

intervals. The contractor elected to use large tractor tires which were slid over the pipeline and secured in place by pieces of chain that were passed through the side-wall of the tire and attached to "eyes" welded to the exterior of the pipe. Underwater surveys of the pipeline indicated that the tires were successful in holding the pipe off the bottom to a much greater extent than seen in previous projects.

Any impacts to the first reef from placing the pipeline will be appropriately mitigated. The preferred mitigation program would provide for "in-kind" mitigation. For the proposed project this would mean providing relatively low relief shallow water habitat composed of limerock or carbonate based reef materials and placed as close to the impacted area as possible. Currently there are two reef components in use that would satisfy the preferred material conditions. One is limerock boulders and the other is prefabricated modules composed of pre-cast concrete culvert, with limerock grouted to the exterior surface. The prefabricated modules were used to mitigate for the 1997 Sunny Isles and Miami Beach project and the 1999 Surfside and South Miami Beach project. A mitigation plan specific to this project would be developed in coordination with FDEP, DERM, and the Corps.

Fish are a highly motile group of organisms. During dredging most fish species will avoid the dredge area and quickly return upon dredging completion. No long-term impacts are expected to fish communities inhabiting the borrow area. The rock disposal area should provide a substrate that will act as an artificial reef and be beneficial to fish. Many gamefish species, both juveniles and adults, are associated with these areas. Hardgrounds generally display increased productivity compared to sand bottoms.

#### 4.4.4 DISTANT DOMESTIC AND UPLAND SAND SOURCES

The use of any of these sand sources would not have any of the adverse affects on the local hardground communities that would be associated with the dredging of an offshore borrow area. However, using other offshore sources would involve dredging at the location of the source of sand. The impacts of dredging at alternate sites cannot be predicted, not knowing location of the area(s) that would be dredged or the types of habitats present. It is expected that any hardground that might be present would be avoided to the extent practicable and that unavoidable impacts would be mitigated. Using an alternate offshore source would require pumping the material to the beach from the transport vessel. This would also be required if upland sand were barged to the project area and trucks were not used to haul the material to the beach. Both these options would have the same impacts to the nearshore reef community (from pipeline placement) as discussed for the borrow areas south of Government Cut in Section 4.4.3.

4.4.5 NO ACTION ALTERNATIVE (STATUS QUO)  
With the no action alternative, none of the impacts associated with dredging an offshore borrow area would occur.

#### 4.5 ESSENTIAL FISH HABITAT

Impacts to EFH from the proposed project are discussed in detail in Section 4.4 and 4.7 of this EA.

Proper controls and procedures (buffer zones, buoys, real-time positioning, GPS, etc.) will be implemented to avoid mechanical damage to hardbottom communities adjacent to the ebb shoal borrow area. In addition, a monitoring program would be conducted to look for signs of stress or impact related to the construction activities before non-reversible impacts occur. With these precautions in place, no significant impact to the nearshore hardbottom communities adjacent to the ebb shoal borrow area are expected.

There will also be temporary turbidity impacts to the water column from dredging and beach fill activities in the vicinity of the borrow area and beach fill site. Turbidity is not expected to exceed the State standard of 29 NTU's above background.

#### 4.6 COASTAL BARRIER RESOURCES

The purpose of the Coastal Barrier Resources Act is to minimize the loss of human life, wasteful expenditure of Federal moneys; and the damage to fish, wildlife, and other resources associated with the coastal barriers along the Atlantic coast by restricting future Federal expenditures and financial assistance, which have the effect of encouraging development of these coastal barriers. There are no designated Coastal Barrier Resource Act Units located within or adjacent to the project area.

#### 4.7 WATER QUALITY

The proposed action would cause temporary increases in turbidity at borrow area and beach disposal sites. The State of Florida water quality regulations require that water quality standards not be violated during dredging operations. The standards state that turbidity outside the mixing zone shall not exceed 29 NTU's above background. Results from turbidity monitoring at previous beach nourishment projects have shown that the turbidity did not exceed the standard. Various protective measures and monitoring programs would be conducted during construction to ensure compliance with state water quality criteria. Should turbidity exceed State water quality standards as determined by monitoring, the contractor would be required to cease work until conditions returned to normal. The proposed action has been evaluated in accordance with Section 404 of the Clean Water Act and a 404(b) evaluation report has been included as Appendix A to this EA. The use of other submerged borrow sites would have similar turbidity impacts on water quality as using the proposed borrow area. Use of upland sources would not have the impacts associated with dredging an

offshore borrow area, but would have the same impact along the beach fill area.

#### **4.8 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE**

There are no hazardous, toxic, or radioactive waste sites or producers in the project area that would be affected as a result of the preferred alternative. No impacts associated with the disturbance of such sites are anticipated from either the recommended or no-action alternatives. However, use of previously uninvestigated borrow sources would require examination for potential problems with harmful substances. This would involve examination of recorded spills and a "Preliminary Assessment Screen". If these indicate a potential for contamination, we would either try to avoid the potential contamination, look for another site, or consider remediation.

With the use of dredging and construction equipment in the in the areas around the borrow and beach fill sites, there is the potential for hydrocarbon spills or other effluent releases. However, the likelihood of significant accidents and releases of this sort is very remote. The contract specifications will require the contractor to develop accident and spill prevention plans. The no-action alternative should not allow conditions to develop that would increase accidents or releases of this sort.

