



**DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019**

REPLY TO
ATTENTION OF

MANATEE COUNTY, FLORIDA
SHORE PROTECTION PROJECT
FIRST RENOURISHMENT, ANNA MARIA ISLAND

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the planning document and the enclosed Environmental Assessment (EA) for the proposed project. This Finding incorporates by reference all discussions and conclusion contained in the EA enclosed hereto. Based on the information analyzed in the Environmental Assessment and pertinent data obtained from Federal and State agencies having jurisdiction by law and/or special expertise, and information obtained from the interested public, I conclude that the considered action would have no significant impact on the quality of the environment. Reasons for this conclusion are, in summary:

a. Measures to prevent or minimize impacts to sea turtles in accordance with the Terms and Conditions in the Biological Opinion from the U.S. Fish and Wildlife Service would be implemented during and after project completion. There would be no adverse impacts to other endangered or threatened species.

b. Measures to eliminate, reduce, or avoid potential adverse impacts to fish and wildlife resources would be implemented during project construction.

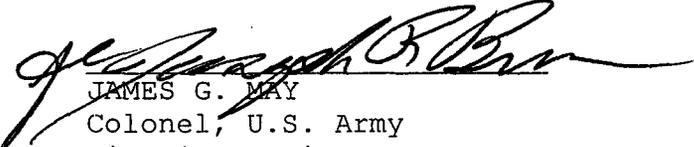
c. A remote sensing survey has been conducted for the north and south borrow areas. Analysis of the data indicates the potential for submerged cultural resources in the study area. Numerous anomaly clusters were identified. Pending further investigation and coordination with the State Historic Preservation Officer, any significant historic resources would be avoided or appropriately mitigated (i.e., data recovery).

d. State water quality standards would be met.

e. Benefits to the public would be the protection of upland residences and businesses as well as associated infrastructure along an eroding beach.

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

10/25/00
Date


JAMES G. MAY
Colonel, U.S. Army
District Engineer

JOSEPH R. BURNS
Executive Assistant

**ENVIRONMENTAL ASSESSMENT
ON
FIRST PERIODIC RENOURISHMENT
MANATEE COUNTY SHORE PROTECTION PROJECT
ANNA MARIA ISLAND, MANATEE COUNTY, FLORIDA**

1 PROJECT PURPOSE AND NEED

1.1 PROJECT AUTHORITY.

The Federal Shore Protection Project for Manatee County, Florida was authorized by Public Law 98-298 dated October 27, 1965, Title II – Flood Control Act of 1965, as amended by Section 131 of the 1976 Water Resources Development Act. Resolutions approving the project under the provisions of Section 201 of Public Law 98-298 were adopted by the Senate Public Works Committee on 20 November 1975. The Chief of Engineers authorized the shore protection project for Manatee County on 19 December 1975.

1.1.1 INITIAL AUTHORIZATION.

The authorized shore protection project for Manatee County, Florida includes the entire 7.5 mile Gulf shoreline of Anna Maria Key. The project initially consisted of restoration of 3.2 miles of Gulf shore beach to an elevation six feet above mean low water with a 50-foot berm width and a natural slope seaward as would be shaped by wave action. The project also provided for periodic nourishment of the restored beach and such adjacent shoreline as needed and justified for the life of the project. The project is described in Senate Document No. 93-37, 93rd Congress, 1st Session.

1.1.2 SUPPLEMENTAL APPROPRIATION.

In the 1991 General Design Memorandum, prepared by the Jacksonville District, U.S. Army Corps of Engineers (USACE), the authorized project consisted of an initial fill length of 3.2 miles, a berm width extension of 50 feet, referenced from the Corps construction baseline, and a berm elevation of +5.0 feet NGVD. The total initial fill was estimated to be 940,000 cubic yards and included 5 years of advanced nourishment. Fill for the project was to be obtained from an offshore borrow area.

Prior to the initial nourishment in 1992, the USACE approved the increase of the project fill length from 3.2 miles to 4.2 miles and an increase in the berm width from 50 feet to 75 feet. The August 4, 1992 Local Cooperation Agreement (LCA) allowed for the initial construction of a 75 foot wide elevation of +5 feet project

along 4.2 miles of Gulf shore on Anna Maria Island and the establishment of a 0.5 mile long beach fill transition zone south of the berm.

1.2 PROJECT LOCATION.

Manatee County is located on the west coast of Florida, south of the Tampa-St. Petersburg metropolitan area (Figure 1). Manatee County is bordered by Hillsborough County to the north, Hardee and De Soto Counties to the east, Sarasota County to the south, and the Gulf of Mexico to the west. The western limit of Manatee County consists of two Gulf coast barrier islands.

Anna Maria Island is the largest barrier island located entirely within Manatee County. The island is approximately seven miles long and is almost a mile wide at its widest point. Anna Maria Island is separated from the mainland to the east by Tampa Bay, Anna Maria Sound and Sarasota Bay. The island is bordered by Passage Key Inlet to the north, Longboat Pass to the south, and the Gulf of Mexico to the west. Three municipalities, the City of Anna Maria, Holmes Beach, and Bradenton Beach, are located from north to south on Anna Maria Island.

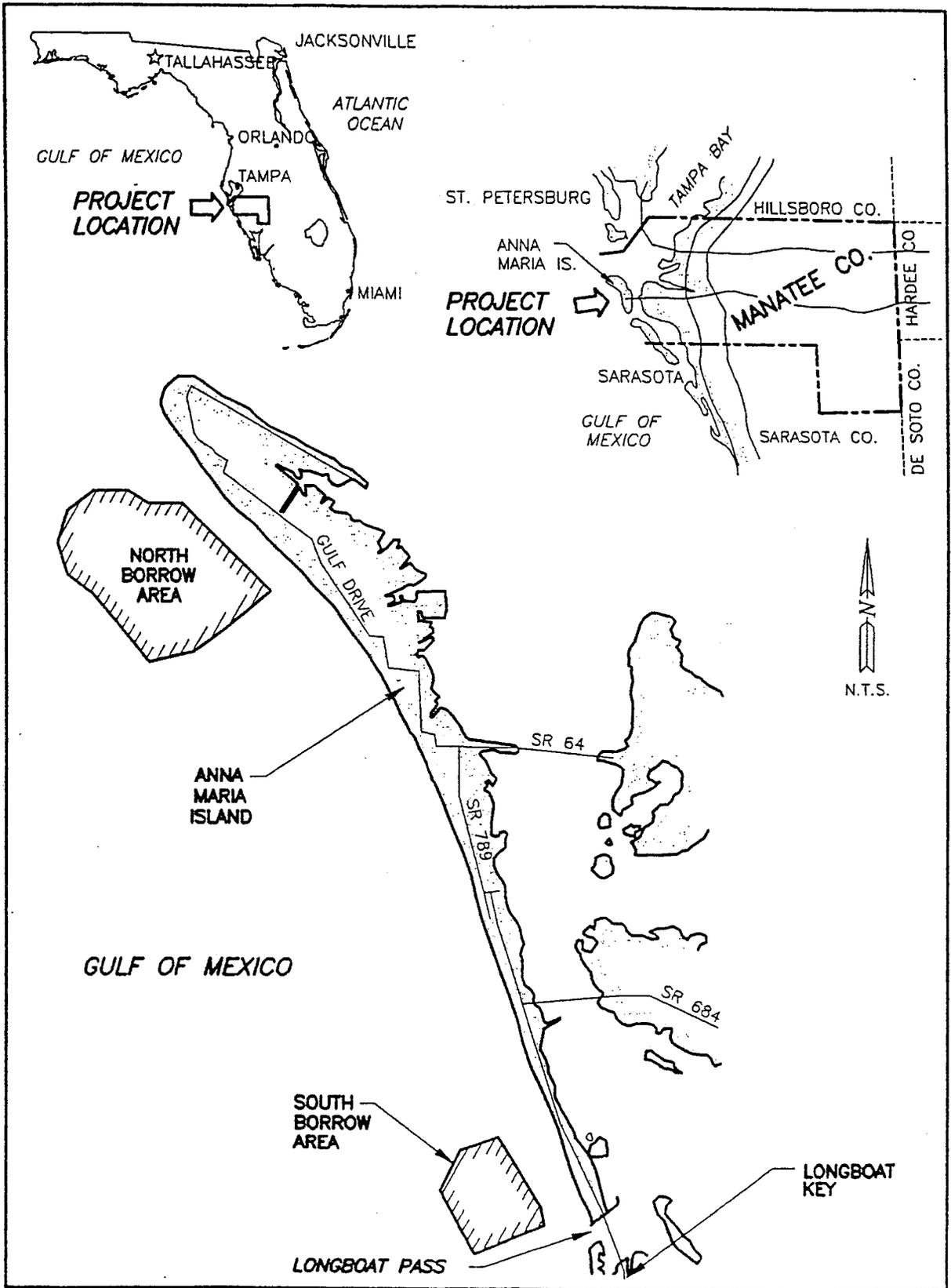
1.3 PROJECT NEED OR OPPORTUNITY.

According to the 1991 GDM, approximately \$67 million in shorefront development existed along the original 4.7 mile long project area on 1988 assessed values (USACE, 1991). Little or no dry beach existed seaward of development in many areas of Holmes Beach and Bradenton Beach prior to construction of the 1992/93 beach nourishment project. Prior to the nourishment, shore protection structures were constructed (groins, seawalls, and revetments) in an attempt to protect upland property from storm damage. With pre-project conditions, this property development was threatened even during minimal storm events. The two evacuation routes from the island to the mainland were also threatened by storm damage, and it was estimated that approximately \$4.3 million in damages would occur annually if no action was taken (USACE, 1991).

1.4 AGENCY GOAL OR OBJECTIVE.

The proposed project goal is to provide for the protection of 4.2 miles of shoreline by placement of periodic nourishment. The 4.2 mile long proposed renourishment design project length is identical to the project length authorized in the September 1991 GDM and constructed in December 1992. The 0.5 mile beach fill transition also remains between DEP monuments R-34 and R-36. (See Figures 1- 1.8 Location map and Project plan view and Figures 2 - 2.3 - Typical fill cross sections).

The Federal objective is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Federal planning concerns other than economic include environmental protection



