvenile green turtles in the mitigation reef area and control areas in concert with mitigation reef monitoring surveys. Visual assessments of juvenile green turtle occurrence shall be conducted via pedestrian surveys.
- e. *Biological Monitoring Study Plan.* In order to determine if the ephemeral hardbottom in the surf zone is providing essential habitat to some component of the nearshore fish community that is not also provided by the mitigation, the permittee shall submit a revised Mitigation Reef Plan to include provisions for monitoring and analysis to compare the utilization of the two habitat types within 1000 ft. of the project area. In addition to fish species and age classes, the study will also look at colonization by macroalgae and utilization by marine turtles as feeding habitat. The plan shall provide details of the study with regard to methods used to compare the utilization of the habitat types, duration of the study, sampling sites, and monitoring frequency. The plan should include ecological comparisons that examine variables such as indices of recruitment for larval/juveniles, predation rates and prey vulnerability, size structure of fish and selected invertebrates, correspondence analysis and other statistical comparisons.

Within 30 days prior to the start of construction, the permittee shall submit the following for Department approval:

- f. *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 serve as site supervisor and

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.

- g. *Biological monitoring qualifications.* The names and qualifications of those individuals performing the biological monitoring shall be submitted for department approval. All biological monitoring required by this permit shall be conducted by individuals having a good working knowledge of marine fish, algae, coral, and sponge taxonomy.
6. At least 7 days prior to the planned commencement date of construction, the permittee shall schedule a pre-construction conference to review the specific conditions of this permit with the contractors, work crews, the Department's staff representatives, and the marine turtle permit holder. The permittee shall provide a minimum of 7 days advance written notification to the following offices advising of the date, time, and location of the pre-construction conference:

DEP Beaches and Coastal Systems, MS 300  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000  
fax: (850) 488-5257

Palm Beach County DERM  
3323 Belvedere Road, Bldg. 502  
West Palm Beach, FL 33406-1548  
fax: (561) 233-2414

FWC - BPSM  
Office of Environmental Services  
620 South Meridian Street  
Tallahassee, Florida 32399-1600  
fax: (850) 921-4369

City of Lake Worth Utilities  
Water Systems Superintendent  
1900 2<sup>nd</sup> Avenue North  
Lake Worth, FL 33460

DEP - SLERP  
400 North Congress Avenue  
West Palm Beach, Florida 33401  
fax: (561) 681-6780

7. The permittee shall require the dredging contractor to have electronic positioning equipment which continuously measures the vertical and horizontal location of the cutterhead, dragarms, dustpan or clamshell at all times during dredging operations. 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. Horizontal accuracy for dredge positioning shall be 3.0 feet or better. Vertical accuracy for the dredge depth monitoring shall be 1.0 foot or better. This equipment shall provide a permanent record of the equipment's position referenced to State Plane

Coordinates and NGVD. As a part of the final report, and upon request at any time during construction, the permittee shall provide a daily record of the position of the dredge equipment which includes the borrow area limits and hardbottom buffer zones referenced to state plane coordinates and NGVD.

8. A 400 foot dredge buffer zone, in which dredging is prohibited, shall be maintained around the adjacent hardbottom areas in the vicinity of the borrow site(s). The permittee shall ensure that the no dredging buffer zones are maintained continuously for as long as dredging occurs at the borrow site(s).
9. A 200 foot anchor buffer zone, in which anchoring is prohibited, shall be maintained around the adjacent hardbottom areas in the vicinity of the borrow site(s). No anchoring, including the dredge, support vessels and swing wires, shall be allowed within the delineated 200-foot buffer zone. No anchor placement will be allowed during nighttime, and anchor placement shall be diver assisted during daylight. No equipment or structures will be placed within the anchor buffer zone. The permittee shall ensure that no anchoring buffer zones are maintained continuously for as long as dredging occurs at the borrow site(s).
10. A 100 ft. sewer outfall buffer zone shall be maintained and marked with lighted bouys around the sewer outfall located in Borrow Area III. Dredging and anchoring shall be prohibited within this area. The permittee shall ensure that these buffer zones are maintained continuously for as long as dredging occurs at the borrow site(s). Any damage to the outfall caused by the project (e.g., due to contractor error or failure due to undermining caused by erosion into the borrow site, etc.) shall be restored by the permittee to the satisfaction of the City of Lake Worth Utilities Department.
11. The permittee shall construct and maintain a shore-parallel sand dike at the beach disposal area at all times during hydraulic discharge on the beach as may be required to meet turbidity standards prescribed by the permit and associated variance.
12. Dredged sand from the borrow areas is authorized for beach fill placement only. Placement at any location other than the beach fill areas depicted on the attached permit drawings will require a permit modification.
13. The permittee shall construct a minimum of 3.1 acres of artificial reef as mitigation for impacts to 3.1 acres of natural nearshore hardbottom. The following procedures shall be adhered to for the construction of the artificial reef mitigation work:
  - a. Construction of the artificial reef shall be completed at least 6 months prior to the commencement of construction of the beach nourishment project.

