

**U.S. ARMY CORPS OF ENGINEERS  
JACKSONVILLE DISTRICT**

**ENVIRONMENTAL ASSESSMENT  
MAINTENANCE DREDGING AND BEACH DISPOSAL  
BOCA GRANDE PASS, CHARLOTTE HARBOR  
LEE COUNTY, FLORIDA**

**JULY 1992**

## Finding of no Significant Impact

### Maintenance Dredging and Beach Disposal Boca Grande Pass, Charlotte Harbor Lee County, Florida

I have reviewed the attached Environmental Assessment (EA) that has been prepared for the maintenance dredging and beach disposal at Charlotte Harbor, Florida. Based on information analyzed in the EA, reflecting pertinent information obtained from cooperating Federal agencies having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion, are in summary:

- a. There will be no adverse impacts to endangered or threatened species or sites of cultural or historical significance.
- b. State water quality standards will be met.
- c. Water Quality Certification has been issued by the Florida Department of Environmental Regulation.
- d. Environmental commitments as described in section 7.00 of the EA have been made to avoid potentially significant impacts.
- e. The maintenance activity will assist in the continued functional capability of the Federal Navigation Project at Charlotte Harbor. The disposal of dredged material on the beach will increase the upland storm protection and recreational value of the beach along Gasparilla Island, Florida.

In consideration of the information summarized, I find that the proposed action will not significantly affect the human environment and does not require the preparation of an Environmental Impact Statement.

August 11, 1992

Date



Terrence C. Salt  
Colonel, U.S. Army  
District Engineer

# ENVIRONMENTAL ASSESSMENT

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**ENVIRONMENTAL ASSESSMENT  
MAINTENANCE DREDGING AND BEACH DISPOSAL  
BOCA GRANDE PASS, CHARLOTTE HARBOR  
LEE COUNTY, FLORIDA**

1.00 Project Description. The proposed maintenance dredging in Charlotte Harbor is required to maintain the authorized project depth of 32 feet in the entrance channel, Boca Grande Pass. Approximately 700,000 cubic yards of material will be removed from the channel and disposed of along 12,500 feet of beach on Gasparilla Island. Subsequent maintenance dredging operations will occur every other year to maintain the authorized channel depth. Approximately 265,000 cu. yds. of material will be removed and disposed on the beach during those operations. The northern boundary of the disposal area is located approximately 450 feet south of 10th Street. The southern boundary is located at the point where Gulf Boulevard (SR. 771) turns east near the south end of the island. Figure 1, shows the project location, the area to be dredged, and the beach disposal area. Dredging will be accomplished using either a hopper dredge with pumpout capability, cutter head/pipeline dredge, or mechanical dredge.

2.00 Authorization. Authorization for the Charlotte Harbor 32-foot navigation project in the entrance channel is given in the River and Harbor Act of May 17, 1950, House Document 186, 81st Congress, 1st Session.