MANATEE COUNTY, FLORIDA
 (ANNA MARIA ISLAND)
 SHORE PROTECTION PROJECT
 LOCATION MAP

FIGURE EA-1

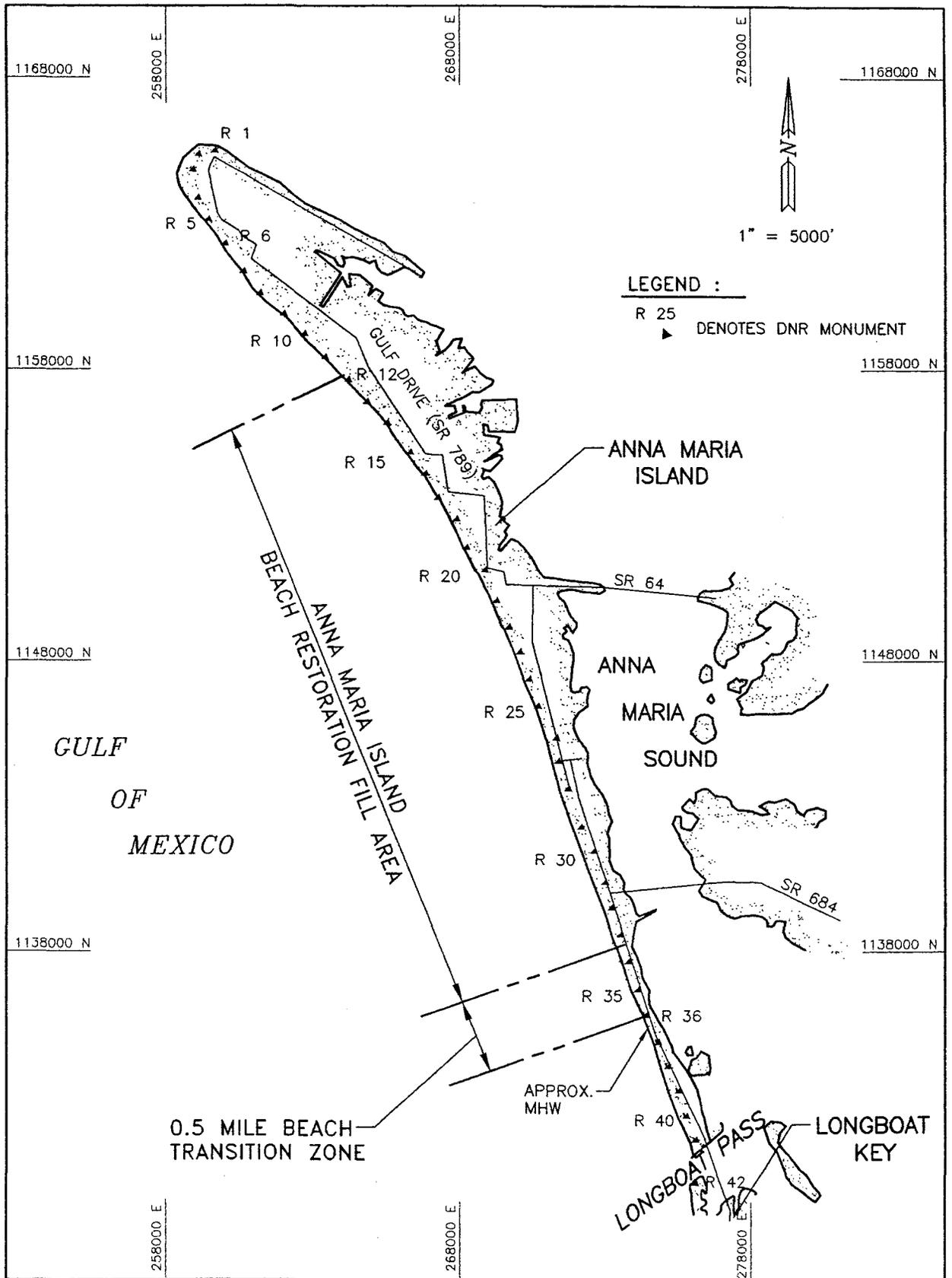


FIGURE EA-1.1

MANATEE COUNTY, FLORIDA
 (ANNA MARIA ISLAND)
 SHORE PROTECTION PROJECT
 LOCATION MAP

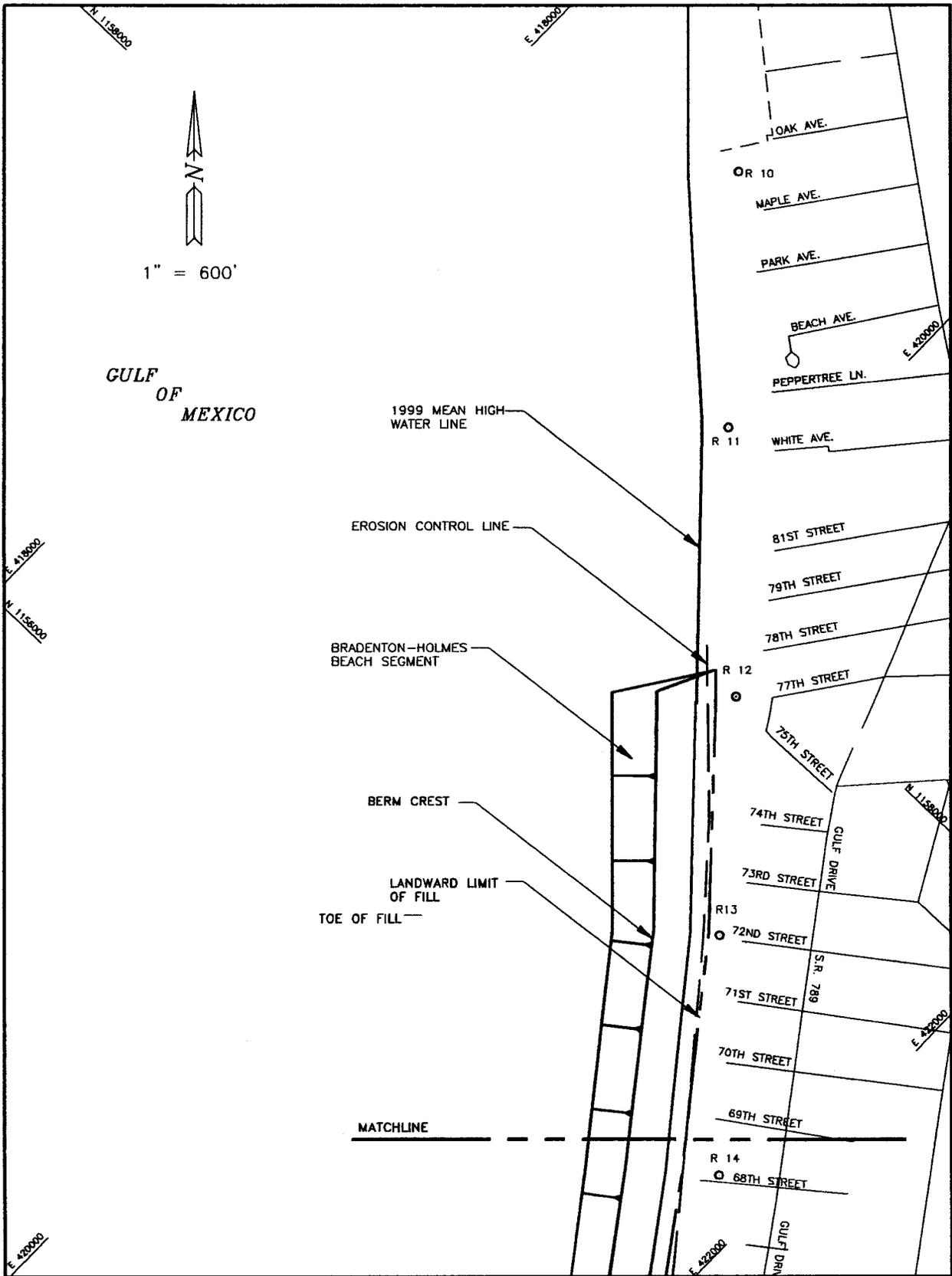


FIGURE E-A 1.2

ANNA MARIA ISLAND
 PROJECT PLAN VIEW
 BRADENTON-HOLMES BEACH SEGMENT

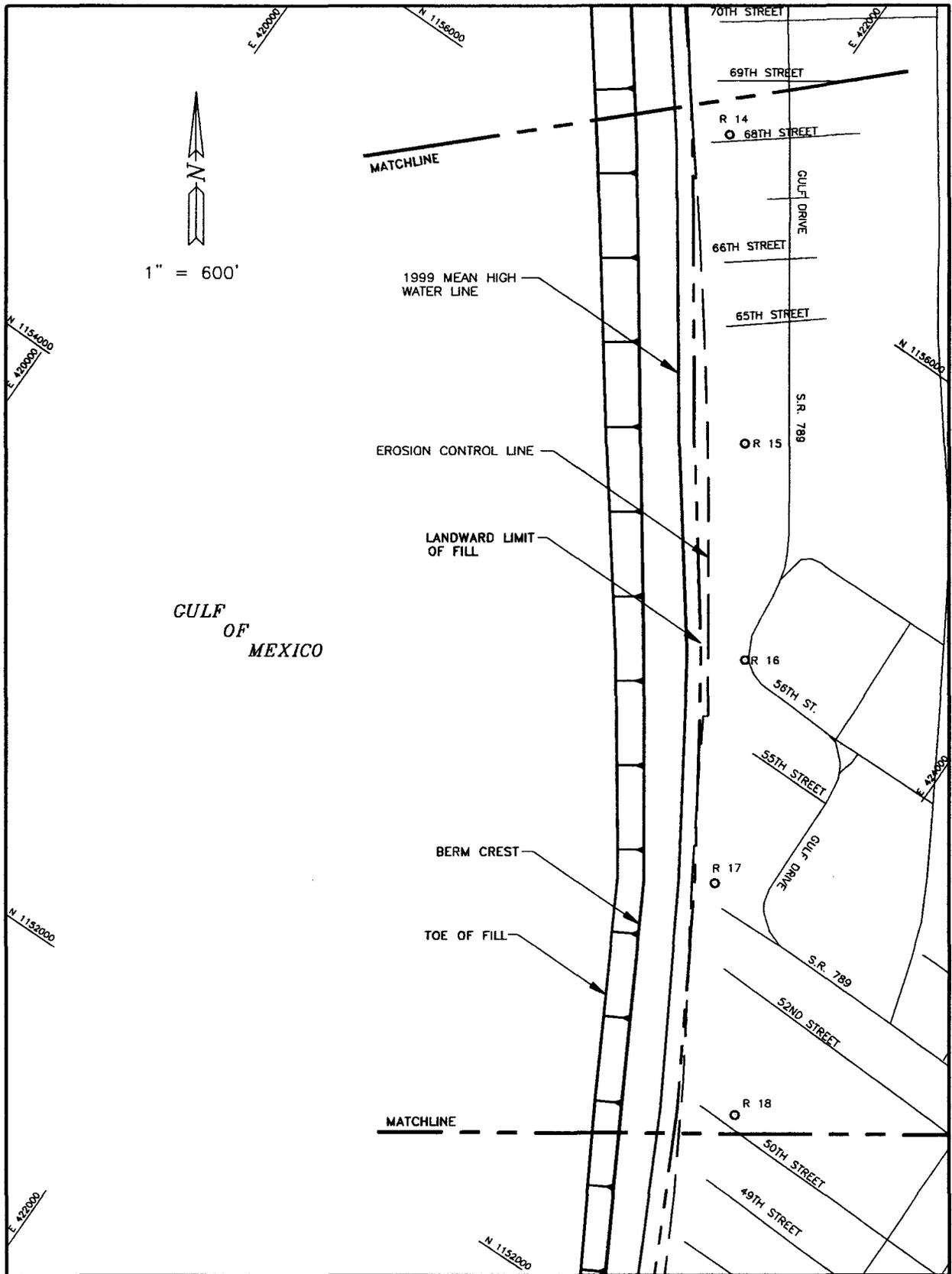


FIGURE E-A 1.3

ANNA MARIA ISLAND
 PROJECT PLAN VIEW
 BRADENTON-HOLMES BEACH SEGMENT

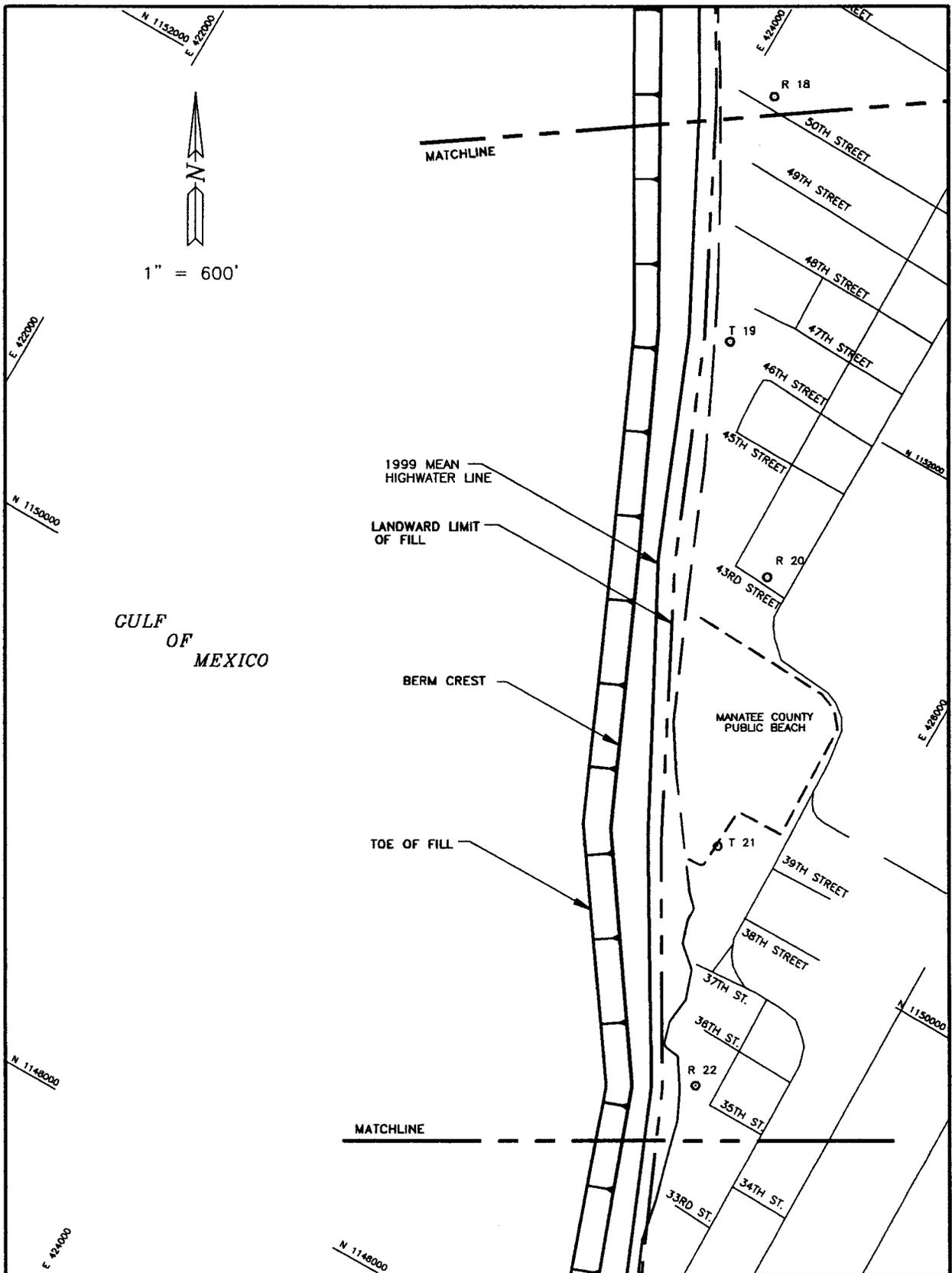