b. Prior to beginning construction of the artificial reef, the permittee shall submit a plan view drawing identifying the surveyed coordinates of the artificial reef construction sites and all work spaces (staging areas, boat access corridors, etc.) to be used to construct the artificial reefs. The drawing shall include all hardbottom areas within 1,000 ft. of the artificial reef construction sites. This information shall be provided in both paper and electronic format, as in Condition (5) above. The work conducted adjacent to existing hardbottom areas shall be performed in a manner that avoids impacts to existing hardbottom. All artificial reef construction equipment shall be confined to the identified, buoyed work spaces. Artificial reef construction shall not begin until the Department approves the work spaces.

c. The information in item (b) above shall be submitted to the following agencies:

DEP - OBCS, Mail Station 300  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

DEP Southeast District Office  
Submerged Lands and Environmental Resources  
400 North Congress Avenue  
West Palm Beach, Florida 33401

FWC - Artificial Reef Program  
620 South Meridian Street, Box MF-MFM  
Tallahassee, Florida 32399-1600

Palm Beach County DERM  
3323 Belvedere Road, Bldg. 502  
West Palm Beach, FL 33406-1548

FWC - BPSM  
Office of Environmental Services  
620 South Meridian Street  
Tallahassee, Florida 32399-1600

d. Prior to the placement of any reef building material in the water at the mitigation site, the limits of the reef construction area shall be marked with buoys. If this work is to be conducted at night, the buoys shall be lighted;

e. The reef building materials shall be transported to the mitigation site by barge. Materials shall be lifted over the side of the barge and placed into the proper location by a pre-approved method of placement;

f. The artificial reef materials shall consist of clean limestone boulders. Reef construction materials shall be inspected by the permittee or their designee prior to loading onto work barges. Debris and sources of pollution shall be removed from the material prior to its placement onto the work barges. Rebar, steel, or other similar protruding materials shall not be included in the reef construction materials;

g. The permittee shall ensure that the artificial reef is constructed to mimic the natural hardbottom in the project area. The artificial reef will contain between 1 to 4 feet vertical relief (greater relief is authorized only if the permittee provides the

Department with documentation of the need to meet stability criteria or, on a temporary basis, to compensate for immediate subsidence), overhanging ledges, and crevices. The reef materials shall be placed in shore parallel formations with the total artificial reef surface area coverage of 3.1 acres. The method used to calculate this acreage shall be the same method that was used to measure the acreage of hardbottom impact, with respect to the inclusion of sand pockets within the reef tracts. Methods of rock surface area calculation shall be provided to the Department with each monitoring report.

- h. Following the completion of the placement of reef construction materials, the permittee shall use remote sensing techniques to survey the artificial reef sites to verify that the required reef area has been created and provides the appropriate average relief as indicated in the permit. If the remote sensing techniques indicate the artificial reef does not meet or exceed the approved mitigation plan, the permittee shall alter the reefs as needed and conduct additional surveys to verify that the permit requirements for artificial reef construction have been satisfactorily completed. If the three year monitoring survey indicates a reduction in the extent of the artificial reef, the permittee shall submit a plan to make up the difference and implement the plan once approved by the Department.
14. 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 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), and shall implement appropriate precautions to ensure protection of the 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. The permittee and/or contractor may be held responsible for any manatee harmed, harassed, or killed as a result of construction activities.
    - c. Prior to commencement of construction, the prime contractor involved in the construction activities shall construct and display at least two temporary signs (placards) concerning manatees. For all vessels, a temporary sign (at least 8.5" X 11") reading "**Manatee Habitat/Idle Speed In Construction Area**" will be placed in a prominent location visible to employees operating the vessels. In the absence of a vessel, a temporary sign (at least 2' X 2') reading "**Caution: Manatee Area**" will be

posted in a location prominently visible to land based, water-related construction crews. A second temporary sign (at least 8.5" X 11") reading "**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 the operation. A collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL-FMP (1-800-342-5367) and the U. S. Fish and Wildlife Service at (1-904-232-2580) for north Florida or (1-561-562-3909) for south Florida.**" will be located prominently adjacent to the displayed issued construction permit. Temporary notices are to be removed by the permittee upon completion of construction.