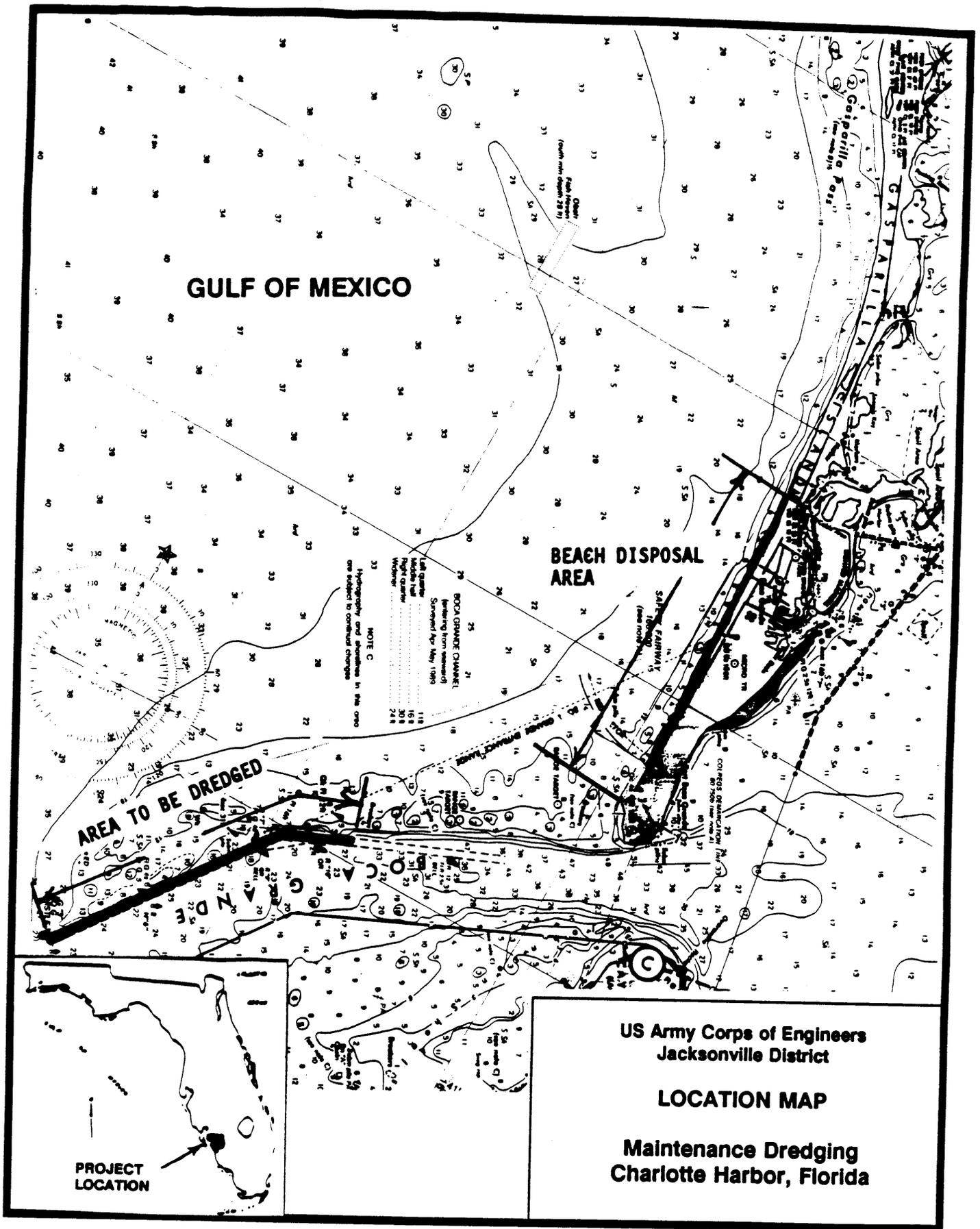
3.00 Alternatives to the Proposed Work.

3.01 No Action. The no action alternative would result in a gradual reduction of the channel depth with increased navigational risks. Once the channel depths have been reduced, propeller wash from passing boats would continually resuspend sediments. This is not considered to be an acceptable alternative.

3.02 Ocean Disposal. An offshore dredged material disposal site (ODMDS) in the vicinity of the project is currently being evaluated by the U.S. Environmental Protection Agency. At this time the ODMDS has not been approved for use. Once approved the ODMDS will be considered for future maintenance dredging operations.

4.00 Existing Conditions.

4.01 General. Charlotte Harbor is on the lower gulf coast of Florida, approximately 90 miles south of Tampa. The entrance channel to the harbor is through Boca Grande Pass, located between Gasparilla Island to the north and Cayo Costa to the south. Gasparilla Island is typical of the low and narrow barrier islands located on the lower Gulf Coast of Florida. The island is about 6.7 miles long and is bounded on the north by Gasparilla Pass, and the south by Boca Grande Pass. The



southerly 5 miles are in Lee County and the remainder in Charlotte County. The island varies in width from about 800 feet near the middle to about 2900 feet near the south end. Natural ground elevations are generally less than 10 feet mean low water. The island is generally covered with grasses, herbs and shrubs with stands of Australian pines.

4.02 The entire project area has been developed. Shore front development is almost continuous along that part of the of Gasparilla Island within Lee County. Numerous areas along the shore are primarily developed for residential, resort, and tourist accommodation purposes. Development includes shops, motels, hotels, apartments, and other service establishments catering, either directly or indirectly, to tourists visiting the area.

4.03 Fish and Wildlife Resources. The project is in an area of overlap between subtropical marine species and temperate marine species. Many of the sessile tropical species are at the northern limit of their range and are under some natural stress during the winter months because of lowered temperatures and the increased turbidities brought on by storms. Many motile forms, such as fish, migrate in and out of the area with the seasons. During warmer summer months, tropical species predominate, while during the cooler winter months, temperate species are relatively more abundant.