FIGURE E-A 1.4

ANNA MARIA ISLAND
 PROJECT PLAN VIEW
 BRADENTON-HOLMES BEACH SEGMENT

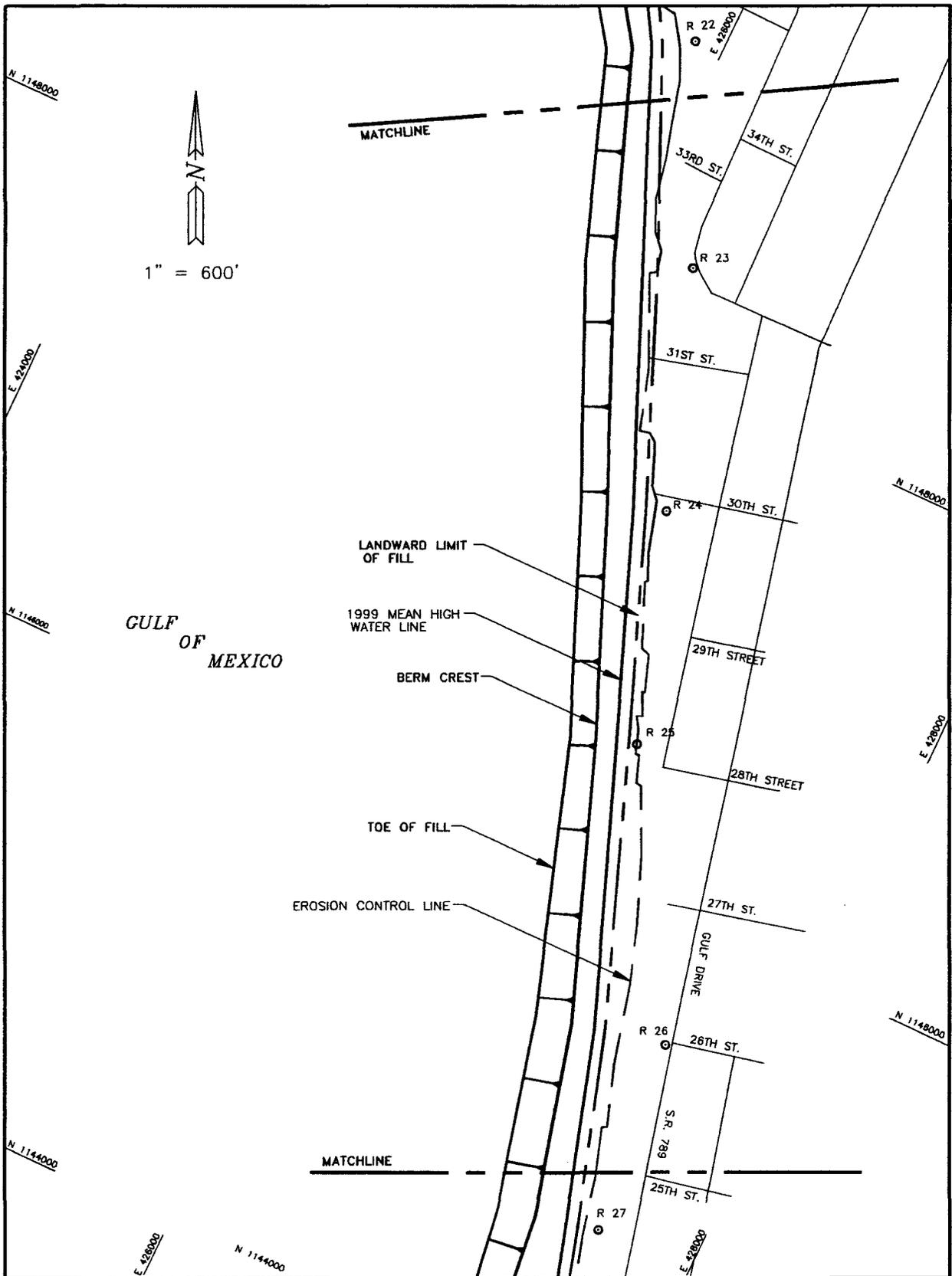


FIGURE E-A 1.5

ANNA MARIA ISLAND
 PROJECT PLAN VIEW
 BRADENTON-HOLMES BEACH SEGMENT

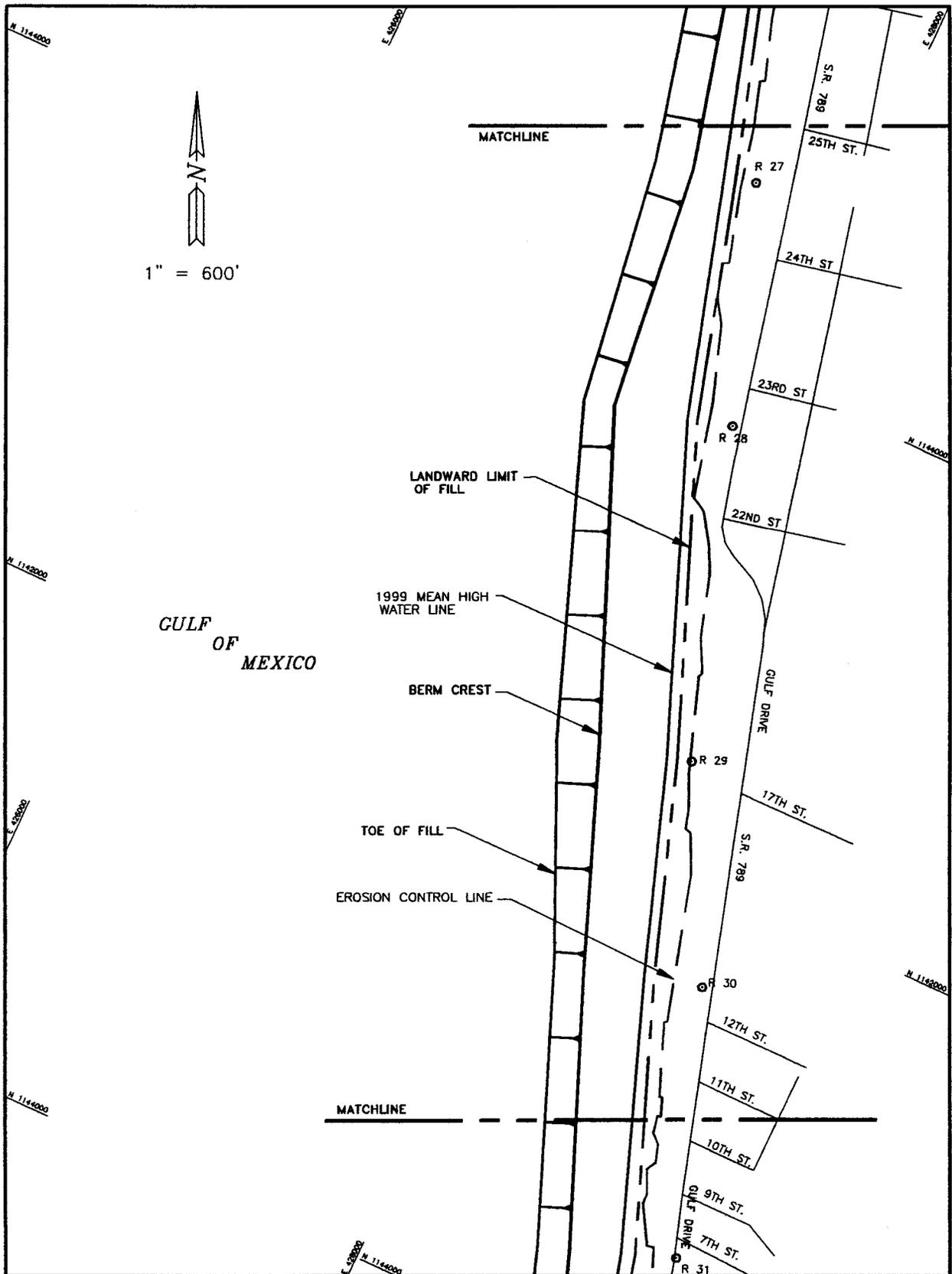


FIGURE E-A 1.6

ANNA MARIA ISLAND
 PROJECT PLAN VIEW
 BRADENTON-HOLMES BEACH SEGMENT

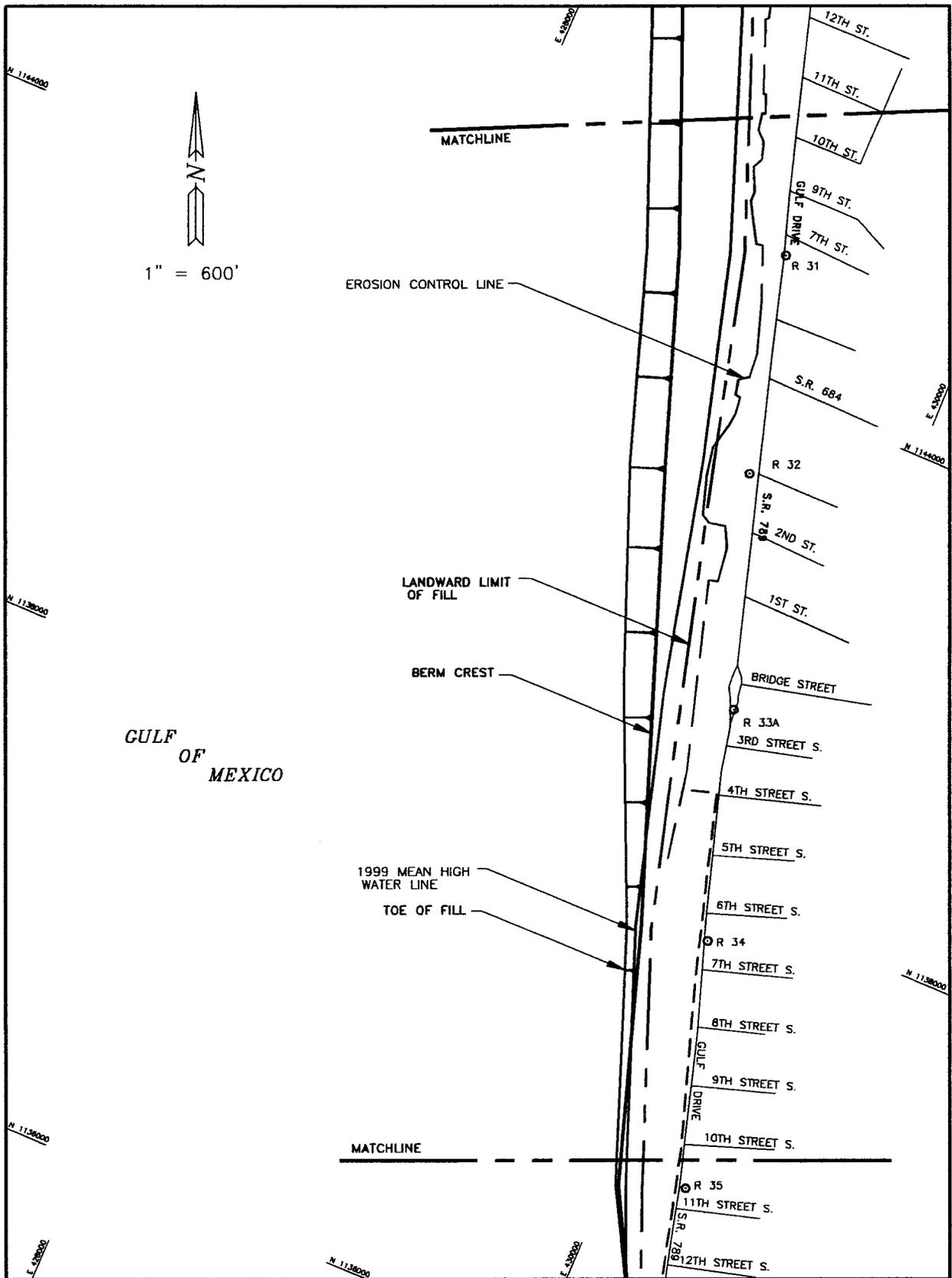


FIGURE E-A 1.7

**ANNA MARIA ISLAND
PROJECT PLAN VIEW
BRADENTON-HOLMES BEACH SEGMENT**

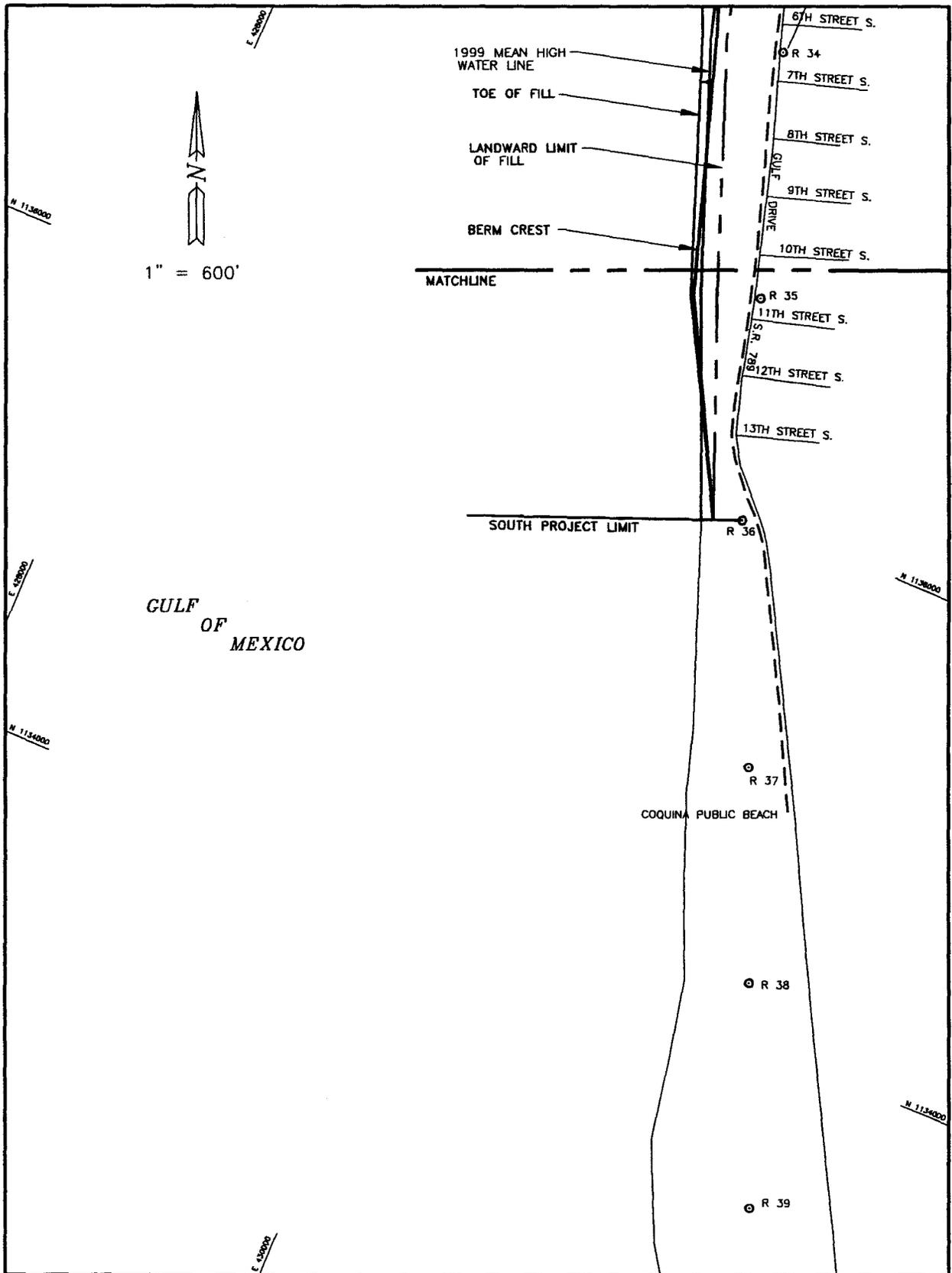
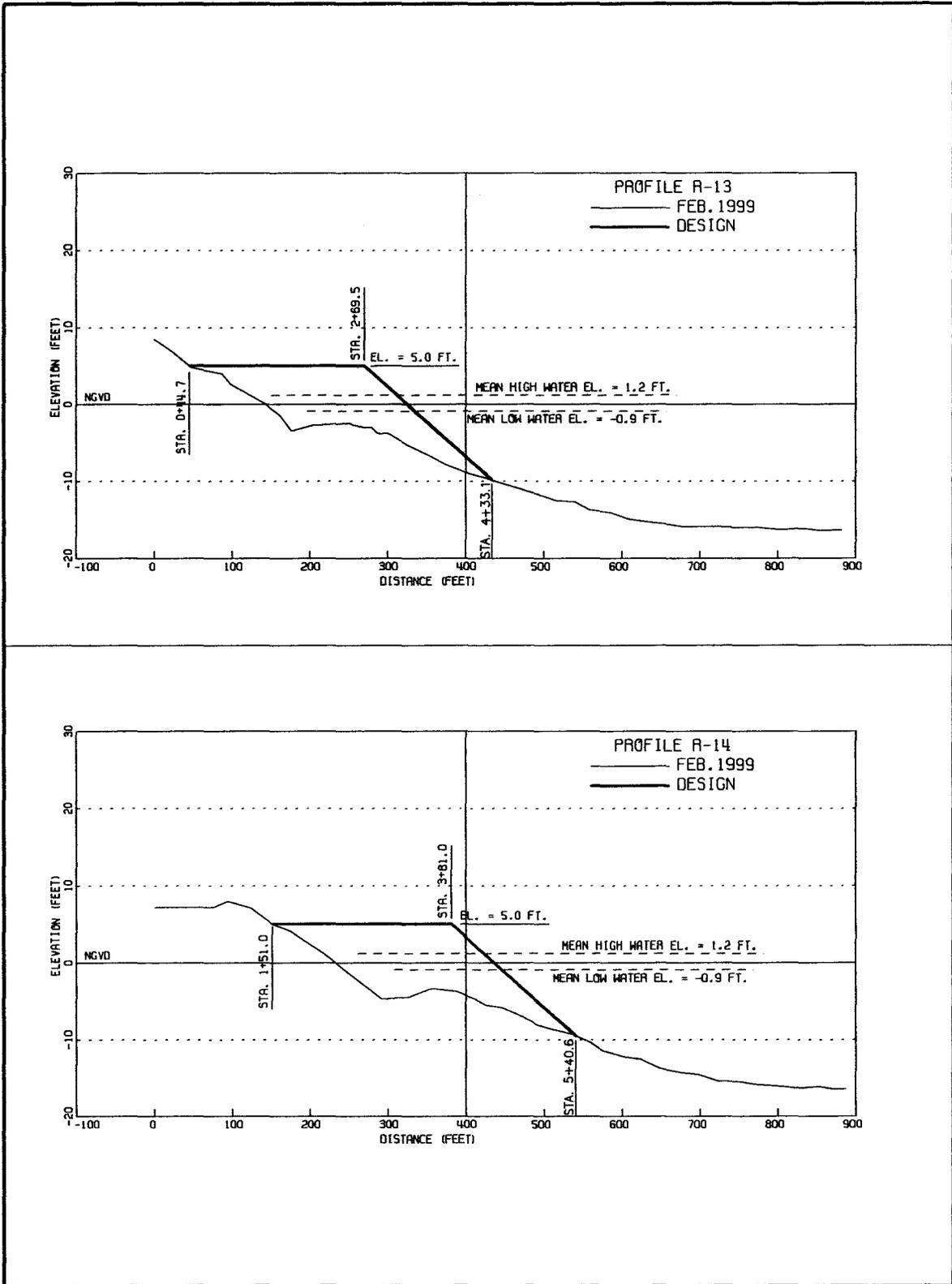