#### **4.9 AIR QUALITY**

Direct emissions from the proposed action would be confined to exhaust emissions of labor transport equipment (land and water vehicles), and construction equipment (dredge barges), and likely well under the *de minimus* levels for ozone non-attainment areas as cited in 40 CFR 91.853; that is, projects implemented cannot produce total emissions greater or equal to 100 tons per year of Volatile Organic Compounds (VOCs). Any indirect increase in emissions (indirect emissions), as a result of the proposed action is beyond the control and maintenance of the USACE. Consequently, a conformity determination with the Florida State Implementation Plan is inappropriate for increases of indirect emissions from the proposed action. As with the proposed action and alternatives, the no-action alternative will see continued development, which may cause marginal adverse impacts to air quality. The extent of these impacts, however, is difficult to predict.

#### **4.10 NOISE**

With the implementation of the proposed action there would be a temporary increase in the noise level during construction. The principle noise would stem from the vicinity of the discharge point on the beach, the breakwater construction site and the dredge. Construction equipment would be properly maintained to minimize the effects of noise. Increases from the current noise levels as a result of the proposed action would be localized and minor,

and limited to the time of construction. There would be no noise related impacts associated with the no-action alternative.

#### **4.11 AESTHETICS**

There would be a temporary increase in the noise level during construction. The principle noise would stem from the vicinity of the discharge point on the beach and the dredge. Construction equipment would be properly maintained to minimize the effects of noise. Increases to the current levels of noise as a result of this project would be localized and minor, and limited to the time of construction. Engine exhaust fumes would be rapidly carried away by breezes. Any temporary decrease in air quality caused by this work would be corrected once work is completed. Hundreds of feet of dredge pipe lying on the beach or just offshore would have a negative visual impact on the aesthetics of the area. This impact would only be temporary and would be removed along with the pipe at the completion of the work. The negative visual impacts of the equipment and pipe would be offset to an extent by the natural curiosity of some individuals to see what is going on and how work is progressing. There would also be a temporary increase in turbidity during construction adjacent to the point of discharge. Turbidity would return to normal levels once construction activities cease. Once completed the proposed project would result in an overall improved aesthetic quality. The placement of sand on the beach would restore the natural appearance of the shore. With the no-action alternative, the shoreline would continue to erode. This would result in the loss of existing the shoreline, which would reduce the visual aesthetics of the area.

#### **4.12 RECREATION**

During nourishment activities, the use of the beach in the vicinity of construction would drop or be restricted temporarily. Use of the beach in the immediate area of the discharge pipe and equipment would be restricted for public safety. Noise from the heavy equipment needed to spread and smooth the sand would disturb some users as well. Many visitors would seek quieter areas for sunbathing or swimming. As portions of the renourished beaches come available, use by the general public would increase once more. After nourishment of the beach, use by the general public and those who stay at the condominiums and hotels would return to pre-erosion activity levels. The general public would be more inclined to use these beaches rather than by-passing them for others with more sand above the high tide line. There would be a temporary adverse effect on recreational fishing in the immediate area of beach fill operations and at the borrow area due to construction activities and turbidity. Fishing would not be affected outside the area of immediate construction. Nearshore snorkeling, and SCUBA diving activities may also be impacted by increased turbidity during construction activities and shortly thereafter. Long-term adverse impacts to these water activities are not anticipated. Boat operations may be detoured during construction activities; however, the extent of these

detours and time frame of operations render these impacts insignificant. With the no-action alternative, the shoreline would continue to erode. This would eventually reduce the amount of beach available for recreation and would result in the degradation or loss of shorefront property thus, adversely impacting beach recreational opportunities within the area. There would be no construction related impacts to fishing, snorkeling and SCUBA diving with the no-action plan.

#### **4.13 HISTORIC PROPERTIES**

As stated previously, archival research and field investigations were conducted for the ebb shoal borrow area proposed for this project. Five magnetic anomalies were identified during the survey. Each anomaly was determined to be modern debris and not a potentially significant cultural resource. A report describing these investigations was coordinated with the SHPO. In a letter dated November 18, 1997, the SHPO concurred with the Jacksonville District's no effect determination for the anomalies in the vicinity of the borrow area

#### **4.14 ENERGY REQUIREMENTS AND CONSERVATION**

The energy requirements for this construction activity would be confined to fuel for the dredge, labor transportation, and other construction equipment. The expenditure of energy would be much less using the proposed ebb shoal borrow area than obtaining material from other sources described in the alternatives section. For example, obtaining sand from the SGC-EXT-2 borrow area or other distant sources would require the use of more energy to transport the sand for beach fill. The use of upland sand would most likely require the expenditure of additional energy to perform repairs to local roads and highways damaged by trucks hauling material to the beach. The no-action alternative would allow conditions to develop that may endanger coastal property from storm surges and wave erosion during future storm events. On-site preventive measures and post clean-up under the no-action alternative would likely demand greater energy than that required of the proposed action.

#### **4.15 NATURAL OR DEPLETABLE RESOURCES**

In this case, the beach quality sand used to construct the project is the depletable resource. Using sand from the proposed borrow area would temporarily deplete the sand source from the areas dredged at that site. Eventually the sand will be redistributed over nearshore areas. However, the borrow area is located in the active ebb shoal for Baker's Haulover Inlet and therefore, would recover over time. The gasoline and diesel fuel used by the dredge and other construction equipment is also a depletable resource.

#### **4.16 CUMULATIVE IMPACTS**

Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR

1508.7). The use of sand from the proposed borrow area will deplete the area of sand and species of relatively non-motile infaunal invertebrates (mollusks). However, many of those species that are not able to escape the construction area are expected to recolonize after project completion. The proposed action would result in long-term benefits, which should outweigh any short-term environmental losses. The cumulative impact of shore protection projects along the Florida coast has been to restore and maintain many beaches which otherwise would have experienced severe erosion or would have totally disappeared. In addition, these activities have reduced property damage and helped maintain property value.