4.04 The offshore area is predominantly a sand or sand/shell bottom characterized by scattered limestone aggregate outcrops or hardgrounds. To determine the extent of hardgrounds within the study area a side scan sonar survey was performed. The survey took place between 27th Street (near DNR monument R-08) and Belcher Road (midway between DNR monuments R-25 and R-26) out to a distance of about 1200 feet from shore. Two hardground areas of significant size were found north of the proposed beach disposal site. The largest area is approximately 18.0 acres and is located about 800 to 900 feet from shore. This area starts at 23rd Street and extends north for about 2,600 feet. The other area is about 4.0 acres in size and is located about 400 feet offshore between 16th and 19th Streets. A third smaller area, approximately 1.4 acres, exists close to shore just south of the Boca Grande lighthouse and within the proposed disposal area.

4.05 Because of the frequent scouring and pounding that occurs during storms and rough seas, shallow water rock outcrops located close to shore do not usually support a large diversity of plant and animal life. Surface vegetation is usually sparse and limited to small varieties of green, brown, and red algae. Some small whelks and snails, starfish, sea anemone, and urchins also inhabit this benthic community, with a variety of crabs, shrimp and other small invertebrates. When the waters are calm enough, small bait fish often congregate around these rocky areas, in turn attracting larger shallow water fishes such as flounder, redfish, seatrout, snook and tarpon. Although these shallow water hardgrounds are usually not of high quality, they do serve as fish concentration areas for both commercial and sport fishermen and sport divers. In the study area, the close proximity of rock outcrops to the shoreline increases its value to divers and snorklers because of easy access.

4.06 Hardground and/or reef communities located farther offshore in water deeper than 10

feet are more protected from the pounding and scouring effects of wave action. For this reason, growth is more luxuriant, with large specimens of red and green algae, sea fans and large soft and hard corals, along with a greater diversity of invertebrates. Usually, reefs in this area will have greater relief than those located in shallower water. The greater relief and organism diversity attract a variety of larger fish species that inhabit the area permanently. Grouper, snapper, grunt, porgy and angelfish are usually abundant around most reefs in this area. These reefs will also attract greater numbers of baitfish, and therefore attract a wider variety of as well as greater numbers of the larger pelagic predator species. Generally, the reefs located farther offshore are considered to have more natural resource value than those areas located in shallow water closer to shore.

4.07 The Charlotte Harbor area supports both commercial and recreational fisheries. Fish of commercial significance include striped mullet (Mugil cephalus), spotted seatrout (Cynoscion nebulosus), pompano (Trachinotus carolinus), grouper (Mycteroperca sp. and Epinephelus sp.), and red snapper (Lutjanus campechanus). Important commercial shellfish include pink shrimp (Penaeus duorarum), blue crab (Callinectes sapidus), and stone crab (Menippe mercenaria). Sportfish commonly fished for in the area include tarpon (Megalops atlanticus), snook (Centropomus undecimalis), sheepshead (Archosargus probatocephalus), mangrove snapper (Lutjanus griseus), and red drum (Sciaenops ocellatus). Tarpon are very popular game fish and are primarily fished in the vicinity of passes, particularly Boca Grande Pass, in the spring and summer.

4.08 Threatened and Endangered Species. Construction would take place in habitat that is, or may be, utilized by the following threatened or endangered species: green sea turtle (Chelonia mydas), hawksbill sea turtle (Eretmochelys imbricata), Kemp's ridley sea turtle (Lepidochelys kempii), leatherback sea turtle (Dermochelys doriacea), loggerhead sea turtle (Caretta caretta), finback whale (Balaenoptera physalus), humpback whale (Megaptera novaeangliae), right whale (Eubalaena glacialis), sei whale (Balaenoptera borealis), spermwhale (Physeter macrocephalus catodon), bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus tundrius), piping plover (Charadrius melodus), wood stork (Mycteria americana) and the West Indian manatee (Trichechus manatus). The project area is within the critical habitat of the manatee.

4.09 The beach in the project area may, conceivably, be used for nesting by the green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, and the loggerhead sea turtle. Of these species only the loggerhead sea turtle is known to nest within Lee County (Conley and Hoffman, 1986).

4.10 Dredged Material. The material to be placed on the beach will be obtained from Boca Grande Pass. Core borings indicate that the borrow area contains poorly graded fine quartz and calcareous sand with varying amounts of whole and broken shell. The mean composite grain size is 0.24mm and the average silt content is 9 percent. The low percentage of silt makes it suitable for beach disposal.