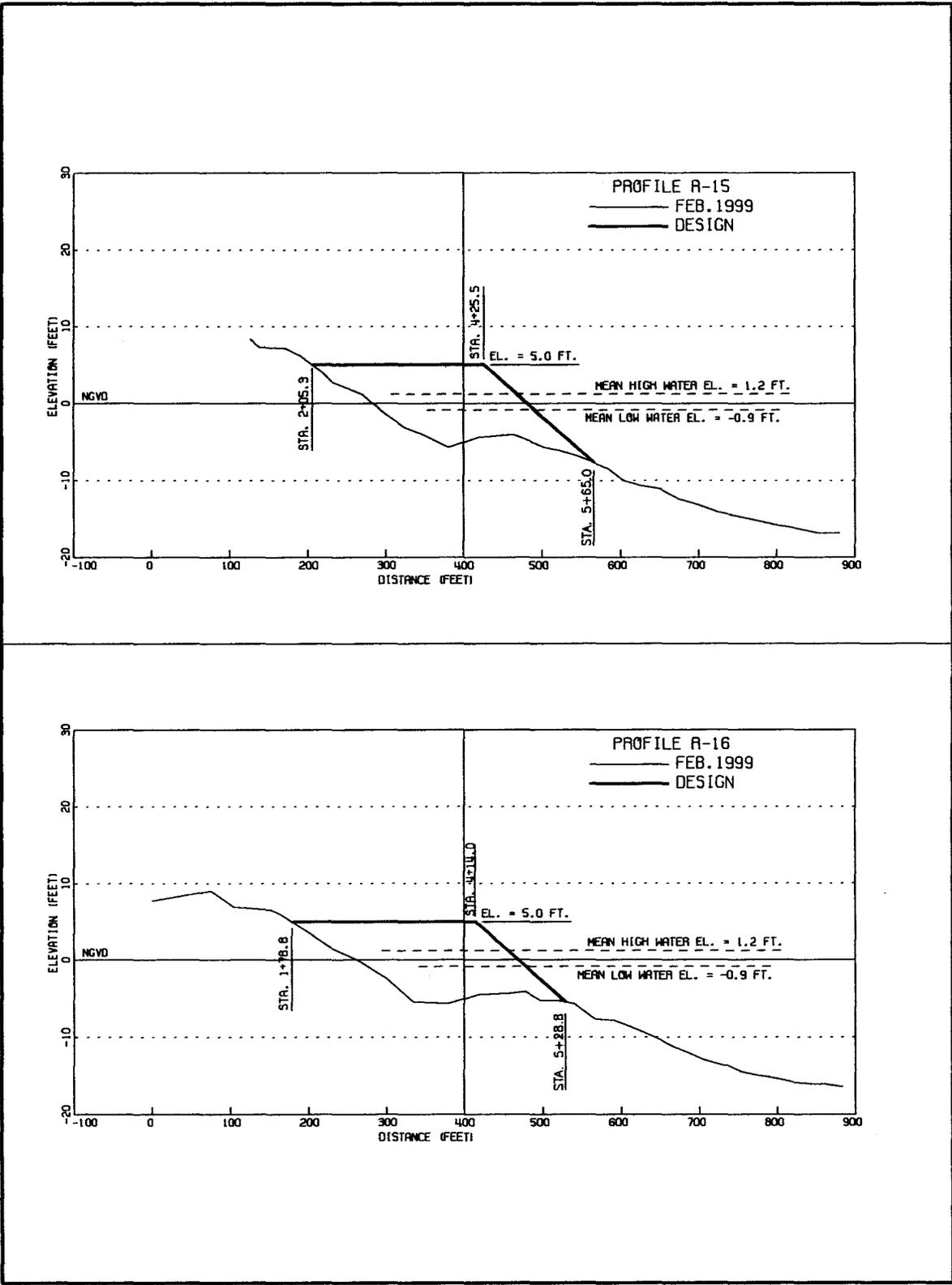
FIGURE E-A 1.8

ANNA MARIA ISLAND
 PROJECT PLAN VIEW
 BRADENTON-HOLMES BEACH SEGMENT



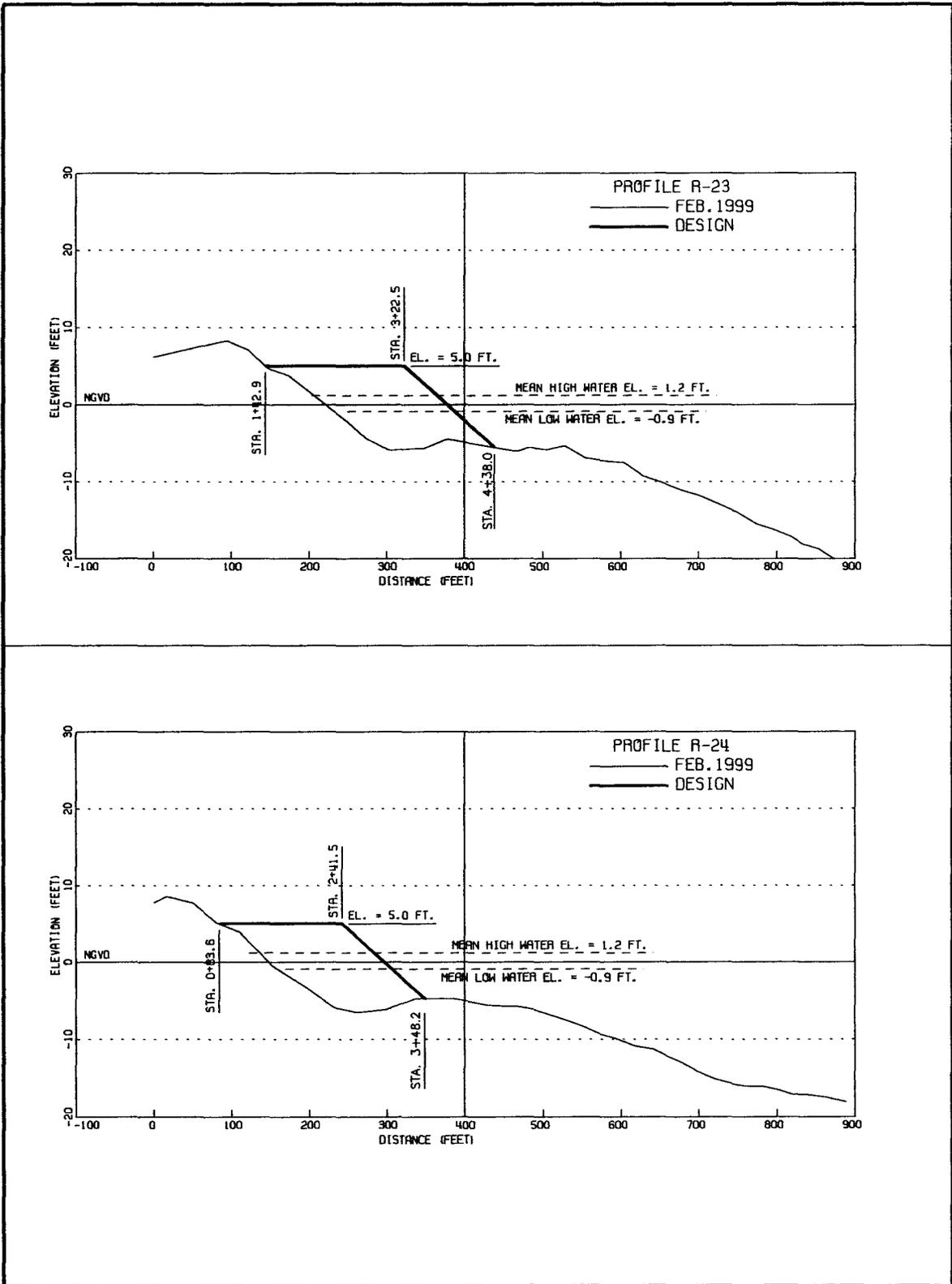
ANNA MARIA ISLAND
 FILL CROSS-SECTION

FIGURE EA-2



ANNA MARIA ISLAND
 FILL CROSS-SECTION

FIGURE EA-2.1



ANNA MARIA ISLAND
FILL CROSS-SECTION

FIGURE EA-2.2

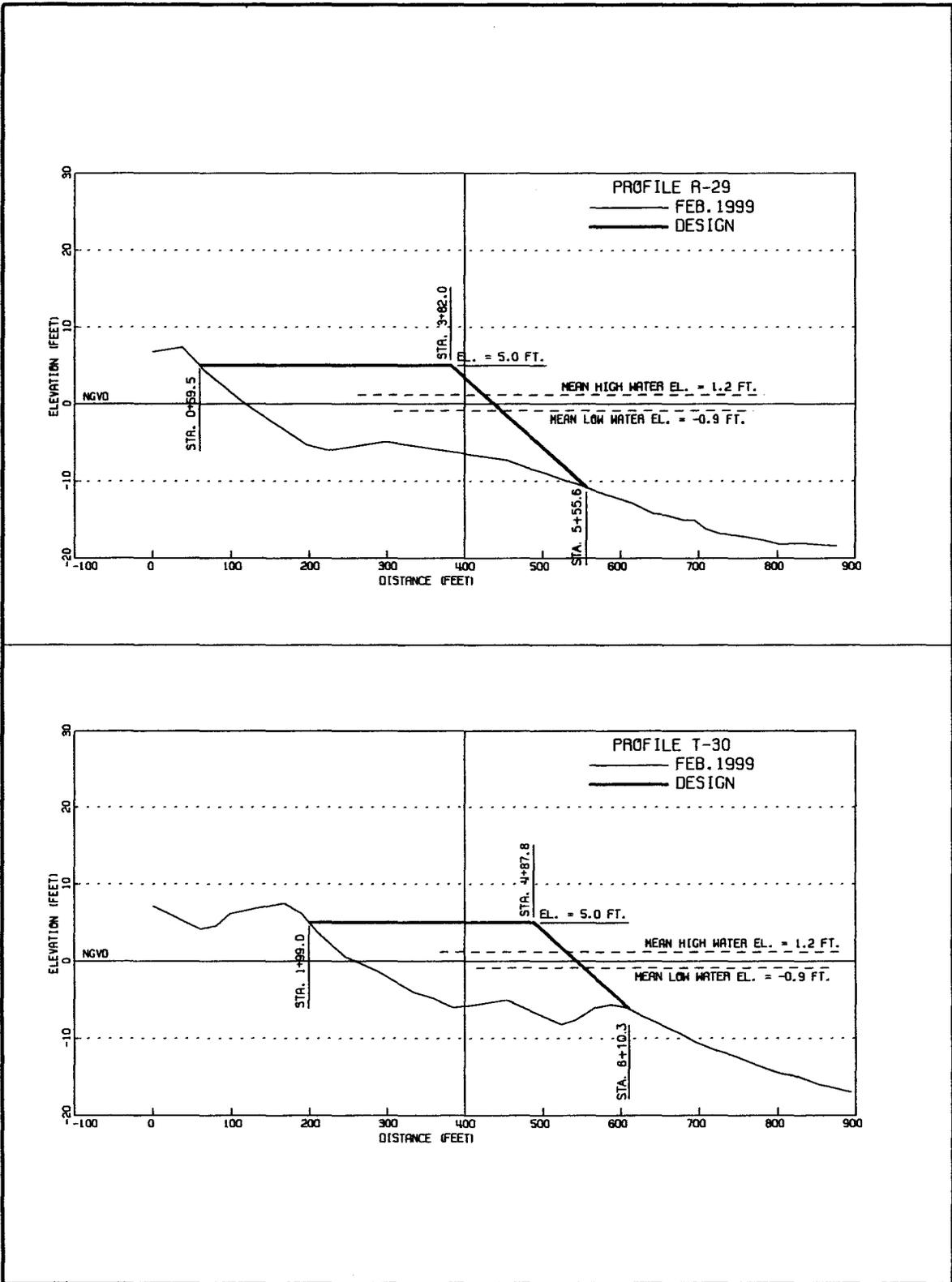


FIGURE EA-2.3

**ANNA MARIA ISLAND
 FILL CROSS-SECTION**

and enhancement, human safety, social well being, and cultural and historical resources.

Federal and County objectives include (1) the reduction of expected storm damages through beach nourishment and other project alternatives; (2) maintaining beaches as suitable recreational areas; (3) maintaining suitable beach habitat for nesting sea turtles, invertebrate species, and shorebirds; and (4) maintaining commerce associated with beach recreation on Anna Maria Island.

1.5 RELATED ENVIRONMENTAL DOCUMENTS.

The following is a list of related documents:

- a. Manatee County, Florida Shore Protection Project, General Design Memorandum (GDM) with Final Supplemental Environmental Impact Statement. U.S. Army Corps of Engineers (USACE), Jacksonville District, Revised September 1991.
- b. Manatee County, Florida Anna Maria Island Beach Nourishment Project Environmental Study. Coastal Planning and Engineering, Inc. (CPE), Boca Raton, FL. December 1990.
- c. Anna Maria Island, (Manatee County, Florida), Hardbottom Habitat, Sedimentation Rate, and Water Quality Monitoring Results. Coastal Planning and Engineering, Inc. (CPE), Boca Raton, FL. August 1998.
- d. Biological Assessment- Endangered Species Act Manatee County Shore Protection Project, Anna Maria Island, Manatee County, Florida. USACE, Jacksonville District, by letter dated December 16, 1999.
- e. Draft Coordination Act Report – Manatee County Shore Protection Project, Anna Maria Island, Manatee County, Florida. U.S. Fish and Wildlife Service Jacksonville, Florida. Submitted to the USACE Jacksonville District, March 2000.