#### **4.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

##### **4.17.1 IRREVERSIBLE**

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource. The energy and fuel used during construction would be an irreversible commitment of resources.

##### **4.17.2 IRRETRIEVABLE**

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction. Benthic organisms within the borrow area and beach fill area that would be eliminated during construction would be irretrievably lost for a period of time. However, the high rate of repopulation expected from these organisms reduces the significance of the loss.

#### **4.18 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS**

Species of relatively non-motile infaunal invertebrates that inhabit the borrow area will unavoidably be lost during dredging. Those species that are not able to escape the construction area are expected to recolonize after project completion. There would be an unavoidable reduction in water clarity and increased turbidity and sedimentation. This would be limited to the immediate areas of dredging and beach fill operations. This impact will be temporary and should disappear shortly after construction activities cease.

#### **4.19 LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

We recognize that protection of the shoreline is a continual effort. No acceptable and permanent one-time fix has been identified. Using periodic renourishment is an ongoing effort. Renourishment efforts have a temporary and short-term impact on the biological resources on and near the shore.

Removal of material from offshore borrow sites has a long-term impact on the nature of the borrow site. However, these impacts are not substantial since

there are no special resources within the borrow site and some resources remain after dredging.

## 5. ENVIRONMENTAL COMMITMENTS

The U.S. Army Corps of Engineers and contractors commit to avoiding, minimizing or mitigating for adverse effects during construction activities by including the following commitments in the contract specifications:

(1) Inform contractor personnel of the potential presence of sea turtles and manatees in the project area, their endangered status, the need for precautionary measures, and the Endangered Species Act prohibition on taking sea turtles, manatees and other threatened or endangered species.

(2) Take precautions during construction activities to insure the safety of the manatee. To insure the contractor and his personnel are aware of the potential presence of the manatee in the project area, their endangered status, and the need for precautionary measures, the contract specifications would include the standard protection clauses concerning manatees. The contractor would instruct all personnel associated with the construction of the project about the presence of manatees in the area and the need to avoid collisions with manatees. All vessels associated with the project shall operate at 'no wake' speeds at all times while in shallow waters, or channels, where the draft of the boat provides less than three feet clearance of the bottom. Boats used to transport personnel shall be shallow draft vessels, preferably of the light-displacement category, where navigational safety permits. Vessels transporting personnel between the landing and any workboat shall follow routes of deep water to the extent possible. Shore crews or personnel assigned to the disposal site for the workshift shall use upland road access if available. All personnel would be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Endangered Species Act and the Marine Mammal Protection Act. The contractor shall be held responsible for any manatee harmed, harassed, or killed as a result of the construction of the project. If a manatee is sighted within 100 yards of the dredging area, appropriate safeguards would be taken, including suspension of dredging, if necessary, to avoid injury to manatees. The contractor shall keep a log of all sightings, collision, injuries, or killings of manatees during the contract period. Any manatee deaths or injuries will be immediately reported to the Corps of Engineers and the USFWS (Vero Beach Office).

(3) To minimize adverse impacts to sea turtles the Corps will implement the terms and conditions as stated in the NMFS Regional Biological Opinion for hopper dredging on the Southeast Atlantic Coast as amended on September 25, 1997. The Corps will also implement all the terms and conditions applicable to Dade County as outlined in the USFWS Biological Opinion for Region III of the Coast of Florida Erosion and Storm Effects Study issued on

October 24, 1996 and amended on October 4, 2000. Measures to minimize adverse effects to sea turtles are summarized below:

a. Nourished beaches would be plowed to a depth of at least 36 inches within one week following the completion of the entire beach nourishment (or sooner on completed sections) if sand compaction is greater than 500 cone penetrometer units.

b. Nourished beaches would be checked for compaction every 500 feet along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area); one station shall be located between the dune line and the high water line; and one station shall be located just landward of the mean high water line. At each station three readings would be made at 6, 12, and 18-inch depths three time (three replicates). If any two or more adjacent stations have compaction at the same depth greater than 500 cone penetrometer units, the area would be plowed to a depth of at least 36 inches immediately prior to April 1. This process would be completed for three consecutive years following project completion.

c. Nest relocation activities must begin 65 days prior to nourishment activities which occur within the nesting and hatching season (April 1 - November 30) or by April 1, whichever is later. Nest surveys and relocations shall continue through the end of the project or September 30, whichever is earlier.

d. Nest surveys and relocations would be conducted by personnel with prior experience and training in nest survey and relocation procedures, and with a valid permit from the Florida Fish and Wildlife Conservation Commission (FWC) for handling sea turtles and relocating nests.

e. Nests would be relocated between sunrise and 9 a.m. each day, and the relocation would be to a nearby hatchery in a secure setting where artificial lighting would not conflict with hatchling orientation.

f. In the event a turtle nest is dug up by beach construction activities, the contractor shall immediately notify the FWC permitted

individual responsible for nest relocation so that the nest can be moved to the beach hatchery.

g. A report describing the actions taken to implement the terms and conditions shall be submitted to the USFWS within 60 days of completion of the proposed work for each year when activity has occurred. The report shall include the dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, descriptions and locations of the hatcheries, nest survey and relocation results and hatching success of the nests.

h. Nourished beaches would be surveyed for escarpments immediately after construction and prior to April 1, for 3 subsequent years. Any escarpments that exceed 18 inches in height and 100 feet length would be leveled by April 1.

i. Measures will be taken to reduce night time beach lighting including: eliminating extraneous lighting to an amount necessary for safe operations and safety of personnel.