- d. Siltation barriers shall be properly secured so that manatees cannot become entangled, and monitored at least daily to avoid manatee entrapment. Barriers shall not block manatee entry to or exit from essential habitat.
- e. 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.
- f. If a manatee(s) is 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.
- g. Any collision with and/or injury to a manatee shall be reported immediately to the "Manatee Hotline" at 1-800-DIAL-FMP (1-800-342-5367). **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 (1-561-562-3909) for south Florida.**
- h. The contractor maintains a log detailing sightings, collisions, or injuries to manatees should they occur during the contract period. A report summarizing incidents and sightings shall be submitted to the FWCC Bureau of Protected Species Management, 620 South Meridian Street, Tallahassee, Florida 32399-1600 and to the U. S. Fish and Wildlife Service, 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216-0912. This report must be submitted within 90 days of completion of the activities conducted in accordance with the permit.

15. 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:
- a. Prior to placement of fill over any hard bottom, a revised Mitigation Reef Plan shall be submitted to the Department for approval. The revised plan shall include surveys for the occurrence of juvenile green turtles in the mitigation reef area and control areas in concert with mitigation reef monitoring surveys. Visual assessments of juvenile green turtle occurrence shall be conducted via pedestrian surveys.
  - b. Beach nourishment shall be started after October 31 and be completed before May 1. During the May 1 through October 31 period, no construction equipment or pipes shall be stored on the beach.
  - c. Construction related activities are authorized to occur on the nesting beach (seaward of existing coastal armoring structures or the dune crest) during the early (March 1 through April 30) nesting season under the following conditions.
    - 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 March 1 and continue until October 31. Only those nests that may be affected by construction 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. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. 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.
    - ii. No construction activity may commence on any previously undisturbed section of adjacent beach more than 50 feet from the active work site until completion of the marine turtle survey each day unless the permittee has made provisions for nighttime marine turtle surveys of the area prior to any work, including movement of equipment or pipes, in that area.
  - d. It is the responsibility of the permittee to ensure that the project area and 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.

- e. If the beach nourishment project will be conducted during the period from November 1 through November 30, nest marking or nest relocation shall be initiated in accordance with the requirements outlined above at least 65 days prior to project initiation and continue through November 30.
- f. From March 1 through April 30 and November 1 through November 30, 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. Lighting on offshore equipment shall be minimized through reduction, shielding lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all U.S. Coast Guard and OSHA requirements.
- g. From March 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.
- h. The applicant shall arrange a meeting between representatives of the contractor, the Department, the FWC, and the permitted person responsible for egg relocation at least 30 days prior to the commencement of work on this project. At least 10 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.
- i. 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.
- j. All fill material placed shall be sand that is similar to that already existing at the beach site in both coloration and grain size distribution and shall be suitable for marine turtle nesting.
- k. To ensure that the requirements for similarity of fill material to native beach sands are met, the permittee shall submit a Sand Quality Control Plan as required in the notice to proceed requirement above (specific condition 5(c)).



contour before March 1st. An annual summary of this survey and any action taken shall be submitted to the Department.