1.6 DECISIONS TO BE MADE.

This Environmental Assessment will evaluate whether the proposed renourishment of Anna Maria Island (Manatee County), Florida will cause any significant environmental impacts and will make available to all decision makers and interested parties, a discussion of alternatives which eliminate or minimize adverse impacts.

1.7 SCOPING AND ISSUES.

1.7.1 ISSUES EVALUATED IN DETAIL.

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 Florida Department of Environmental Protection. Issues of concern raised by the State and Federal agencies relevant to the proposed renourishment have been incorporated into this Final Environmental Assessment. Issues of concern included potential impacts to endangered or threatened species; potential impacts to adjacent hardbottom habitats; and potential impacts related to water quality.

1.7.2 IMPACT MEASUREMENT.

The following provides the means and rationale for measurement and comparison of impacts of the renourishment action and alternatives. Section 4.0 Environmental Effects specifically investigates impact measurement and comparison.

1.7.2.1 Hardbottom Impacts.

Impacts to hardbottom and reef habitat can be predicted based upon proximity, currents, nature of borrow material, buffer zones and other factors (USACE, 1998). The Anna Maria Island Shore Protection Project could affect an estimated seven acres of nearshore, low-relief, ephemeral hardbottom habitat that has been re-exposed as a result of sand loss/shift. This is the amount of hardbottom habitat that was buried and mitigated for during initial construction of the project in 1992/93 by the construction of two artificial reefs.

The proposed action is not expected to cause any direct impacts to the offshore hardbottom community. Offshore hardbottom formations will be protected with a buffer zone beyond which no dredging will be allowed. Impacts to hardbottom habitats related to the movement and anchoring of construction vessels and/or placement and use of submerged pipeline will also be avoided via the establishment of buffer zones between dredging related equipment and hardbottom formations. Biological monitoring of the adjacent hardbottom habitats will be performed before, during, and after project construction to assess the effects on the hardbottom biological communities.

1.7.2.2 Sea Turtles

Continued beach erosion would reduce the amount of available sea turtle nesting habitat. The proposed renourishment project will have a positive impact on nesting loggerhead turtles by helping to maintain the nesting beach within the project area. Average nesting density for the first five years following initial project construction in 1992/93 was 85% higher than the average nesting density during the seven year period prior to the beach project (Meylan et al., 1998). Sea turtles may also be negatively impacted by nourishment activities. Concerns include the timing of construction activities, the potential burial of sea turtle nests, and compaction of beach sand due to construction activities. Protective and mitigative protocols have been established with the goal to minimize impacts to sea turtles and ensure compliance with the Endangered Species Act.

1.7.3 ISSUES ELIMINATED FROM DETAIL ANALYSIS.

The following issues were not considered important or relevant to the proposed action. Various alternative plans were formulated during the preparation of the 1991 GDM to ensure that all reasonable alternatives were evaluated as possible solutions to the erosion and storm damage problems in Manatee County. The no-action plan was examined. Structural alternatives included beach fill with periodic nourishment, groins, and revetments. As a result of investigations conducted during formulation and modification of the authorized project plan, the beach fill with periodic nourishment plan met the Federal objectives in the most economically efficient and environmentally acceptable manner. Environmental conditions in the project area and the environmental effects associated with design alternatives were evaluated in the 1973 Final Environmental Impact Statement (FEIS), 1979 Supplement to the FEIS, and Final Supplement 2 to the FEIS accompanying the 1991 GDM. Therefore, these alternatives were not re-evaluated during preparation of this environmental assessment for the proposed periodic renourishment. The potential environmental impacts associated with the proposed renourishment project and no-action alternative are presented herein.

1.8 PERMITS, LICENSES, AND ENTITLEMENTS.

A USACE permit is required for the proposed project, as the renourishment will be a locally constructed project. Also, a Florida Department of Environmental Protection Joint Coastal Permit and Sovereign Submerged Lands Authorization is required for project construction.

2 ALTERNATIVES

An assortment of project alternatives were examined in the 1991 GDM as possible solutions to the erosion and storm damage problems in Manatee County. Various alternative plans were formulated during these studies to ensure that all reasonable alternatives were evaluated. The no-action plan was examined. Structural alternatives included beach fill with periodic nourishment, groins, and revetments. As a result of the investigations conducted during formulation and modification of the authorized project plan, the beach fill with periodic nourishment plan met the Federal objectives in the most economically efficient and environmentally acceptable manner. The no-action plan failed to meet Federal objectives and was unacceptable to the non-Federal project sponsor. The no-action alternative will further erosion, allowing the surf zone to advance landward, and increasing storm damage impacts and costs.

2.1 DESCRIPTION OF ALTERNATIVES.

2.1.1 PROPOSED ACTION, FIRST PERIODIC RENOURISHMENT

This alternative would provide storm protection benefits to the properties and structures landward of the project beach. Renourishment of the project beach would also help protect the adjacent hurricane evacuation route and assist in maintaining a high quality recreational beach within the project area. An important sea turtle nesting habitat would also be protected by the implementation of this alternative. Additionally, since there is no source of littoral material at Anna Maria Island other than the island itself and adjacent offshore shoals, sand from the project area would be transported to the adjacent beaches as a result of littoral transport, providing some storm protection and recreational benefits to areas outside the project limits. This alternative would meet the project objective of providing a high quality storm protective and recreational beach within the project area. Analyses indicate that this alternative would provide the greatest benefit at the lowest cost.

2.1.2 NO ACTION ALTERNATIVE (STATUS QUO)

The no-action alternative would allow the project shoreline to continue to erode at its present rate. It would not provide a solution to existing erosion-related problems. This alternative would ultimately result in the loss of most or all of the dry beach within the project area, as well as the recreational and storm protection benefits associated with the beach. This alternative would also result in the loss or reduction of valuable sea turtle nesting habitat. The no-action alternative would, however, avoid any undesirable effects associated with the proposed periodic renourishment. This option is unacceptable to the local project sponsor.

2.2 ISSUES AND BASIS FOR CHOICE

As a result of earlier studies performed during the preparation of the 1991 GDM, the beach fill with periodic renourishment plan met the Federal objectives in the most economically efficient and environmentally acceptable manner.

2.3 PREFERRED ALTERNATIVE(S)

The preferred alternative involves the renourishment of the 4.2 mile long design project area using an estimated 1.85 million cubic yards of material dredged from two offshore borrow areas. The project limits for the first renourishment of the 4.2 mile design section on Anna Maria Island extend from FDEP monument R-12 to a point 300 feet south of R-33. The 0.5 mile transition zone remains between FDEP monuments R-34 and R-36. Sand will be dredged from the borrow areas using a hydraulic dredge. The material will be pumped from the borrow areas to the beach using a series of submerged and floating pipelines. The project will provide for a 75 foot wide design beach, referenced from the Corps construction baseline, plus an average of 45 feet of advanced nourishment at equilibrium. Thirty thousand cubic yards of fill is estimated for the 0.5 mile beach fill transition. The design berm elevation will be +5 feet NGVD. Approximately 2,700 cubic yards will be placed landward of the erosion control line.

Two borrow areas have been identified for the Anna Maria Island beach renourishment project. The north borrow area is located approximately 1,500 feet offshore at its closest point, and extends to a maximum distance of approximately 7,000 feet offshore. The north borrow area includes shoal material from Passage Key Inlet to the north of Anna Maria Island. The north borrow area contains approximately 11.0 million cubic yards of sand with an average mean grain size of 0.24 mm and a composite silt content of 2.72%. The south borrow area is located approximately 1,800 feet offshore of Anna Maria Island at its closest point, and extends offshore to a maximum distance of 5,000 feet. The south borrow area includes the northern shoal area of New Pass, off the south end of Anna Maria Island. The south borrow area contains approximately 2.62 million cubic yards of material with an average mean grain size of 0.32 mm and a composite silt content of 3.09%. The total sand volume of both borrow areas is approximately 13.62 million cubic yards, over 700 percent of the required renourishment volume for the first renourishment project. This volume is sufficient for the life of the project.

Water depths in the north borrow area range from approximately 6 feet to 22 feet (NGVD). The center of the north borrow area is located approximately 5,500 feet offshore of DEP monument R-12. Water depths in the south borrow area range from approximately 12 feet to 23 feet (NGVD). The center of the south borrow area is located approximately 6,700 feet offshore of DEP monument R-33.

The north borrow area is characterized as a sand bottom. Side scan sonar survey data and diver surveys indicate that no hardbottom, seagrass or other significant

habitats exist within or immediately adjacent to the north borrow area. The 1998 side scan sonar data of the proposed south borrow area indicated a predominantly sand bottom with two small areas that were not sand bottom noted within the trough that runs through the center of the borrow area. Diver investigation of these two areas within the trough revealed rock rubble and shell material. Magnetometer surveys of both borrow areas were performed, and the results were submitted to the USACE for review. By letter dated April 19, 2000, the Division of Historical Resources, Florida State Historic Preservation Officer (SHPO) determined that no potentially significant cultural resources will be impacted during dredging operations and approved the use of the two borrow areas for project construction. Any hardbottom areas adjacent to the borrow areas will be protected by the establishment of a buffer area between the boundary of the proposed borrow area and adjacent hardbottom formations.

2.4 ALTERNATIVES ELIMINATED FROM DETAILED EVALUATION

An assortment of project alternatives were examined in the 1991 GDM as possible solutions to the erosion and storm damage problems in Manatee County. Various alternative plans were formulated during these studies to ensure that all reasonable alternatives were evaluated. The no-action plan was examined. Structural alternatives including shoreline stabilization with groin construction and revetments were evaluated. These alternatives would not have provided recreational beach. Groin construction might have adversely affected the downdrift beach by interrupting littoral transport, and construction of revetments might have adversely affected sea turtle nesting habitat. Furthermore, the alternative plans proposed in the 1991 GDM would either not meet all of the project goals, or would meet the goals, but at a higher cost.

Four potential sand sources were considered as borrow sources for the initial restoration project in the 1991 GDM. The offshore sources were defined as the primary borrow area (partially utilized during the 1992/93 initial beach restoration), and three alternate borrow sites (a rectangular-shaped area near Passage Key Inlet, a trapezoid-shaped area near Longboat Pass, and a circular area located west of the northern end of Anna Maria Island). The locations of these borrow sites are depicted in Appendix B-Geotechnical Investigations (Plate B-1) of the Limited Reevaluation Report (USACE, 2000). Detailed discussion of the alternative sand sources including technical data and cost analysis are contained in the Manatee County, Florida Shore Protection General Design Memorandum of July 1989 (revised September 1991).

Sand search investigations performed in 1998 by Manatee County eliminated two of the alternate borrow sites proposed in the 1991 GDM as potential renourishment sources. The material in the rectangular borrow area located off the northern tip of Anna Maria Island was comparatively finer than the two borrow areas that are proposed as renourishment sources. The approximate average mean grain size of

the rectangular borrow area is less than 0.20 mm. Beach nourishment using this source would involve a larger overfill quantity and increased cost. Geotechnical investigations also eliminated the alternate borrow site located in the northern portion of the 1992/93 primary borrow area. This alternate borrow area contains a large amount of dark brown to black, organic material with high silt content. The northern portion of 1992/93 primary borrow area was not utilized during the initial restoration due to concerns over the potential impact to the bait-fish industry (USACE, 1991).

Although geotechnical investigations confirmed the presence of beach quality sand in the Longboat Key alternate borrow area, portions of this borrow area were previously utilized during the Longboat Key renourishment project. Therefore, this alternate borrow area was eliminated from detailed evaluation as a sand source. The final alternate borrow site, a circular area offshore of the City of Anna Maria, has been incorporated into the proposed north borrow area for the renourishment project.

Several upland sand sources were also investigated in the 1991 GDM. Upland sand sources were located at Davenport, Lake Wales, and Plant City, Florida, and a borrow pit on State Road 39 south of State Road 60 (USACE, 1991). The upland sand sources would have provided a high quality, silt-free sand for beach nourishment, but costs were considerably higher than obtaining sand from the offshore borrow areas (USACE, 1991). Economic analyses performed during preparation of the 1991 GDM revealed that the use of the offshore borrow area fronting the project beach would be the most cost effective sand source. Therefore, upland sand sources were not investigated as a potential sand source for the first periodic nourishment of Anna Maria Island.

2.5 ALTERNATIVES NOT WITHIN JURISDICTION OF LEAD AGENCY

This is not applicable. The proposed renourishment project is within the jurisdiction of the lead agency.

2.6 COMPARISON OF ALTERNATIVES

Table 1 lists alternatives considered and summarizes the major features and consequences of the proposed renourishment action and no-action alternative. Section 4.0 Environmental Effects contains a more detailed discussion of potential impacts associated with the proposed action.

2.7 MITIGATION

In general, the nearshore formations within and adjacent to the proposed project area exhibit less than 2 feet of relief, with many of the formations providing less than 1 foot of relief. Several of the formations were found to be ephemeral in nature, with all or parts of the formation covered by a thin layer of sand (CPE, 1998b). Nearshore hardbottom formations were identified between DEP

monuments R-39 and R-35, and between R-31 and R-27, during the pre-construction monitoring for the 1992/93 Anna Maria Island beach nourishment project (CPE, 1990).

The unavoidable burial of these low relief, ephemeral, hardbottom formations within and adjacent to the project area was mitigated for through the construction of two artificial reefs during the 1992/93 beach nourishment project. In contrast to the low relief nature of the natural hardbottom formations, One Mile Artificial Reef provides an approximate average of five feet of relief, while the average relief provided by Nearshore Artificial Reef is approximately three feet (CPE, 1995). Results of the two year biological monitoring program of the mitigative reefs suggest that the reefs provide a suitable habitat for a wide variety of benthic organisms and fishes.