The following would apply if a hopper dredge were to be used:

j. The drag arms of the hopper dredge will be fitted with a rigid sea turtle deflector draghead, and modified as necessary to eliminate sites of inadvertent entrainment of sea turtles.

k. The inflow to the hoppers will be screened as close to 100% as possible. There will be 100% observer coverage to monitor the screens for evidence of turtle take.

l. To minimize the potential for sea turtle entrainment, the dredge pumps would be shut down before the draghead is lifted off the bottom and would not be turned on until the draghead is placed on the bottom. NOTE: If the actual dredging operation has difficulty with this procedure, the Corps reserves the right to re-consult with NMFS to delete or modify this requirement.

(4) Monitor turbidity at both the dredging and discharge sites. Should monitoring reveal turbidity levels above State standards, outside the allowable mixing zone, work would be suspended until turbidity levels return to within those standards.

(5) Precautions would be implemented during construction to minimize potential impacts to the nearshore hardground communities adjacent to the ebb shoal borrow area.

## **6. COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS**

### **6.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969**

Environmental information on the project has been compiled and a Draft Environmental Impact Statement, dated March 2002 has been prepared and will be circulated to the appropriate Federal, State and local agencies and other interested parties for their review and comment. The project is in compliance with the National Environmental Policy Act.

### **6.2 ENDANGERED SPECIES ACT OF 1973**

In a letter dated March 1, 2000 the Corps submitted project information to the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act. In the letter the Corps had determined that the proposed project activities were covered under their Regional Biological Opinion (RBO) on hopper dredging along the Southeast Atlantic Coast as amended on September 25, 1997. In a letter dated March 13, 2000 the NMFS concurred with that determination. The Corps has determined the proposed project may affect but is not likely to adversely affect sea turtles under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS). In a letter dated February 29, 2000 the Corps determined that the USFWS Programmatic Biological Opinion, issued on October 24, 1996, for Region III of the Coast of Florida Erosion and Storm Effects Study applied to Haulover Beach Park project. The Corps has also determined that the changes to the "Reasonable and Prudent Measures" and "Terms and Conditions" as stated in USFWS letter dated October 4, 2000 also apply. Refer to Appendix C for correspondence. The Corps is currently awaiting submittal of a BO specific to this project from the USFWS. Once the BO is issued the project will be fully coordinated under the Endangered Species Act and therefore, in full compliance with the Act.

### **6.3 FISH AND WILDLIFE COORDINATION ACT OF 1958**

This project has been coordinated with the U.S. Fish and Wildlife Service (USFWS). Information concerning the project design, borrow area location, geotechnical data on the fill material, dredging methodology and the location of hardbottom communities has been provided to the USFWS. Several previous fish and wildlife studies have been conducted by the USFWS for the Dade County BEC & HP Project, including the ebb shoal borrow area proposed for the renourishment at Haulover Beach Park. (USFWS, 1997a, 1997b, 2001). The recommendations of the USFWS have been given full consideration in developing the design of this project. This project is in full compliance with the Act.

### **6.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)**

(PL 89-665, the Archeology and Historic Preservation Act (PL 93-291), and executive order 11593) Archival research, field investigations, and consultation with the Florida State Historic Preservation Officer (SHPO), have been conducted in accordance with the National Historic Preservation Act, as amended; the Archeological and Historic Preservation Act, as amended and Executive Order 11593. Refer to Section 4.13 for results of SHPO consultation. The project will not affect historic properties included in or eligible for inclusion in the National Register of Historic places. The project is in compliance with each of these Federal laws.

### **6.5 CLEAN WATER ACT OF 1972**

The project is in compliance with this Act. On July 27, 2001 the Florida Department of Environmental Protection issued Water Quality Certification (permit no. 0128781-00-JC. All State water quality standards would be met. A Section 404(b) evaluation is included in this report as Appendix A. A public notice was issued on February 3, 2000 that will satisfy the requirements of Section 404 of the Clean Water Act.

### **6.6 CLEAN AIR ACT OF 1972**

Refer to Section 4.9 in the EA for a discussion on the compliance with the Clean Air Act General Conformity Rules. No air quality permits would be required for this project. This project has been coordinated with U.S. Environmental Protection Agency (EPA) and is in compliance with Section 309 of the Act. The draft EA will be forwarded to EPA for their review.

### **6.7 COASTAL ZONE MANAGEMENT ACT OF 1972**

A federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as Appendix B. State consistency review would be performed during the coordination of the draft EA.

### **6.8 FARMLAND PROTECTION POLICY ACT OF 1981**

No prime or unique farmland would be impacted by implementation of this project. This act is not applicable.

### **6.9 WILD AND SCENIC RIVER ACT OF 1968**

No designated Wild and Scenic river reaches would be affected by project related activities. This act is not applicable.

### **6.10 MARINE MAMMAL PROTECTION ACT OF 1972**

Incorporation of the safe guards used to protect threatened or endangered species during dredging and disposal operations would also protect any

marine mammals in the area, therefore, this project is in compliance with the Act.

**6.11 ESTUARY PROTECTION ACT OF 1968**

No designated estuary would be affected by project activities. This act is not applicable.

**6.12 FEDERAL WATER PROJECT RECREATION ACT**

The principles of the Federal Water Project Recreation Act, (Public Law 89-72) as amended, have been fulfilled by complying with the recreation cost sharing criteria as outlined in Section 2 (a), paragraph (2). Another area of compliance includes the public beach access requirement on which the renourishment project hinges (Section 1, (b)).