4.11 Water Quality. Waters within the project area are classified as Class III by the State of Florida. This categorizes the water as suitable for recreation, and the propagation and management of fish and wildlife.

4.12 Cultural and Historical Resources. The State Historic Preservation Officer has indicated that two historical sites are located within the project area. The Boca Grande Automated Phosphate Terminal (Site 8LL124) is considered to be potentially significant, and the Lighthouse Keeper's Quarters (Site 8LL637A and B) is listed on the National Register of Historic Places.

4.13 Noise. Ambient noise levels in the project area are low to moderate. The major noise producing sources are breaking surf and adjacent residential and commercial areas. These sources are expected to remain at their present noise levels.

4.14 Air Quality. Air quality within the project area is good due to the presence of either on or off shore breezes. Lee County is classified as an attainment area for all Federal Air Quality Standards.

4.15 Hazardous and Toxic Wastes. The nature of the work involved in maintenance dredging and beach disposal is such that contamination by hazardous and toxic wastes is very unlikely. The material being dredged and disposed on the beach is composed of particles with grain sizes that do not normally have contaminants adsorbing to them. No contamination from hazardous and toxic waste spills is known in the project area.

4.16 Aesthetics. The beach disposal area is developed commercially and residentially along the majority of its length. A State Recreation Area exists in the immediate vicinity of the Boca Grande Lighthouse. Some dune vegetation exists in the recreation area; however, the remainder of the beach within the disposal area is void of dune vegetation and the majority of the shoreline is bulkheaded.

5.00 Relationship of the Proposed Work to Land Use Plans. The proposed action does not conflict with existing Federal, State, or local land use plans. The proposed maintenance dredging will allow for continued navigation within the authorized project.

#### 6.00 Impact of the Proposed Action.

6.01 Impact to Fish and Wildlife Resources. Dredging will result in the loss of benthic organisms in the site designated for maintenance. These communities will reestablish quickly after completion. Disposal of sand on the beach will have only temporary impact on marine and shorelife in the immediate vicinity of construction. Nearshore free-swimming organisms can avoid the area for that period of time and will be able to move back into the project area after construction. Some littoral and sublittoral invertebrates in the reaches receiving fill may be buried and lost, but many organisms inhabiting the high energy surfzone are well suited for burrowing and will burrow up through the fill material and survive. Turbidity

levels along the disposal site will temporarily increase, but will return to normal after beach equilibrium is achieved. Because the project area is in a high wave energy zone, naturally occurring turbidity levels along the surfzone are high. Organisms inhabiting this zone will be impacted by run-off from the disposal area but are adapted for survival in such conditions; thus, impacts will be minor. Any losses due to the project would be replaced within a short time (Marsh, et al. 1980). Commercial and recreational fisheries at or near the dredging and disposal sites should not experience any substantive adverse effects. Dredging will be scheduled as much as possible to avoid interfering with tarpon fishing in Boca Grande Pass. The tarpon fishing season is from 15 April to 15 August. It is noted that dredging during this period will not harm the tarpon but may affect fishing for this species, thus impacting the local economy.

6.02 As previously mentioned, a side scan sonar survey located several shallow water rock outcrops within or near the project area. The beach disposal area has been located south of most of these areas to avoid covering them with sand. However, approximately 1.4 acres of low relief rock outcrop located within the surfzone just south of the Boca Grande Lighthouse will be covered by sand during the disposal operation. To mitigate for this loss an artificial reef approximately 0.6 acre in area will be constructed. The reef will be located approximately 250 to 300 feet westward of the equilibrium toe of the beach fill and directly offshore of the impacted area. The reef will be constructed using clean concrete rubble or limestone rock. The mitigation plan was developed in coordination with the Florida Department of Regulation during the permitting process and is incorporated in their permit for the project.