- o. During marine turtle nesting season (March 1st to October 31st), weekly visual surveys for escarpment formation shall be conducted within the project area. These surveys shall be conducted for three nesting seasons following beach nourishment. An annual summary of these surveys and any action taken shall be submitted to the Department together with the annual survey data from item (n) above of this permit. Weekly surveys shall include:
  - i. The number of escarpments and their location relative to DNR-DEP reference monuments shall be recorded. Notations on the height of any escarpments shall be included (0 to 18 inches, 18 inches to 4 feet, 4 feet or higher) as well as the maximum height of all escarpments.
  - ii. Escarpments that exceed 18 inches in height for a distance of 100 feet shall be reported in writing to the Department 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 Department.
  - iii. Any escarpments that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by March 1. 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, then the Department shall be contacted immediately to determine the appropriate action to be taken. Upon written notification, the permittee shall level escarpments in accordance with mechanical methods prescribed by the Department.
- p. Reports on all nesting activity shall be provided for the initial nesting season and for a minimum of two additional nesting seasons by January 31 of the following year. Monitoring of nesting activity in the two seasons following construction shall include daily surveys and additional measures required by the Department as outlined in the table below. Reports submitted shall include daily report sheets or a summary of the field sheets noting all activity, nesting success rates, hatching success rates of all relocated nests, hatching success of a representative sample of nests left in place (if any), dates of construction and names of all personnel involved in nest surveys and relocation activities. All information shall separate data from areas that receive fill from those that do not receive fill or control areas. These control areas shall be of similar length to the project area. Two or more years of existing preconstruction monitoring data should be submitted with the first postconstruction monitoring report, and prior to each subsequent nourishment.

Characteristic	Parameter	Measurement	Variable
Nesting Success	False crawls – number	Visual assessment of all false crawls	Number and location (i.e., fill or control or not filled) of false crawls
	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
	False crawls & nests – location	The location of every false crawl and false nest shall be marked on a aerial photograph and referenced to the R-monument	Position of false crawl and nest and mapped locations
	Nests	Location of all marine turtle nests shall be marked on an aerial photograph, and approximate distance to the tide or wrack line estimated	Number and location, (i.e., fill or control or not filled) of nests, distance to wrack line (recommended). Any abnormal cavity morphologies should be reported.
		Lost Nests	The number of marked nests lost to inundation, erosion or the number of inundated nests or the number with lost markers that could not be relocated
Reproductive Success	Emergence & hatching success	Standard survey protocol	Numbers of the following: unhatched eggs, depredated eggs, live pipped eggs, dead pipped eggs, live hatchlings in nest, dead hatchlings in nest, hatchlings emerged as well as the number of inundation events. Depth from surface to top and bottom of nest cavity should also be reported.

- q. Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the Florida Department of Environmental Protection at 1-800-DIAL FMP. 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.
- r. If a hopper dredge is proposed to be employed in the project construction, then all conditions in the NMFS Biological Opinion for hopper dredging along the S.E. U.S. Atlantic Coast (dated August 25, 1995) must be followed, and the Office of Protected Species shall be sent copies of the reports specified in Condition 6 of the Biological Opinion.

## MONITORING REQUIRED:

### 1. Water Quality Monitoring

#### Borrow Site:

Parameter: Turbidity - Nephelometric Turbidity Units (NTUs)

Frequency: Every six hours during dredging.

Background: At least 150 meters upcurrent from the dredge site, outside of any visible turbidity plume. Samples shall be collected from the surface and 1 meter above the bottom.

Compliance: No more than 150 meters downcurrent from the dredge site, in the densest portion of any visible turbidity plume. Samples shall be collected from the surface and 1 meter above the bottom.

#### Beach Nourishment Site:

Parameter: Turbidity - Nephelometric Turbidity Units (NTUs)

Frequency: Every six hours during dredging.

Background: At least 150 meters upcurrent from the discharge point, outside of any visible turbidity plume. Samples shall be collected from the surface and 1 meter above the bottom.

Compliance: No more than 300 meters offshore and 1,000 meters downcurrent from the discharge point within the densest portion of any visible turbidity plume. Samples shall be collected from the surface and 1 meter above the bottom.

Weekly summaries of all monitoring data shall be submitted to the Office of Beaches and Coastal Systems and to the Southeast District Office within one week of analysis with documents containing the following information: (1) permit number; (2) dates and times of sampling and analysis; (3) a statement describing the methods used in collection, handling, storage and analysis of the samples; (4) a map indicating the sampling locations; and (5) 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) wave height.

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 beach compliance site greater than 29 NTUs above the associated background turbidity levels,

construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.