**6.13 FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976**

The project has been coordinated with the National Marine Fisheries Service (NMFS) and is in compliance with the act (refer to correspondence in Appendix C from NMFS).

**6.14 SUBMERGED LANDS ACT OF 1953**

The project would occur on submerged lands of the State of Florida. The project has been coordinated with the State and is in compliance with the act.

**6.15 COASTAL BARRIER RESOURCES ACT & COASTAL BARRIER IMPROVEMENT ACT OF 1990**

There are no designated coastal barrier resources in the project area that would be affected by this project. These acts are not applicable.

**6.16 RIVERS AND HARBORS ACT OF 1899**

The proposed work would not obstruct navigable waters of the United States. The proposed action has been subject to the public notice (February 3, 2000), with opportunity for a public hearing, and other evaluations normally conducted for activities subject to the act. The project is in full compliance.

**6.17 ANADROMOUS FISH CONSERVATION ACT**

Anadromous fish species would not be affected. The project has been coordinated with the National Marine Fisheries Service and is in compliance with the act.

**6.18 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT**

No migratory birds would be affected by project activities. The project is in compliance with these acts.

**6.19 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT**

The term "dumping" as defined in the Act (33 U.S.C. 1402)(f) does not apply to the disposal of material for beach nourishment. Therefore, the Marine Protection, Research and Sanctuaries Act does not apply to this project. The disposal activities addressed in this EA have been evaluated under Section 404 of the Clean Water Act.

**6.20 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT**

This Act requires the preparation of an Essential Fish Habitat (EFH) Assessment and coordination with NMFS. The EFH Assessment has been integrated within the draft EA and will be coordinated with NMFS during the normal NEPA coordination.

**6.21 E.O. 11990, PROTECTION OF WETLANDS**

No wetlands would be affected by project activities. This project is in compliance with the goals of this Executive Order.

**6.22 E.O. 11988, FLOOD PLAIN MANAGEMENT**

The project is in the base flood plain (100-year flood) and has been evaluated in accordance with this Executive Order. Refer to Dade County Beaches, Florida, Beach Erosion Control and Hurricane Surge Protection, General Design Memorandum, Phase I, 1974. Project is in compliance.

**6.23 E.O. 12898, ENVIRONMENTAL JUSTICE**

The proposed action would not result in adverse human health or environmental effects, nor would the activity impact subsistence consumption of fish or wildlife. Project is in compliance.

**6.24 E.O. 13089, CORAL REEF PROTECTION**

The proposed action may affect U.S. coral reef ecosystems as defined in the Executive Order. Precautions would be implemented during construction to minimize impacts. Project is in compliance.

## 7. LIST OF PREPARERS

### 7.1 PREPARERS

This Environmental Assessment was prepared by the following personnel:

Preparer	Discipline	Role
Michael Dupes	Biology	Principal Writer
Thomas Birchett	Archeology	Historic Properties
Doug Rosen	Coastal Geology	Geotechnical Analysis

### 7.2 REVIEWERS

This Environmental Assessment was reviewed by Kenneth Dugger, Acting Chief, Environmental Branch.

## 8. PUBLIC INVOLVEMENT

### 8.1 SCOPING AND DRAFT EA

Scoping for the proposed action was initiated by a Public Notice dated February 3, 2000. The Public Notice was distributed to the appropriate Federal, State and Local agencies, appropriate city and county officials, and other parties known to be interested in the project. Copies of the Public Notice, the list of addressees used to distribute the notice, and letters of response are included in Appendix C, Pertinent Correspondence. A Notice of Availability of this draft EA will be prepared and sent to appropriate Federal,

State and Local agencies, appropriate city and county officials, and other interested parties.

### 8.2 AGENCY COORDINATION

The proposed project has been coordinated with the following agencies: U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Environmental Protection Agency, Florida State Clearinghouse, Florida State Historic Preservation Officer (SHPO), Florida Fish and Wildlife Conservation Commission, and the Florida Department of Environmental Protection.

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**APPENDIX A - SECTION 404(B) EVALUATION**

**SECTION 404(b) EVALUATION**

**SECOND PERIODIC RENOURISHMENT  
AT HAULOVER BEACH PARK  
DADE COUNTY BEACH EROSION CONTROL  
AND HURRICANE PROTECTION PROJECT  
DADE COUNTY, FLORIDA**

I. Project Description

a. Location. The project is located in Dade County on the southeast coast of Florida. Haulover Beach Park is a County park bounded by Bakers Haulover Inlet to the south and the town of Sunny Isles to the north. The proposed work will be performed as a part of the Dade County Beach Erosion Control and Hurricane Protection Project. Refer to the project location map, figure 1, in the Environmental Assessment (EA).

b. General Description. The placement of about 114,000 cubic yards of material will be required along the beachfront at Haulover Beach Park. The fill will extend from the border with Sunny Isles southward approximately 2,600 feet. The construction berm width is 120 feet from the ECL at an elevation of +9 feet mean low water (MLW), with a construction tolerance of +/- 0.5 feet. The front slope of the fill will be 1 vertical on 10 horizontal (refer to figure 2, project plan view and figure 3, typical beach profile in EA). The proposed borrow area is located within the ebb shoal northeast of Bakers Haulover Inlet in 10 to 20 feet of water (figures 1 & 4 in EA).