6.03 Hardgrounds not directly impacted (ie. covered by sand) but are close to shore, may be susceptible, to some degree, to negative impact from sedimentation and turbidity due to the beach disposal. These hardground communities are dominated by sponges and soft corals, with a very small percentage of hard coral coverage. As a group, the hard corals are most sensitive to potential impacts. Soft corals, sponges, and other sessile organisms are more tolerant of increased turbidity and sedimentation (Pullen and Naqvi, 1983), and no significant short or long-term effects on these organisms are expected. Except for the rock outcrop located near the lighthouse, all other nearshore hardground areas are situated north of the disposal area. Since the longshore currents are to the south adverse impacts to these areas from turbidity and/or sedimentation are not expected to occur. Without implementation of proper controls mechanical damage could result from anchors dragging across hardground or discharge pipes being laid along the bottom. Measures will be taken to avoid adverse impacts to hardground communities during dredging and beach disposal operations. Pipelines will be placed only in approved areas away from hardgrounds and anchoring will be permitted in sandy areas only. Specific requirements to protect hardground communities from damage will be included in the dredging contract. Exception to this are hardgrounds located within the design template of the beach disposal area.

6.04 Endangered Species. The Jacksonville District has coordinated with the National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service (FWS) on the proposed

project, as provided by Section 7 of the Endangered Species Act, as amended. In a letter dated April 29, 1992 the NMFS concurred with the Jacksonville District's no effect determination on species under their jurisdiction. The FWS also concurred with the District's no effect determination on species under their jurisdiction, except for sea turtles. In a Biological Opinion dated February 28, 1990 the FWS stated that the project, as proposed, is not likely to jeopardize the continued existence of listed sea turtles as long as measures are taken to minimize the degree of adverse impacts on sea turtles. These include tilling the beach immediately following completion of nourishment activities if sand compaction is greater than 500 cone penetrometer units, and nest relocation procedures if construction occurs during turtle nesting season (March 1 to November 30). In a letter dated June 16, 1992 the FWS revise the dates for turtle nest relocation to be from May 1 through September 15. The State Water Quality Certification issued by the Florida Department of Environmental Regulation requires that nest relocation occur through October 15. Coordination letters are included in Attachment C.

6.05 Precautions will be taken during construction activities to insure the safety of the manatee. These precautions are outlined in Section 7.00 Environmental Commitments.

6.06 Water Quality. The project will cause temporary increases in turbidity at the dredging 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 within 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 will be conducted during construction to ensure meeting state water quality criteria. Water Quality Certification (DER permit no. 361533349) for this project has been issued by the State.

6.07 Cultural and Historical Resources. The State Historic Preservation Officer (SHPO) reviewed the potential disposal site plans considered by the U.S. Army Corps of Engineers. Two sites are located in the proposed project area. The Boca Grande Automated Phosphate Terminal (Site 8LL124) is considered to be potentially significant, and the Boca Grande Lighthouse and Lighthouse Keeper's Quarters (Site 8LL637A and B) are listed on the National Register of Historic Places. The SHPO indicated that inbank disposal or beach nourishment with quality material could help protect the lighthouse and "encourage(s) this use of dredged materials" (letter dated 1 September 1989). In general, using dredged material for beach renourishment will not adversely affect any significant cultural resources. In a letter dated June 6, 1991 the SHPO stated that the proposed project will have no effect on any sites listed, or eligible for listing in the National Register. This coordination was conducted in compliance with the National Historic Preservation Act of 1966, as amended (PL 89-665); the Archeological and Historic Preservation Act, as amended (PL 93-291); and Executive Order 11593. Coordination letters are included in Attachment C.

6.08 Noise. 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 will be properly maintained in order to minimize the effects of noise. Increases to the current levels of noise as a result of this project will be localized and minor, and limited to the time of construction.

6.09 Air Quality. The short-term impact from emissions by the dredge and other construction equipment associated with project will not significantly impact air quality. The Florida Department of Environmental Regulation does not regulate marine or mobile emission sources (dredge and construction equipment) within Lee County. No air quality permits are required for this project.

6.10 Hazardous and Toxic Wastes. The nature and composition of the material to be dredged and disposed on the beach is similar to that of the native beach. There is no indication that hazardous or toxic waste is present or would be introduced into the water column or transferred to the beach.

6.11 Aesthetics. The existing environmental setting will not be adversely impacted. The disposal of sand on the beach will maintain a natural appearing protective beach. 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.

6.12 Coastal Barrier Resources Act. The project area, Gasparilla Island, is not part of the Coastal Barrier Resources System.

#### 7.00 Environmental Commitments.

(1) To avoid interfering with tarpon fishing in Boca Grande Pass maintenance dredging will be scheduled outside the tarpon fishing season from 15 April to 15 August. However, it is acknowledged that work could extend into tarpon season for a brief period of time, which will be kept to the minimum extent possible.