2. **Biological Monitoring.** The permittee shall submit a biological report within 90 days of completion of the post-construction survey and each annual survey. The report shall summarize the results of the biological surveys and the monitoring of the mitigation areas and identify any adverse impacts that would be attributable to the project. Each report shall compare the current conditions to a) the pre-construction baseline survey, b) the first post-construction survey, and c) any previous annual survey(s) (where applicable). Each report shall contain an analysis and discussion of the video documentation in regards to any burial, subsidence, sedimentation, or trauma that has affected the marine algae, coral, sponges, or other related biological communities. In addition to the standard monitoring of physical stability and taxonomic lists of species, the plan should include ecological comparisons to adjacent hard bottom reefs that examine variables such as indices of recruitment for larval/juveniles, predation rates and prey vulnerability, and size structure of fish and selected invertebrates.
  - a. Natural nearshore hardbottom: To verify that the project will not have an adverse affect on the natural nearshore reef located approximately 1,000 ft. to the north of the project, underwater surveys, with video documentation, of the nearshore hardbottom located north of the project area shall be taken immediately prior to construction, immediately after construction, and annually thereafter for a period of three years, unless otherwise determined by the Department following the third annual survey. DGPS navigational coordinates of the dives shall be referenced on the video transects and overlaid on recent aerial photography.
  - b. Mitigation Artificial Reef. Underwater surveys of the mitigation artificial reef, with video documentation, shall be taken immediately prior to construction, immediately after construction, and annually thereafter for a period of three years, unless otherwise determined by the Department following the third annual survey. DGPS navigational coordinates of the dives shall be referenced on the video transects and overlaid on recent aerial photography. If the three year monitoring survey indicates a reduction in the extent of the artificial reef, the permittee shall submit a plan to make up the difference and implement the plan once approved by the Department.
  - c. Hardbottom reef adjacent to the borrow areas, during construction phase surveys. Visual assessment of the condition and status of the benthic hardbottom community adjacent to the borrow area will be conducted at least once a week during periods of active dredging. During the survey, a qualified biologist using scuba will visually inspect the hardground areas that are adjacent to the borrow area. The biologist will note the general level of sediment and watch for indications of impact from sedimentation. Possible or imminent sediment impacts refer to identification of conditions or observations that indicate benthic

organisms are being, or have been stressed by factors other than natural events. Thus, indications of possible impact will be based on comparative observations between borrow area locations and the "control" or comparison sites. In the event that an indication(s) of pending or imminent impact to benthic community components are documented during the construction surveys, the Department will be notified immediately of the possibility of increased sedimentation levels on the reefs. Notification will be by phone, radio or fax, and followed by a written report to be submitted within 24 hours, or on the next work day if the indicators are noted on a weekend or holiday. Indicators of possible of imminent impact include but are not limited to: (a) Standing sediment on hard corals, soft corals, sponge or other organisms that is not removed by normal currents or wave action; (b) Excessive mucus on hard corals, without indications of bleaching; (c) Excessively extruded polyps (e.g., sediment removal process); and (d) Mottling of color of benthic organisms (soft corals, algae, sponges, etc).

3. **City of Lake Worth Emergency Sewage Outfall Monitoring.** The permittee shall conduct a pre and post construction assessment of the sewage outfall pursuant to the requirements of the City of Lake Worth Utilities Department. Any damage to the outfall caused by the project (e.g., due to contractor error or failure due to undermining caused by erosion into the borrow site, etc.) shall be restored by the permittee to the satisfaction of the City of Lake Worth Utilities Department.
4. **Bathymetric Monitoring.** A hydrographic monitoring program shall be conducted for a minimum of three (3) years following completion of construction, unless otherwise determined by the Department following the third annual survey. The permittee may incorporate the requirements of this monitoring plan into existing monitoring programs being conducted. The hydrographic monitoring program shall include the following:
  - a. Beach and offshore profile surveys shall be conducted immediately prior to sand placement, immediately following completion of the project, and annually thereafter for a minimum of three (3) years following completion of construction, unless otherwise determined by the Department following the third annual survey. Profiles shall be surveyed at DEP reference monuments R-113 through R-129. The profile alignments shall be identical to the azimuths previously established for each monument. All beach profiles shall extend from the monument at least 1,500 feet seaward and out to the depth of closure if greater. Additional surveys may be required following a major storm as determined by the Department.
  - b. The permittee shall submit an engineering report and the monitoring data to the Office of Beaches and Coastal Systems within 90 days of completion of the post-construction survey and each annual survey. The survey data should be submitted on floppy disk in an ASCII format stored according to the department's standards for file structure (contact the Office staff for additional information on specific requirements). The report should