c. Authority and Purpose. Initial authorization came from the Flood Control Act of 1968 authorization of the Beach Erosion Control and Hurricane Protection (BEC & HP) Project for Dade County, Florida. In addition, Section 69 of the 1974 Water Resources Act (P.L. 93-251 dated 7 March 1974) included the initial construction by non-Federal interests of the 0.85 mile segment along Bal Harbour Village, immediately south of Bakers Haulover Inlet. The authorized project, as described in HD 335/90/2, provided for the construction of a protective/recreational beach and a protective dune for 9.3 miles of shoreline between Government Cut and Baker's Haulover Inlet (encompassing Miami Beach, Surfside and Bal Harbour) and for the construction of a protective/recreational beach along the 1.2 miles of shoreline at Haulover Beach Park. The Supplemental Appropriations Act of 1985 and the Water Resources Development Act of 1986 (Public Law 99-662) provided authority for extending the northern limit of the authorized project to include the construction of a protective beach along the 2.5 mile reach of shoreline north of Haulover Beach Park (Sunny Isles) and for periodic nourishment of the new beach. This authority also provided for the extension of the period of Federal participation in the cost of nourishing the authorized 1968 BEC & HP Project for Dade County, which covered 10.5 miles of shoreline extending from Government Cut north to the northern boundary of Haulover Beach Park, from 10 years to the 50-year life of the project.

Nourishment of Dade County Beaches has become a necessity to provide storm protection. The purpose of the project is to prevent or reduce loss of public beach front to continuing erosional forces and to prevent or reduce periodic damages and potential risk to life, health, and property in the developed lands adjacent to the beach.

d. General Description of Dredged or Fill Material.

(1) General Characteristics of Material. The material to be excavated is generally light gray to tan, poorly graded shelly sand with a trace of silt and gravel sized shell fragments. The composite mean grain size of the borrow area is 0.54 mm with an average silt content of 2.7 percent. Large carbonate rock fragments do not occur in the borrow area; therefore, rock removal will not be required.

(2) Quantity of Material. The amount material needed for the 2,600-foot length of beach to be renourished is estimated at 114,000 cubic yards.

(3) Source of Material. The proposed borrow area for this renourishment is the ebb shoal at Bakers Haulover Inlet. The area is located approximately 2,000 feet offshore, and just northeast of the inlet in 10 to 20 feet of water (figures 1 & 4 in EA).

e. Description of the Proposed Construction Site.

(1) Location. The location of the beach fill is the northern 2,600 feet of Haulover Beach Park, Dade County, Florida. Refer to figure 2 in EA.

(2) Size. The proposed fill is approximately 2,600 feet long with a berm width of 120 feet.

(3) Type of Site. The site for disposal of the sand material is a segment of eroded, sandy, recreational beach and inshore seabed.

(4) Type of Habitat. The beach disposal area consists of a currently eroding carbonate and quartz sand beach and inshore seabed. The borrow area is characterized by a sandy bottom. There are no known seagrass beds or hardgrounds in the borrow area.

(5) Timing and Duration of Dredging. The exact timing of nourishment is not known. It is anticipated that construction will occur during the fall/winter of 2002.

f. Description of Disposal Method. It is anticipated that the material will be obtained from the ebb shoal borrow area using a hydraulic pipeline dredge. Once the material is pumped on the beach, grading will be performed using construction equipment to achieve the desired construction profile.

II. Factual Determinations

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. The beach fill will be constructed with a berm elevation of +9.0 feet MWL and a width of 120 feet from the ECL. The front slope of the beach fill will be 1 vertical on 10 horizontal. Refer to figure 3 in the EA.

(2) Type of Fill Material. Sand from the borrow area has a high carbonate (shell) content and ranges in size from fine to coarse.

(3) Dredge/Fill Material Movement. The fill material will be subject to erosion by waves with the net movement of fill material to the south.

(4) Physical Effects on Benthos. Some benthic organisms that are not mobile may be lost during dredging and may be covered by the beach fill. Recolonization soon after project completion is expected to replace those organisms that do not survive project construction. It is anticipated that no long-term adverse impacts will occur.

b. Water Circulation, Fluctuation and Salinity Determination.

(1) Water Column Effects. During dredging and beach fill operations, turbidity will increase temporarily in the water column. The increased turbidity will be short-term; therefore fill placement will have no long-term or significant impacts, if any, on salinity, water chemistry, clarity, color, odor, taste, dissolved gas levels, nutrients or eutrophication.

(2) Current Patterns and Circulation. Net movement of water is from the north to the south. The project will have no significant effect on existing current patterns, current flow, velocity, stratification, or the hydrologic regime in the area.

(3) Normal Water Level Fluctuations and Salinity Gradients. Mean tidal range in the project area is 3.5 feet with a spring tide range of approximately 4.1 feet. Salinity is that of oceanic water. Fill placement will not affect normal tide fluctuations or salinity.

c. Suspended Particulate/Turbidity Determinations.

(1) Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Disposal Site. There may be a temporary increase in turbidity levels in the project area during dredging and along the beach fill sites during discharge. Turbidity will be short-term and localized and no significant adverse impacts are expected. State water quality standards for turbidity outside an allowable mixing zone will not be exceeded.

(2) Effects on the Chemical and Physical Properties of the Water Column. The sea floor at this location is characterized by a large sandy shoal. There would be little, if any adverse effects to chemical and physical properties of the water as a result of the use of the proposed borrow area.

(a) Light Penetration. Some decrease in light penetration may occur in the immediate vicinity of the dredging and beach fill areas. This effect will be temporary, limited to the immediate area of construction, and will have no adverse impact on the environment.