(2) Measures will be taken to avoid adverse impacts to hardground communities during dredging and beach disposal operations. Pipelines will be placed only in approved areas away from hardgrounds and anchoring will be permitted in sandy areas only except where hardgrounds lie within the design template of the beach disposal area. Specific requirements to protect hardground communities from damage will be included in the dredging contract.

(3) To mitigate for the loss of approximately 1.4 acres of shallow water low relief hardgrounds an artificial reef approximately 0.6 acre in area will be constructed.

(4) Measures will be taken to minimize the degree of adverse impacts on sea turtles. If beach disposal operations occur during the turtle nesting season (1 May - 15 October),

monitoring and nest relocation activities will be performed. Nest relocation procedures will begin 65 days prior to any beach disposal activities that occur during the nesting season or 1 May, whichever is the shorter time period. Nest surveys and relocation will be conducted by personnel with prior experience and training in nest survey and relocation procedures and with a valid Florida Department of Natural Resources permit. Immediately following completion of beach disposal operations, cone penetrometer readings will be taken on the beach. Should the beach be impenetrable or the average cone index exceed 500, The beach will be tilled to a depth of 36 inches.

(5) Precautions will be taken 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 will include the standard protection clauses concerning manatees. The contractor will 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 work boat 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 will 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 will be taken, including suspension of dredging, if necessary, to avoid injury to manatees.

(6) In accordance with Florida Department of Environmental Regulation permit no. 361533349 turbidity will be monitored at both the dredging and discharge sites.

## 8.00 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS.

8.01 National Environmental Policy Act of 1969, as amended. Environmental information on the project has been compiled and an Environmental Assessment has been prepared. The project has been coordinated pursuant to 33 CFR 335-338 and is in compliance with the National Environmental Policy Act.

8.02 Endangered Species Act of 1973, as amended. Consultation was initiated with FWS on August 31, 1989 and completed on February 28, 1990. On June 16, 1992 the FWS revised their original Biological Opinion by changing the dates required for sea turtle nest relocation. Consultation was initiated with NMFS on March 31, 1992 and completed on April 29, 1992.

This project was fully coordinated under the Endangered Species Act and is therefore, in full compliance with the Act.

8.03 Fish and Wildlife Coordination Act of 1958, as amended. The U.S. Fish and Wildlife Service was coordinated with in accordance with the public notice procedures. This project is in compliance with the Act.

8.04 National Historic Preservation Act of 1966, as amended (PL 89-655). The cultural resource study, documentation and coordination with the State Historic Preservation Officer is in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. No known resources listed on or eligible for listing on the National Register of Historic Places will be affected by dredging the entrance channel to Charlotte Harbor or by the beach disposal of dredged material on Gasparilla Island.

8.05 Clean Water Act of 1972, as amended. Water Quality Certification (DER permit no. 361533349) for this project has been issued by the State. This project is in full compliance with the Act. A Section 404(b) Evaluation is included in this report as attachment A.

8.06 Clean Air Act of 1972, as amended. No air quality permits will be required for this project.

8.07 Coastal Zone Management Act of 1972, as amended. A Federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as Attachment B. Water Quality Certification (WQC) has been issued by the State. The issuance of Water Quality Certification is deemed to satisfy the Federal Consistency requirements of Coastal Zone Management Act; therefore, this project is in full compliance with the Act.

8.08 Farmland Protection Policy Act of 1981. No prime or unique farmland will be impacted by implementation of this project. This act is not applicable.

8.09 Wild and Scenic River Act of 1968, as amended. No designated Wild and Scenic river reaches will be affected by project related activities. This act is not applicable.

8.10 Marine Mammal Protection Act of 1972, as amended. Incorporation of the safeguards used to protect threatened or endangered species during dredging and disposal operations will also protect any marine mammals in the area, therefore, this project is in compliance with the Act.

8.11 Estuary Protection Act of 1968. No designated estuary will be affected by project activities. This act is not applicable.

8.12 Federal Water Project Recreation Act, as amended. There is no recreational development proposed. This Act is not applicable.

8.13 Resource Conservation and Recovery Act of 1976, (PL 94-580; 7 U.S.C. 100, et seq. This law has been determined not to apply as there are no items regulated under this act being disposed of or affected by this project.

8.14 Toxic Substances Control Act of 1976, (PL 94-469; U.S.C. 2601, et seq. This law has been determined not to apply as there are no items regulated under this act being disposed of or affected by this project.