Table 1: Summary of Direct and Indirect Impacts

ALTERNATIVE ENVIRONMENTAL FACTOR	Proposed renourishment with offshore borrow areas	Alternative Local Sand Sources	Other sand sources	Shore Protection Structures	No Action Status Quo
PROTECTED SPECIES	Little or no impact to manatees and sea turtles during construction; will maintain sea turtle nesting habitat	Little or no impact to manatees and sea turtles during construction; will maintain sea turtle nesting habitat	Depends on sand source; beach compatible sand would help maintain nesting beach	Depends on structure; may not protect sea turtle nesting beach; may adversely impact sea turtles during construction	Loss of sea turtle nesting beach due to continuing erosion; no effect upon manatees and whales
HARD GROUND	No direct impact at borrow sites; offshore hardbottom will be protected by establishment of buffer zones; some nearshore rock buried; impacts to nearshore hardbottom were mitigated for during 1992/93 project	No direct impact at borrow sites; some nearshore rock buried; impacts to nearshore hardbottom were mitigated for during 1992/93 project	No direct impact at borrow sites; some nearshore rock buried; impacts to nearshore hardbottom were mitigated for during 1992/93 project	Possible beach accretion due to structure with potential burial of ephemeral nearshore rock outcrops	No effect on offshore hardbottom; may result in further exposure of nearshore rock outcrops as beach continues to erode
SHORELINE EROSION	Would maintain a high quality recreational and storm protective beach	Depending upon sand source, would maintain a high quality recreational and storm protective beach	Depending upon sand source, would maintain a high quality recreational and storm protective beach	May help prevent continued erosion and protect upland properties	Shoreline would continue to erode at its present rate

ALTERNATIVE ENVIRONMENTAL FACTOR	Proposed renourishment with offshore borrow areas	Alternative Local Sand Sources	Other sand sources	Shore Protection Structures	No Action Status Quo
FISH AND WILDLIFE RESOURCES	No adverse impacts expected at borrow sites; beach habitat at fill site will be maintained	Depends upon sand source; investigation required; beach habitat will be maintained	Depends upon sand source; investigation required; beach habitat will be maintained	Depends upon structure; submerged structures may provide habitat for fishes; revetment would not protect beach habitat seaward of structure	No effect upon fishes; Continuing erosion will result in the loss of most beach and dune habitat
VEGETATION	No seagrasses in borrow areas or nearshore sites; will protect dune vegetation	Potential impact to seagrasses depending upon source; will protect dune vegetation	Depends upon sand source, may impact upland vegetation or seagrasses	Depending upon structure type and location, may impact or protect dune vegetation	Would not protect planted dune vegetation from continuing erosion
WATER QUALITY	Temporary increase in turbidity from dredging and disposal	Temporary increase in turbidity from dredging and disposal	Depends upon sand source; probable temporary increase in turbidity	Temporary increase in turbidity if structure is submerged	No effect
HISTORIC PROPERTIES	No adverse impacts; received SHPO approval of cultural resource survey of proposed borrow areas	Investigation required; possible adverse effect at sand source	Investigation required; possible adverse effect at sand source	Investigation required; possible adverse effect on shoreline resources	Investigation required; possible adverse effect on shoreline resources
RECREATION	Significant positive effect upon amount of recreational beach; no offshore recreational impacts are expected	Significant positive effect upon amount of recreational beach; no offshore recreational impacts are expected	Significant positive effect upon amount of recreational beach; no offshore recreational impacts are expected	Potential to protect existing recreational beach but would not increase recreational beach	Would allow erosion to continue and reduction of recreational beach

ALTERNATIVE ENVIRONMENTAL FACTOR	Proposed renourishment with offshore borrow areas	Alternative Local Sand Sources	Other sand sources	Shore Protection Structures	No Action Status Quo
AESTHETICS	Adverse impacts to short-term aesthetics due to presence of construction equipment	Potential adverse impacts to short-term aesthetics; long-term positive effect on aesthetics	Potential adverse impacts to short-term aesthetics; long-term positive effect on aesthetics	Depending upon structure, potential adverse impacts to short-term aesthetics due to construction of structure	Would allow erosion to continue, reducing the visual aesthetics of beach
NAVIGATION	Temporary short-term impact on navigation in areas near project site; no long-term impacts expected	Potential short-term impact upon navigation depending upon sand source; no long-term impacts expected	Potential short-term impact upon navigation depending upon sand source; no long-term impacts expected	Depending upon structure, potential short-term impacts to navigation expected during construction	No effect
ECONOMICS	Uses nearby economic sand source; tourism will benefit from enhanced beach	Higher sand transportation cost; tourism will benefit from enhanced beach	Higher sand transportation costs and/or bulk purchase price; tourism will benefit from enhanced beach	Might cost less than renourishment but would provide fewer enhancement benefits	Would allow erosion to continue; loss of tourism and storm protection benefits
ENERGY REQUIREMENTS AND CONSERVATION	Expenditure of significantly less on energy than use of distant alternative sand source or upland sources	Depending upon location, some would require expenditure of more energy due to distance between sand source and fill site	Depending upon location, some would require expenditure of more energy due to distance between sand source and fill site	Depends upon structure used	Would allow erosion to continue, may require a greater expenditure of on-site preventative measures and post-storm clean-up

ALTERNATIVE ENVIRONMENTAL FACTOR	Proposed renourishment with offshore borrow areas	Alternative Local Sand Sources	Other sand sources	Shore Protection Structures	No Action Status Quo
ESSENTIAL FISH HABITAT	No adverse impacts to EFH managed under the MSFCMA; impacts to nearshore hardbottom were mitigated for during 92/93 project	EFH consultation with NMFS required; impacts should be similar to proposed renourishment project, therefore impacts to EFH would be unlikely	EFH consultation with NMFS required; impacts should be similar to proposed renourishment project, therefore impacts to EFH would be unlikely	EFH consultation with NMFS required	No effect

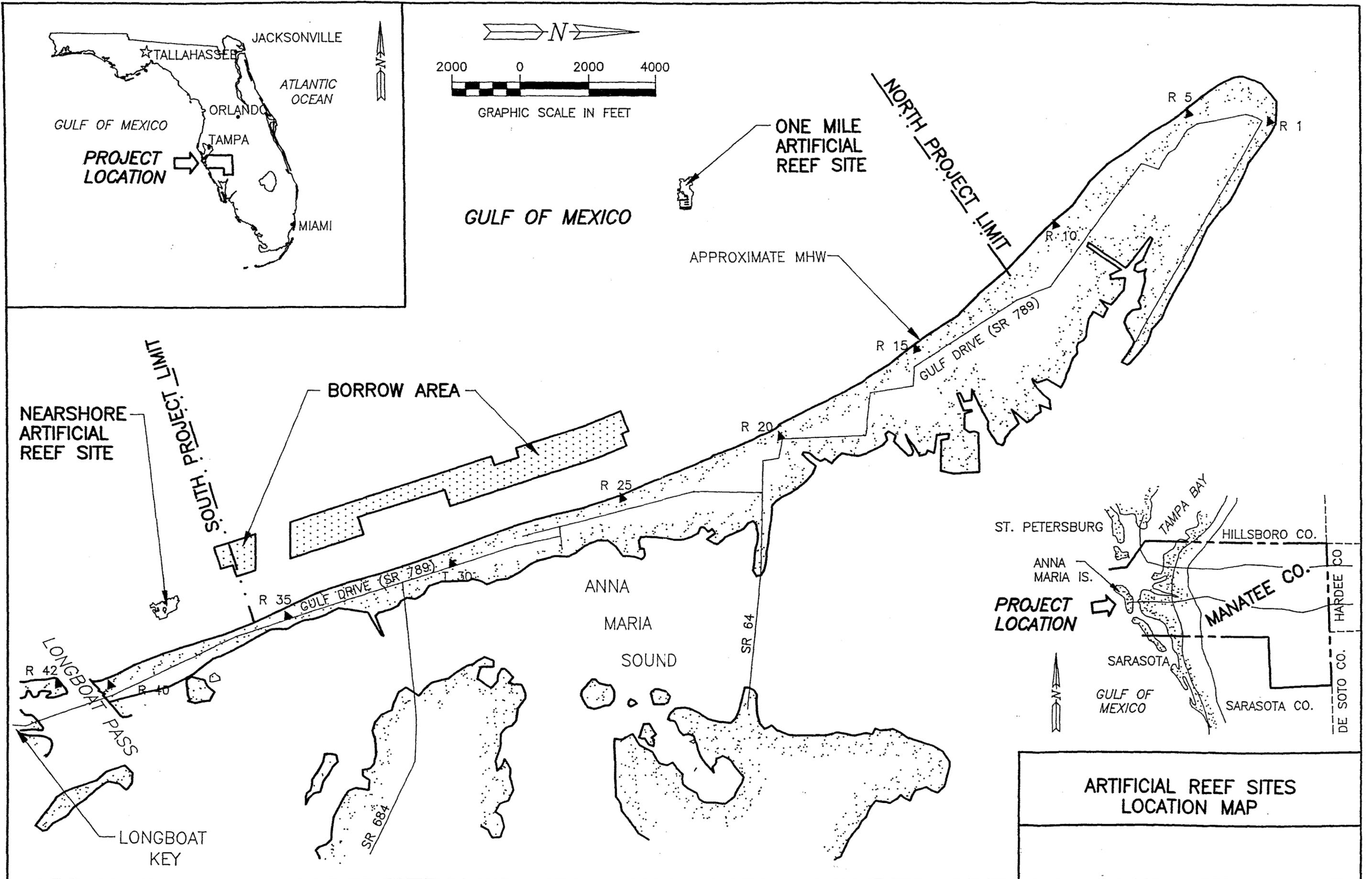
3 AFFECTED ENVIRONMENT

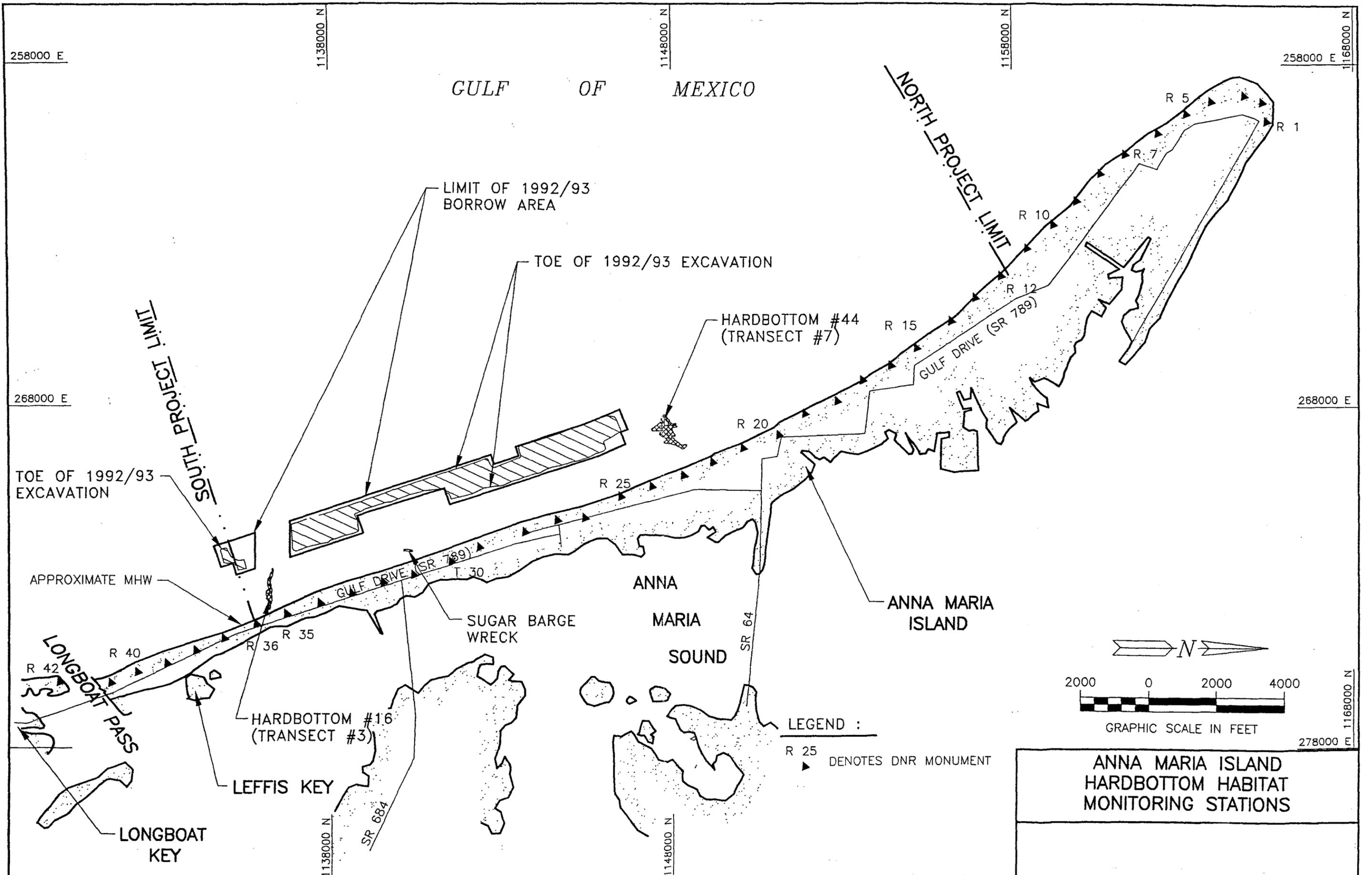
The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if the preferred alternative of periodic renourishment is implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the proposed alternative if implemented. This section, in conjunction with the description of the "no-action" alternative, forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives.

An assortment of project alternatives were examined in the 1991 GDM as possible solutions to the erosion and storm damage problems in Manatee County. Various alternative plans were formulated during these studies to ensure that all reasonable alternatives were evaluated. The no-action plan was examined. Structural alternatives included beach fill with periodic nourishment, groins, and revetments. As a result of these earlier studies, the beach fill with periodic nourishment plan met the Federal objectives in the most economically efficient and environmentally acceptable manner. The environmental effects associated with these alternatives were evaluated in the 1991 GDM; and therefore were not re-evaluated during preparation of this Environmental Assessment. The potential environmental impacts associated with the proposed renourishment project and no-action alternative are presented herein. The no-action plan failed to meet Federal objectives and was unacceptable to the non-Federal project sponsor. The no-action alternative will further erosion, allowing the surf zone to advance landward, and increasing storm damage impacts and costs.

3.1 GENERAL ENVIRONMENTAL SETTING

The proposed fill area includes a supratidal dry beach, intertidal swash zone, and subtidal sandy nearshore area with possible ephemeral rock outcrop formations. The two proposed borrow areas are located offshore of the project area shoreline in the Gulf of Mexico. The proposed north borrow area is characterized as having a featureless sand bottom, with no existing reef/hardbottom, seagrass, or other significant habitats. The south borrow area is predominantly sand bottom with two small areas of rock rubble/shell material located within the trough associated with the ebb tidal shoal of Longboat Pass (See Figures 3 through Figure 3.2., Hardbottom Habitat Location Maps).