(b) Dissolved Oxygen. Dissolved oxygen levels will not be altered by this project due to the high energy wave environment and associated adequate reaeration rates.

(c) Toxic Metals, Organics, and Pathogens. No toxic metals, organics, or pathogens are expected to be released by the project.

(d) Aesthetics. The aesthetic quality of the water in the immediate area of the project will be reduced during construction due to increased turbidity. This will be a short-term and localized condition. The placement of clean beach compatible sand on an erosive beach will likely improve the aesthetic quality of the immediate area.

(3) Effects on Biota.

(a) Primary Productivity and Photosynthesis. Primary productivity is not a recognized, significant phenomenon in the surf zone, where a temporarily increased level of suspended particulates will occur. There will be no effect on the nearshore productivity as a result of the proposed beach fill.

(b) Suspension/Filter Feeders. An increase in turbidity could adversely impact burrowing invertebrate filter feeders within and adjacent to the immediate construction area. It is not expected that a short-term, temporary increase in turbidity will have any long-term negative impact on these highly fecund organisms.

(c) Sight Feeders. No significant impacts on these organisms are expected as the majority of sight feeders are highly motile and can move outside the project area.

d. Contaminant Determinations. Material which will be dredged from the proposed borrow site will not introduce, relocate, or increase contaminants at the fill area. The material is clean sand compatible with the existing beach.

e. Aquatic Ecosystem and Organism Determinations. The fill material that will be dredged from the proposed borrow area and used in the beach erosion control project is similar enough to the

existing substrate so that no impacts are expected. The materials meet the exclusion criteria, therefore, no additional chemical-biological interactive testing will be required.

(1) Effects on Plankton. No adverse impacts on autotrophic or heterotrophic organisms are anticipated.

(2) Effects on Benthos. Some benthic organisms will be buried by the beach fill. Benthic organisms found in the intertidal areas along the project beach are adapted for existence in an area with considerable substrate movement, thus most will be able to burrow up through the fill material. Recolonization is expected to occur within a year after construction activities cease. No adverse long-term impacts to non-motile or motile benthic invertebrates are anticipated. Similar impacts to benthic organisms within the area to be dredged are expected.

(3) Effects on Nekton. No adverse impacts to nektonic species are anticipated.

(4) Effects on the Aquatic Food Web. No adverse long-term impact to any trophic group in the food web is anticipated.

(5) Effects on Special Aquatic Sites.

(a) Hardground and Coral Reef Communities. There are no hardground or coral reef communities located in the immediate nearshore area that would be impacted by beach fill activities.

(6) Endangered and Threatened Species. There will be no significant adverse impacts on any threatened or endangered species or on critical habitat of any threatened or endangered species. Refer to Section 5.0 in the EA for measures that will be implemented to protect endangered and threatened species.

(7) Other Wildlife. No adverse impacts to small foraging mammals, reptiles, or wading birds, or wildlife in general are expected.

(8) Actions to Minimize Impacts. All practical safeguards will be taken during construction to preserve and enhance environmental, aesthetic, recreational, and economic values in the project area. Specific precautions are discussed elsewhere in this 404(b) evaluation and in the EA for this project (refer to Sections 4.0 and 5.0 in the EA).

f. Proposed Disposal Site Determinations.

(1) Mixing Zone Determination. Clean sand, compatible with the existing beach, would be placed on the beach. This will not cause unacceptable changes in the mixing zone water quality requirements as specified by the State of Florida's Water Quality Certification permit procedures. No adverse impacts related to depth, current velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents are expected from implementation of the project.

(2) Determination of Compliance with Applicable Water Quality Standards. Because of the inert nature of the material to be dredged, Class III water quality standards will not be violated.

(3) Potential Effects on Human Use Characteristics.

(a) Municipal and Private Water Supplies. No municipal or private water supplies will be impacted by the implementation of the project.

(b) Recreational and Commercial Fisheries. Fishing in the immediate construction area will be prohibited during construction. Otherwise, recreational and commercial fisheries will not be impacted by the implementation of the project.

(c) Water Related Recreation. Beach/water related recreation in the immediate vicinity of construction will be prohibited during construction activities. This will be a short-term impact.

(d) Aesthetics. The existing environmental setting will not be adversely impacted. Construction activities will cause a temporary increase in noise and air pollution caused by equipment as well as some temporary increase in turbidity. These impacts are not expected to adversely affect the aesthetic resources over the long term and once construction ends, conditions will return to pre-project levels.

(e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. The beach renourishment will take place at Haulover Beach Park, which is a county park. No other such designated sites are located within the project area.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. There will be no cumulative impacts that result in a major impairment of water quality of the existing aquatic ecosystem as a result of the placement of fill at the project site.

h. Determination of Secondary Effects on the Aquatic Ecosystem. There will be no secondary impacts on the aquatic ecosystem as a result of the dredging.