8.15 Migratory Bird Treaty Act. The work has been evaluated pursuant to the Migratory Bird Treaty Act. Since no migratory birds or their habitats will be affected, this Act does not apply.

8.16 E.O. 11990, Protection of Wetlands. No wetlands will be affected by project activities. This project is in compliance with the goals of this Executive Order.

8.17 E.O. 11988, Floodplain Management. No activities associated with this project will take place within a floodplain, therefore this project is in compliance with the goals of this Executive Order.

8.18 E.O. 11593, Protection and Enhancement of the Cultural Environment. In compliance with this Executive Order, an archival and literature review were conducted, and the project has been coordinated with the State Historic Preservation Officer. No resources listed on or eligible for listing on the National Register of Historic Places are situated within the area of impact.

9.00 Coordination. The proposed work has been coordinated with all appropriate Federal and State agencies and local interests. A Public Notice was issued pursuant to 33 CFR 335-338 on August 25, 1989. In compliance with the National Historic Preservation Act, this project was coordinated with the State Historic Preservation Officer (SHPO). By letters dated September 1, 1989, and June 6, 1991, the SHPO indicated that the project will have no adverse effect on any properties listed, or eligible for listing, in the National Register of Historic Places. Coordination under the Endangered Species Act has been conducted. In a letter dated September 8, 1989 the National Marine Fisheries Service concurred with the Jacksonville District's determination that the project will have no effect on listed species under their jurisdiction. The U.S. Fish and Wildlife Service issued a no jeopardy opinion for listed sea turtles in a Biological Opinion dated February 28, 1990. Coordination letters are presented in Attachment C to this Environmental Assessment.

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## SECTION 404(b) EVALUATION

### MAINTENANCE DREDGING AND BEACH DISPOSAL BOCA GRANDE PASS, CHARLOTTE HARBOR LEE COUNTY, FLORIDA

#### 1. Project Description

a. Location. The proposed work will be performed along the western shoreline of Gasparilla Island on the Florida Gulf Coast within Lee County.

b. General Description. The proposed work consists of dredging shoal material from the entrance channel to Charlotte Harbor (Boca Grande Pass) and disposing that material along the western shoreline of Gasparilla Island. This would occur approximately every two years during the normal maintenance dredging cycle for the pass. Also approximately 0.6 acre of artificial reef will be constructed to mitigate for the loss of 1.4 acres of low value hardgrounds within the beach disposal area.

c. Authority and Purpose. The maintenance dredging of Boca Grande Pass is authorized by House Document 186, 81st Congress, 1st Session, River and Harbor Act of 17 May 1950.

#### d. General Description of Dredged or Fill Material.

(1) General Characteristics of Material. The material that will be dredged from the channel and disposed on the beach is predominantly fine quartz sand with varying amounts of whole and broken shell. The mean grain size is 0.24mm and the average silt content is 9 percent. The material used to construct the artificial reef will be clean concrete rubble or limestone rock.

(2) Quantity of Material. During this maintenance dredging operation approximately 700,000 cubic yards of material will be dredged and disposed on the beach. Every other year thereafter approximately 265,000 cu. yds. of material will be dredged and disposed on the beach. Approximately 1,500 cu. yds. of concrete rubble or limestone rock will be used to construct the artificial reef.

(3) Source of Material. The sand will be dredged from a shoal area within the entrance channel to Charlotte Harbor at Boca Grande Pass. Concrete rubble or limestone rocks will be used to construct the artificial reef. The concrete rubble would be obtained from construction and/or demolition sites and the limestone would be obtained from a commercial quarry.

e. Description of the proposed Discharge Site.

(1) Location. The discharge will take place along a 2.2 mile section of beach on Gasparilla Island. The northern boundary is near 11th Street and the southern boundary is about 0.25 mile north of Port Circle Drive. The artificial reef will be constructed directly offshore of the lighthouse at the Boca Grande State Recreation Area approximately 250 to 300 feet seaward of the equilibrium toe of the beach fill.

(2) Size. Approximately 80 acres will be filled along the beach in conjunction with the beach disposal. Approximately 0.6 acre offshore will be filled as a result of constructing the artificial reef.

(3) Type of Site. The site where dredged material disposal will occur is primarily a sand beach with approximately 1.4 acres of exposed low relief limestone rock outcrop. The artificial reef will be located in a sandy area offshore in approximately 10 feet of water.

(4) Type of Habitat. The habitat within the disposal area consists of a carbonate and quartz sand beach. The habitat at the artificial reef location is sandy and barren.