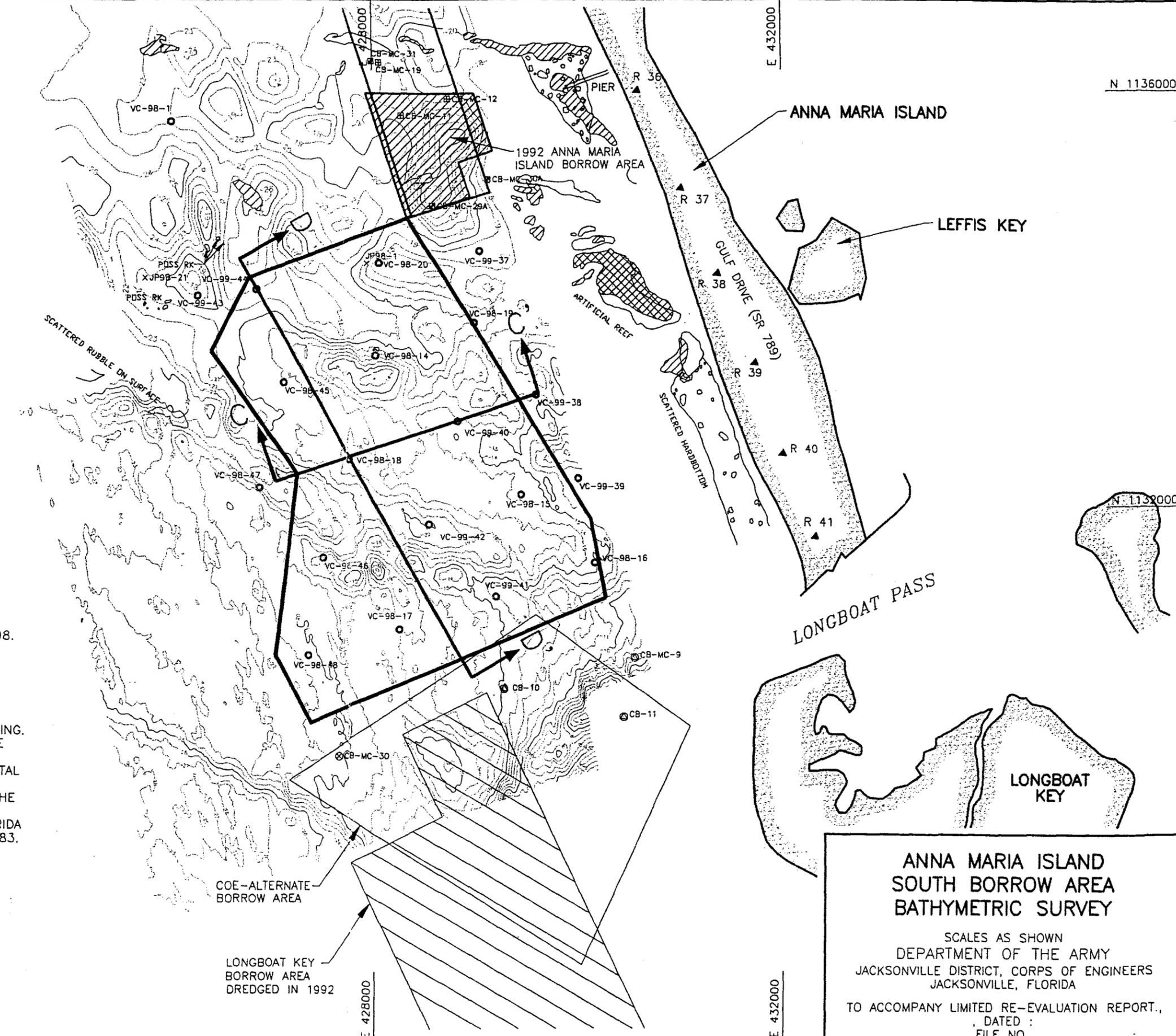
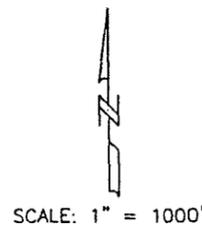


N 1136000

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NOTES:

1. DATE OF BATHYMETRIC SURVEY: OCTOBER 2-5, 1998.
2. ELEVATIONS SHOWN HEREON ARE IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM, 1929.
3. ALL SURVEY TRACKLINES WERE RUN EAST-WEST AT A TYPICAL 250 FOOT SPACING.
4. A TRIMBLE 4000 SE LAND SURVEYOR II GPS AND A TRIMBLE PRO BEACON DIFFERENTIAL RECEIVER WAS USED FOR NAVIGATION CONTROL AND POSITIONING.
5. BATHYMETRIC DATA OBTAINED USING AN INnersPACE 448 SURVEY GRADE FATHOMETER.
6. GUIDANCE AND DATA ACQUISITION BY USE OF COASTAL OCEANOGRAPHIC (HYPACK) HYDROGRAPHIC DATA COLLECTION/PROCESSING SYSTEM INTERFACED TO THE TRIMBLE DGPS AND THE INnersPACE 448.
7. COORDINATES SHOWN HEREON ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, 1983.

LEGEND :

- ▶ R 25 DENOTES DNR MONUMENT
- VC99-37 DENOTES CPE 1999 CORES
- VC98-14 DENOTES CPE 1998 CORES
- CB-MC-29A DENOTES COE CORES - 1988
- ⊗ CB-MC-35 DENOTES COE CORES - 1978
- ⊗ CB-MC-18 DENOTES COE CORES - 1969
- ⊗ CB-MC-22 DENOTES COE CORES - NO DATA
- × JP98-19 DENOTES CPE JET PROBES - 1998
- 1999 BORROW AREA BOUNDARY
- 1998 BATHYMETRIC CONTOUR
- ▨ EXPOSED ROCK

COE-ALTERNATE BORROW AREA

LONGBOAT KEY BORROW AREA DREDGED IN 1992

LONGBOAT PASS

ANNA MARIA ISLAND

LEFFIS KEY

LONGBOAT KEY

ANNA MARIA ISLAND SOUTH BORROW AREA BATHYMETRIC SURVEY

SCALES AS SHOWN
 DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

TO ACCOMPANY LIMITED RE-EVALUATION REPORT.,
 DATED :
 FILE NO.

E 424000

E 428000

E 432000

3.2 VEGETATION

There are no seagrass/algal communities present in the footprint of the beach fill or in the adjacent nearshore areas. The beach ecosystem within the proposed project area is a high energy environment. No primary dune system exists on Anna Maria Island. Dune construction was conducted by Manatee County at the southern end of the project area in 1994/95. The planted dune system contains sea oats (*Uniola paniculata*), dune sunflower (*Helianthus debilis*), beach elder (*Iva imbricata*), and railroad vine (*Ipomoea pes-caprae*) (Jack Gorzeman, personal communication, 1999).

3.3 THREATENED AND ENDANGERED SPECIES

The threatened and endangered species which may occur in the vicinity of Anna Maria Island are identified in Table 2.

The Biological Assessment issued by the U.S. Army Corps of Engineers for the proposed Anna Maria Island beach renourishment project found that the following listed species under the jurisdiction of the National Marine Fisheries Service may occur in the vicinity of the proposed work: loggerhead turtle (*Caretta caretta*), leatherback turtle (*Dermochelys coriacea*), Kemp's ridley turtle (*Lepidochelys kempii*), blue whale (*Balaenoptera musculus*), finback whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeanglia*), sei whale (*Balaenoptera borealis*), sperm whale (*Physeter macrocephalus*), and the Gulf sturgeon (*Acipenser oxyrinchus desotoi*). The USACE determined that the proposed project is not expected to have any effect on whales or the Gulf sturgeon, but may affect sea turtles if a hopper dredge is utilized (USACE, Biological Assessment, December 1999). If a pipeline dredge is used for construction, the USACE determined that dredging activities would have no effect on sea turtles.

Consultation with National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act revealed that the NMFS concurred with the Corps Biological Assessment. Populations of endangered/threatened species under NMFS purview will not be adversely impacted by the proposed action (NMFS Section 7 consultation letter dated January 28, 2000). The U.S. Fish and Wildlife Service (USFWS) also concurred with the Corps Biological Assessment and issued a Biological Opinion regarding the effects of the proposed renourishment project on loggerhead and green sea turtles. The USFWS Biological Opinion states that the beach nourishment project, as proposed, is not likely to jeopardize the continued existence of the loggerhead or green sea turtle and is not likely to destroy or modify designated critical habitat. Copies of the Corps Biological Assessment, Section 7 consultation letter from the National Marine Fisheries Service, and U.S. Fish and Wildlife Service Biological Opinion and Final Coordination Act Report, are provided in Appendix C.

TABLE 2

**FLORIDA'S ENDANGERED SPECIES,
THREATENED SPECIES,
AND SPECIES OF SPECIAL CONCERN
MANATEE COUNTY**

Common Name	Scientific Name	GFC	FWS
BIRDS			
Roseate spoonbill	<i>Ajaia ajaja</i>	SSC	
Limpkin	<i>Aramus guarauna</i>	SSC	
Southeastern snowy plover	<i>Charadrius alexandrinus tenuirostris</i>	T	
Piping plover	<i>Charadrius melodus</i>	T	T
Little blue heron	<i>Egretta caerulea</i>	SSC	
Reddish egret	<i>Egretta rufescens</i>	SSC	
Snowy egret	<i>Egretta thula</i>	SSC	
White ibis	<i>Eudocimus albus</i>	SSC	
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	E	
Southeastern American kestrel	<i>Falco sparverius paulus</i>	T	
Florida sandhill crane	<i>Grus canadensis pratensis</i>	T	
American oystercatcher	<i>Haematopus palliatus</i>	SSC	
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
Wood stork	<i>Mycteria americana</i>	E	E
Brown pelican	<i>Pelecanus occidentalis</i>	SSC	
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	T	T
Black skimmer	<i>Rynchops niger</i>	SSC	
Burrowing owl	<i>Speotyto cunicularia</i>	SSC	
Least tern	<i>Sterna antillarum</i>	T	
REPTILES			
American alligator	<i>Alligator mississippiensis</i>	SSC	T(S/A)
Atlantic loggerhead turtle	<i>Caretta caretta</i>	T	T
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
Atlantic ridley turtle	<i>Lepidochelys kempi</i>	E	E
FISH			
Common snook	<i>Centropomus undecimalis</i>	SSC	
MAMMALS			
Right whale	<i>Balaena glacialis</i>	E	E
Sei whale	<i>Balaenoptera borealis</i>	E	E
Finback whale	<i>Balaenoptera physalus</i>	E	E
Humpback whale	<i>Megaptera novaeangliae</i>	E	E
Sperm whale	<i>Physeter catadon</i>	E	E
West Indian (Florida) manatee	<i>Trichechus manatus latirostris</i>	E	E
<p>Notes: E = Endangered T = Threatened SSC = Species of Special Concern</p> <p>Sources: University of Florida Institute of Food and Agricultural Sciences, Florida Cooperative Extension Service Wildlife Website, Updated Nov. 1998; Florida Game and Freshwater Fish Commission, 1997.</p>			

3.3.1 SEA TURTLES

Of the listed species found in or near the project area, the loggerhead sea turtle (*Caretta caretta*) is most likely to be affected by the proposed project. On average, in the five years following the initial beach restoration project, an estimated 24 loggerhead nests/mile have been laid on a 7.3 mile stretch of Anna Maria Island that includes the beaches restored in 1992/93. It should be noted that this post-project nesting density represents an increase of 85% compared to the 7-year pre-project nesting density of 13 nests/mile. Average nesting success remained relatively stable, increasing by 2% to 57% during the five years following the beach restoration project (Meylan et al., 1995; 1998; AMI Turtle Watch, 1997).

Total nests recorded along the Anna Maria shoreline for the six nesting seasons subsequent to the 1992/93 nourishment (1993, 1994, 1995, 1996, 1997, and 1998) were 155, 136, 214, 171, 161, and 225, respectively. For the six years prior to the beach nourishment project (1987, 1988, 1989, 1990, 1991, and 1992), the total nests per nesting season recorded along the same stretch of shoreline were 59, 25, 106, 100, 96 and 102, respectively. These statistics suggest that the added beach created additional nesting habitat to increase density and did not discourage females from nesting. One hundred percent (100%) of the nests recorded on Anna Maria Island beaches were loggerhead sea turtle nests.

3.3.2 RIGHT WHALE

The right whale is not known to frequent the shallow coastal waters near the fill site or borrow areas, but may be found in deeper, offshore waters during the winter months.

3.4 HARDGROUNDS

3.4.1 Nearshore Hardbottom formations

The nearshore hardbottom formations offshore of Anna Maria Island are defined as those which occur in water depths equal to, or less than -8 feet (NGVD), and generally consist of large flat limestone rock platforms providing relatively uniform relief (CPE, 1990). In general, the nearshore formations exhibit less than 2 feet of relief, with many of the formations providing less than 1 foot of relief. Several of the formations were found to be ephemeral in nature, with all or parts of the formation covered by a thin layer of sand (CPE, 1998b). Nearshore hardbottom formations were identified between DEP monuments R-39 and R-35, and between R-31 and R-27, during the pre-construction monitoring for the 1992/93 Anna Maria Island beach nourishment project (CPE, 1990).

A majority of the nearshore hardbottom formations have exhibited low species density and diversity when compared to formations located further from shore (CPE, 1990). The dominant benthic species at the nearshore formations include

several green algae (*Caulerpa* spp.), two brown algae (*Padina* sp. and *Sargassum* sp.) and two sea urchins (*Echinometra lucunter* and *Lytechinus variegatus*). In addition, a red boring sponge (*Cliona delitrix*), several tunicates, and a few scattered gorgonians (*Leptogorgia virgulata* and *Lophogorgia hebes*) have been occasionally observed at the higher relief portions of the nearshore formations (CPE, 1998b).

The dominant fish species at the nearshore formations include belted sand bass (*Serranus subligarius*), slippery dick (*Halichoeres bivittatus*), puddingwife (*Halichoeres radiatus*) and tomtates (*Haemulon aurolineatum*). White grunts (*Haemulon plumieri*), spottail pinfish (*Diplodus holbrookii*), sheephead (*Archosargus probatocephalus*), lane snapper (*Lutjanus synagris*), lizard fish (*Synodus foetens*) and Gulf toadfish (*Opsanus beta*) are occasionally observed at the nearshore hardbottom formations (CPE, 1998b).

3.4.2 Offshore Hardbottom Formations

The offshore formations offshore of Anna Maria Island are defined as those formations which are located at depths greater than -8 feet (NGVD). The shape of the offshore formations ranges from large, plate-like formations to boulder-like rock outcroppings (CPE, 1990). The vertical relief exhibited by the offshore hardbottom areas ranges from no relief to nearly four feet, with a majority of the offshore formations exhibiting one to two feet of relief (CPE, 1998b). Offshore hardbottom formations were identified between DEP survey monuments R-24 and R-22 during the pre-construction monitoring for the 1992/93 beach nourishment project (CPE, 1990).