### III. Findings of Compliance or Non-compliance with the Restrictions on Discharge.

a. No significant adaptations of the guidelines were made relative to this evaluation.

b. No practicable alternative exists which meets the study objectives that does not involve discharge of fill into waters of the United States. Further, no less environmentally damaging practical alternatives to the proposed actions (use of the proposed borrow site) exist. The use of upland and or other sand sources would cause the cost of hauling and/or bulk purchase price to be significantly higher than the use of the proposed borrow site. In addition, the impacts of using other sources on cultural resources, protected species, and other environmental factors would likely be equal to or greater than the impacts of the proposed action. The no action alternative would allow the present condition of the shoreline to continue and would not provide the benefits needed for storm damage protection.

c. After consideration of disposal site dilution and dispersion, the discharge of fill materials will not cause or contribute to, violations of any applicable State water quality standards for Class III waters. The discharge operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

d. The dredging of and disposal of dredged materials for beach construction will not jeopardize the continued existence of any species listed as threatened or endangered or result in the likelihood of destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973, as amended. Standard conditions for monitoring and relocating turtle nests would be employed.

e. The dredging and placement of fill material will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic species and other wildlife will not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values will not occur.

f. Appropriate steps have been taken to minimize the adverse environmental impact of the proposed action. The proposed borrow area has low silt content, therefore, turbidity due to silt will be low when dredging and discharging. Turbidity will be monitored so that if levels exceed State water quality standards of 29 NTU's above background, the contractor will be required to cease work until conditions return to normal. In the vicinity of reef and other hard grounds, measures would be taken to minimize sediment deposition on sensitive reef organisms.

g. On the basis of the guidelines, the proposed dredging and disposal sites are specified as complying with the requirements of these guidelines.

**APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY**

# FLORIDA COASTAL ZONE MANAGEMENT PROGRAM FEDERAL CONSISTENCY EVALUATION PROCEDURES

## SECOND PERIODIC RENOURISHMENT AT HAULOVER BEACH PARK DADE COUNTY BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT DADE COUNTY, FLORIDA

1. Chapter 161, Beach and Shore Preservation. The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: The proposed plans and information will be submitted to the state in compliance with this chapter.

2. Chapters 186 and 187, State and Regional Planning. These chapters establish the State Comprehensive Plan which sets goals that articulate a strategic vision of the State's future. It's purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

Response: The proposed project has been coordinated with various Federal, State and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan through preservation and protection of the shorefront development and infrastructure.

3. Chapter 252, Disaster Preparation, Response and Mitigation. This chapter creates a state emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: The proposed project involves placing beach compatible material onto an eroding beach as a protective means for development and infrastructure located along the Atlantic shoreline within Haulover Beach Park in Dade County, Florida. Therefore, this project would be consistent with the efforts of Division of Emergency Management.

4. Chapter 253, State Lands. This chapter governs the management of submerged state lands and resources within state lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities; swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The proposed beach nourishment would create increased recreational beach and potential sea turtle nesting habitat. No seagrass beds are located within the area proposed to receive fill. Buffer zones will be used to protect hardbottom communities near the borrow area. Buffer zones will also be used to protect potentially significant magnetic anomalies identified in the vicinity of the borrow areas. The proposed project would comply with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition. This chapter authorizes the state to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership, this chapter does not apply.

6. Chapter 258, State Parks and Aquatic Preserves. This chapter authorizes the state to manage state parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed project area does not contain any state parks or aquatic preserves. The project is consistent with this chapter.

7. Chapter 267, Historic Preservation. This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: This project has been coordinated with the State Historic Preservation Officer (SHPO). Historic Property investigations were conducted in the project area. An archival and literature search, in addition to a magnetometer survey of the proposed borrow area were conducted. No known historic properties are located on the segment of beach to be renourished. The SHPO concurred with the Corps determination that the proposed project will not adversely affect any significant cultural or historic resources. The project will be consistent with the goals of this chapter.

8. Chapter 288, Economic Development and Tourism. This chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The proposed beach nourishment would protect the beach at Haulover Beach Park. The larger beach, as a result of this project, will attract tourists by providing additional space for recreation and more protection to recreational facilities along the beach. This would be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

9. Chapters 334 and 339, Public Transportation. This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: No public transportation systems would be impacted by this project.

10. Chapter 370, Saltwater Living Resources. This chapter directs the state to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in state waters; to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the state engaged in the taking of such resources within or without state waters; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and, to conduct scientific, economic, and other studies and research.

Response: The proposed beach fill may cause a temporary short-term impact to infaunal invertebrates from increased turbidity and/or direct burial of these organisms. However, these organisms are highly adapted to the periodic burial by sand in the intertidal zone. These organisms are highly fecund and are expected to return to pre-construction levels within 6 months to one year after construction. No adverse impacts to marine fishery resources are expected. It is not expected that sea turtles would be significantly impacted by this project. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

11. Chapter 372, Living Land and Freshwater Resources. This chapter establishes the Game and Freshwater Fish Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions, which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The project will have no effect on freshwater aquatic life or wild animal life.

12. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This project does not involve water resources as described by this chapter.

13. Chapter 376, Pollutant Spill Prevention and Control. This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will require that the contractor adopt safe and sanitary measures for the disposal of solid wastes. A spill prevention plan will be required.

14. Chapter 377, Oil and Gas Exploration and Production. This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: This project does not involve the exploration, drilling or production of gas, oil or petroleum product and therefore, this chapter does not apply.

15. Chapter 380, Environmental Land and Water Management. This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development.

Response: The proposed renourishment project will not have any regional impact on resources in the area. Therefore, the project is consistent with the goals of this chapter.

16. Chapter 388, Arthropod Control. This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

Response: The project will not further the propagation of mosquitoes or other pest arthropods.

17. Chapter 403, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the state by the Florida Department of Environmental Regulation (now a part of the Florida Department of Environmental Protection).

Response: A Draft Environmental Assessment addressing project impacts has been prepared and will be reviewed by the appropriate resource agencies including the Florida Department of Environmental Protection. Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. Water Quality Certification (Permit No. 0128781-00-JC) has been issued by FDEP for this project. The project complies with the intent of this chapter.

18. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of the state soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and