(5) Timing and Duration of Discharge. The exact time of dredging and disposal is not known. It is expected that each maintenance dredging and disposal operation will occur between 1 November and 15 April. Once dredging begins, construction will take approximately two months to complete.

f. Description of Disposal Method. Disposal of the dredged material will be by discharge from a pipe attached to a hopper dredge, or hopper barge, or by cutterhead pipeline dredge. Material used for the artificial reef will be dumped from a barge at the reef site.

2. Factual Determination

a. Physical Substrate Determination.

(1) Substrate Elevation and Slope. Top elevation of the design beach fill will be 7.0 feet NGVD or 8.33 feet MLW. The slope will be approximately 1 on 20 from the berm to where it intersects with the existing bottom. The artificial reef will have a height of 1-3 feet above the existing bottom.

(2) Sediment Type. The sediment is predominantly fine quartz sand (mean grain size = 0.24mm), with varying amounts of shell. The average silt content is 9 percent. The reef material will be concrete rubble or limestone rock.

(3) Dredge/Fill Material Movement. The beach fill material will be subject to erosion by waves with the net movement of fill material to the south. The material used to construct the reef is not expected to move once placed.

(4) Physical Effects on Benthos. Some benthic organisms will be buried by the beach fill. Most organisms in this high wave energy ecosystem are adapted for existence in an area with considerable substrate movement, thus most will be able to burrow up through the fill material. Recolonization will occur within a year. Benthic organisms associated with nearshore hardground areas that will be covered by fill will be lost. However, these same type organisms will populate the artificial reef.

b. Water Circulation, Fluctuation and Salinity Determination.

(1) Water. The placement of fill on the beach will increase turbidity in the nearshore area. Because the immediate nearshore area is a high wave energy system and subject to naturally occurring elevated turbidity, increases due to the project will not be significant. 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. Currents in the project area are both tidal and longshore. Net movement of water due to the longshore current is from the north to the south. Placement of the fill on the beach and at the artificial reef site will have no effect on the currents.

(3) Normal Water Level Fluctuations and Salinity Gradients. Tides in the project area are a mixture of semi-diurnal and diurnal types. During part of each month two high and two low tides occur each day, and during the balance of the month only one high and one low tide occur each day. The mean diurnal tidal range along Gasparilla Island is 2.6 feet. The mean tide level is 1.3 feet, referenced to mean low water (MLW). Salinity is that of ocean 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 will be a temporary increase in turbidity levels in the project area during discharge. Turbidity will be short-term and localized, and no significant adverse impacts are expected. State standards for turbidity will not be exceeded.

(2) Effects on the Chemical and Physical Properties of the Water Column.

(a) Light Penetration. Light penetration will decrease during discharge in the immediate area where sand is being deposited on the beach. This effect will be temporary and will have no adverse impact on the environment.

(b) Dissolved Oxygen. Dissolved oxygen levels will not be altered by this project.

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

(d) Aesthetics. Aesthetic quality will be reduced during that period when work is occurring. There will be long-term increase in aesthetic quality of the beach once the work is completed.

(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 disposal.

(b) Suspension/Filter Feeders. There will be no long-term adverse impact to suspension/filter feeders.

(c) Sight Feeders. There will be no long-term adverse impact to sight feeders.

d. Contaminant Determinations. Deposited fill material will not introduce, relocate, or increase contaminants.

e. Aquatic Ecosystem and Organism Determinations. The fill material that will be placed on the beach will consist of quartz and calcareous sand that is similar enough to the existing substrate so that no impacts are expected. Material used to construct the artificial reef will be concrete rubble or limestone rock. Either material will provide substrate similar to the hardground area being covered by beach fill and should support similar benthic communities. No adverse impacts are expected.

(1) Endangered and Threatened Species. There will be no impacts on any threatened or endangered species or on critical habitat of any threatened or endangered species. Sea turtle nesting may occur in the project area during the time dredging and beach disposal takes place. If construction takes place during the nesting season a nest relocation program will be implemented. All sea turtle nests discovered within the beach disposal area will be removed and relocated to a nearby self-release beach hatchery. All relocation and incubation efforts will conform to the guidelines in the "Manual of Sea Turtle Research and Conservation Techniques", Second Edition, 1983, prepared for the Western Atlantic Sea Turtle Symposium and distributed by the Florida Department of Natural Resources.