Species density and diversity are higher at the offshore hardbottom formations than at the nearshore formations (CPE, 1990). Benthic species commonly observed at the offshore formations include several species of algae (primarily *Hypnea* sp., *Caulerpa* spp. and *Sargassum* cf. *pteropleuron*), sponges and tunicates, and two species of gorgonians (*Leptogorgia virgulata* and *Lophogorgia hebes*), a few scleractinian corals (primarily *Solenastrea hyades* and *Siderastrea radians*), and two sea urchins (*Echinometra lucunter* and *Lytechinus variegatus*). The most commonly observed fishes include tomtates, belted sand bass, slippery dick, puddingwife, spottail pinfish, white grunt, sheephead, and Atlantic spadefish (*Chaetodipterus faber*) (CPE, 1998b).

3.5 FISH AND WILDLIFE RESOURCES

The beach ecosystem within the project area is a high energy environment. No primary dune system exists on Anna Maria Island. The beach zone is characterized by low species diversity. Common inhabitants of the beach face include ghost crabs (*Ocypode quadrata*), while common benthic infauna consist of polychaetes,

amphipods, and isopods. The beach also provides nesting habitat for the loggerhead sea turtle (*Caretta caretta*).

Organisms typically associated with the sands in the intertidal zone include coquina clams (*Donax variabilis*), ghost shrimp (*Callinassa* sp.), mole crabs (*Emerita talpoida*), polychaetes, amphipods, and isopods.

The dominant fish species at the nearshore formations include belted sand bass (*Serranus subligarius*), slippery dick (*Halichoeres bivittatus*), puddingwife (*Halichoeres radiatus*) and tomtates (*Haemulon aurolineatum*). White grunts (*Haemulon plumieri*), spottail pinfish (*Diplodus holbrookii*), sheepshead (*Archosargus probatocephalus*), lane snapper (*Lutjanus synagris*), lizard fish (*Synodus foetens*) and Gulf toadfish (*Opsanus beta*) are occasionally observed at the nearshore hardbottom formations (CPE, 1998b). Commonly observed fishes associated with the offshore formations include tomtates, belted sand bass, slippery dick, puddingwife, spottail pinfish, white grunt, sheepshead, and Atlantic spadefish (*Chaetodipterus faber*) (CPE, 1998b).

The proposed north borrow area is characterized as a featureless sand bottom with no existing reef/hardbottom, seagrass, or other significant habitat. The side scan sonar surveys of the proposed south borrow area revealed a predominantly sand bottom with two small areas which are not sand bottom located within a trough that runs through the center of the borrow area. This trough is associated with the ebb tidal shoal of Longboat Pass. In September 1999, diver investigations of the trough within the south borrow area revealed rock rubble and shell material. The benthic biological assemblages observed in association with the rubble/shell hash within the trough consisted of the green alga, *Caulerpa mexicana*, the common Atlantic slipper shell (*Crepidula fornicata*), sea urchins (*Echinometra lucunter* and *Lytechinus variegatus*), and numerous bivalve mollusks. Any hardbottom areas adjacent to the borrow areas will be protected by the establishment of a buffer area between the boundary of the proposed borrow area and hardbottom areas in which no dredging will occur.

3.6 ESSENTIAL FISH HABITAT

The generic amendment to Gulf of Mexico Fishery Management Plans (GMFMC 1999) identifies Essential Fish Habitat in the project area to be marine water column, live/hard bottom and non-vegetated bottom. Juvenile gray snapper (*Lutjanus griseus*) are common in the nearshore marine habitat of Anna Maria Island. Juvenile and adult stone crab (*Menippe mercenaria*) and juvenile and adult spiny lobster (*Panulirus argus*) may be found in the nearshore hard bottom habitat. Juvenile and adult red drum (*Sciaenops ocellatus*) and pink shrimp (*Penaeus duorarum*) may be found in the non-vegetated bottom and marine water column habitat.

3.7 COASTAL BARRIER RESOURCES

Neither the fill site or the proposed borrow areas are located within or adjacent to a designated Coastal Barrier Resources System Unit.

3.8 WATER QUALITY

The waters off the coast of Anna Maria Island are listed as Class III waters by the State of Florida. Class III category waters are suitable for recreation and propagation by fish and wildlife. In Class III waters, Florida state guidelines limit turbidity values to under 29 NTU above ambient levels outside the turbidity mixing zone during beach nourishment activities.

3.9 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

The nature of the work involved with the renourishment of beaches is such that contamination by hazardous and toxic wastes is unlikely. There are currently no hazardous, toxic, and radioactive waste producers adjacent to the project site that discharge effluents near the Anna Maria Island shoreline. No contamination from hazardous or toxic waste spills is known to occur in the project area.

3.10 AIR QUALITY

Ambient air quality along the Anna Maria Island shoreline is good due to the presence of either onshore or offshore breezes. In June, 1998, the EPA revoked the 1-hour ozone standard in Manatee County. However, the 1-hour ozone non-attainment area remains in effect for the Sarasota-Bradenton area. Manatee County is classified as an attainment area for all other Federal Air Quality Standards.

3.11 NOISE

Ambient noise levels along coastal Manatee County are low to moderate and are typical of recreational environments. The major noise producers include the breaking surf, adjacent commercial and residential areas, and traffic (boat, vehicular, and airplane).

3.12 AESTHETIC RESOURCES

Much of the shoreline along the project area was heavily armored with seawalls, groins, bulkheads and revetments prior to the 1992/93 project. Numerous non-functional or derelict structures, primarily small groins, were removed as part of the erosion control project, but much of the shoreline remains hardened. No primary dune system exists on Anna Maria Island. Dune construction was conducted by Manatee County at the southern end of the project area in 1994/95. Development within the project area consists of parking areas, public accesses and other public beach related facilities, single-family private residences and large multi-family residences. A limited number of commercial establishments exist within the project area.

3.13 RECREATION RESOURCES

The waters above the borrow areas provide some recreational value for boaters. The featureless sand floor of the borrow areas provide limited habitat for recreationally important fishes, and as a result, provide little value for recreational bottom fishing.

The material from the borrow areas would be utilized to renourish a highly used recreational beach. Based upon the number of public beach accesses and City and County public beach parks, the entire 4.2 design beach project is considered available to the public. The total beach user visits to Manatee County in 1997 was 4,981,000; and it is estimated that approximately 46% of the total beach user demand occurs within the project limits (USACE, 2000). Recreational opportunities within and adjacent to the fill site include beach combing, swimming, windsurfing, sunbathing, walking, jogging, and beach volleyball.

3.14 NAVIGATION

The majority of boating activity is concentrated in close proximity to Passage Key Inlet to the north and Longboat Pass to the south. Longboat Pass is a natural inlet which serves as the access point for recreational and commercial fishing vessels, and recreational boating and diving vessels, between Big Sarasota Bay and the Gulf of Mexico. Longboat Pass is a federally authorized navigation project, and the USACE is responsible for the periodic maintenance of the navigation channel at the Pass.

3.15 HISTORIC PROPERTIES

Potential historic resources located within the proposed renourishment area in Manatee County include archeological resources located on the beach, underwater historic shipwrecks, and historic structures located near the shoreline. Areas where significant cultural resources are very unlikely include previously utilized borrow areas, maintenance dredge material from existing Federal projects, and previously nourished beaches. Cultural resource investigations of the two proposed borrow areas located unidentified magnetic anomalies in each of the proposed borrow areas. A cluster of magnetic anomalies is located at the approximate location of a chartered shipwreck in the north borrow area. Analysis of the data indicated that several anomaly clusters in each area exhibit characteristics consistent with those of historic submerged cultural resources (Warren, 2000). The results were provided to the USACE for review, and a request for approval of the borrow areas was submitted to the Division of Historic Resources (DHR) and Florida State Historic Preservation Officer (SHPO). By letter dated April 19, 2000, SHPO concurred with the cultural resource survey results and determined that no potentially significant cultural resources will be impacted during dredging operations.

4 ENVIRONMENTAL EFFECTS

4.1 GENERAL ENVIRONMENTAL EFFECTS

The placement of sand fill along the proposed project area will increase the dry beach zone and provide a larger buffer area for protection against storms and flooding. The larger beach area will also provide additional recreational space, as well as assist in maintaining an important nesting habitat for sea turtles. The presence of construction equipment and personnel will temporarily detract from the aesthetics of the environment. Depending upon the sand source, the color of the dredged sand might not match the existing beach sand and may slightly detract from the aesthetic quality of the project beaches. Best management practices will be implemented to ensure efficient construction and the minimization of extended presence of equipment and personnel in project area habitats.

An assortment of project alternatives were examined in the 1991 GDM as possible solutions to the erosion and storm damage problems in Manatee County. Various alternative plans were formulated during these studies to ensure that all reasonable alternatives were evaluated. The no-action plan was examined. Structural alternatives included beach fill with periodic nourishment, groins, and revetments. As a result of these earlier studies, the beach fill with periodic nourishment plan met the Federal objectives in the most economically efficient and environmentally acceptable manner. Environmental conditions in the project area and the environmental effects associated with design alternatives were evaluated in the 1973 Final Environmental Impact Statement (FEIS), 1979 Supplement to the FEIS and Final Supplement 2 to the FEIS accompanying the 1991 GDM. Therefore, the environmental effects associated with these alternatives were not re-evaluated during preparation of this Environmental Assessment, and only the potential environmental impacts associated with the proposed renourishment project and no-action alternative are presented herein. The no-action plan failed to meet Federal objectives and was unacceptable to the non-Federal project sponsor. The no-action alternative will further erosion, allowing the surf zone to advance landward, and increasing storm damage impacts and costs.

4.2 VEGETATION

4.2.1 PROPOSED ACTION, FIRST PERIODIC RENOURISHMENT

There are no seagrass/algal communities present in the footprint of the beach fill or in the adjacent nearshore areas. No primary dune system exists on Anna Maria Island. Dune construction was conducted by Manatee County at the southern end of the proposed project area in 1994/94. The planted dune system contains sea

oats (*Uniola paniculata*), dune sunflower (*Helianthus debilis*), beach elder (*Iva imbricata*), and railroad vine (*Ipomoea pes-caprae*) (Jack Gorzeman, personal communication, 1999).

Beach renourishment activities on Anna Maria Island will likely be required by State and Federal resource protection agencies to limit, to the greatest extent practical, disturbance to any existing dune vegetation. Protective measures included in the plans and specifications will limit construction activities to those areas of unvegetated beach and dune, unless expressly authorized by the project permits.

4.2.2 NO ACTION ALTERNATIVE (STATUS QUO)

The no-action alternative will further erosion, allowing the surf zone to advance landward, thereby jeopardizing the continued presence and expansion of the planted dune system on southern Anna Maria Island.

4.3 THREATENED AND ENDANGERED SPECIES

4.3.1 PROPOSED ACTION, FIRST PERIODIC RENOURISHMENT

The proposed project is not expected to have any effect on whales since construction activities will occur in shallow coastal waters which are not frequented by whales.

The proposed project will have a positive impact on nesting loggerhead sea turtles by helping to maintain the nesting beach within the project area. This is evidenced by the fact that the average nesting density for the first five years following project construction (1993-1997) was 85% higher than the average nesting density during the seven year period prior to the beach project (Meylan et al., 1998).

Sea turtles may be potentially negatively impacted by nourishment activities. Concerns include the timing of construction activities, the potential burial of sea turtle nests, and compaction of beach sand due to the presence of heavy equipment and sand depositions. Potential negative impacts on sea turtles and/or manatees will be avoided or minimized through the implementation of special precautionary measures. Construction related increases in vessel traffic offshore of the project area will increase the potential of vessel collision with sea turtles and manatees. Impacts related to vessels and other construction activities will be minimized by implementing the standard manatee precautionary measures, through the education of all workers regarding the importance of avoiding impacts to sea turtles and manatees, and by requiring a manatee and sea turtle observer on all vessels at all times.

Construction will not occur during the main part of nesting and hatching season for sea turtles. Beach nourishment shall start after October 31 and be completed

before May 1. Previous sea turtle nesting studies conducted in conjunction with beach projects in the State of Florida suggest that sea turtles will readily nest on adjacent beaches. Additional evidence that sea turtles will readily nest on beaches adjacent to an ongoing beach project has also been observed by Fletemeyer (1983), and Burney and Mattison (1989).

Coordination with the U.S. Fish & Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) has been accomplished for the proposed renourishment project through consultation under Section 7 of the Endangered Species Act of 1973, as amended. The 1999 USACE Biological Assessment found that the proposed dredging of the borrow areas posed no effect on whales, Gulf sturgeon, or sea turtles if a pipeline dredge is utilized for project construction. The USACE determined that sea turtles could be affected by dredging activities if a hopper dredge is used (USACE, 1999). The National Marine Fisheries Services concurred with the Biological Assessment that populations of endangered/threatened species under NMFS purview will not be adversely impacted by the proposed action. Section 7 consultation with NMFS also determined that, in the event that a hopper dredge is required for project construction, the USACE will abide by the terms and conditions set forth in the August 29, 1997 Regional Biological Opinion for the use of hopper dredging of channels and beach nourishment activities on the east coast (NMFS Section 7 consultation letter dated January 28, 2000). The Biological Opinion issued by the U.S. Fish and Wildlife Service states that the beach nourishment project, as proposed, is not likely to jeopardize the continued existence of the loggerhead and green sea turtle, given implementation of precautionary measures for minimization of sea turtle "take". The USFWS determined that the level of anticipated "take" due to project related activities is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat. Copies of the Corps Biological Assessment, NMFS Section 7 consultation letter, and USFWS Biological Opinion and Final Coordination Act Report, are provided in Appendix C.

4.3.2 NO ACTION ALTERNATIVE (STATUS QUO)

The no-action alternative will result in continued shoreline erosion and the reduction of sea turtle nesting habitat due to beach erosion. No offshore impacts to sea turtles or manatees are expected with the no-action alternative.

4.4 HARDGROUNDS

4.4.1 PROPOSED ACTION, FIRST PERIODIC RENOURISHMENT

Impacts to the nearshore hardbottom habitats in the project area were mitigated for by the construction of two artificial reefs in 1992/93. Results of the 1996 nearshore hardbottom monitoring of the 1992/93 beach project demonstrated an accumulation of sand at two of the three nearshore hardbottom transects (Sugar

Barge Wreck and Hardbottom #16, located offshore of the southern project limit), and an increase in relief provided by the inshore portion of Hardbottom #44, located offshore of DEP monument R-23. Although sand accumulation at the two transects resulted in the apparent loss of most of the sessile organisms associated with the inundated areas, the overall effect on the hardbottom biological communities, both sessile and motile, was limited. During the four year monitoring period, the majority of the sessile communities observed along the hardbottom transects exhibited little or no changes in their species diversity and composition (CPE, 1995).

Results of the two year biological monitoring program of the mitigative reefs suggest that the reefs provide a suitable habitat for a wide variety of benthic organisms and fishes. A combined total of seventy-five benthic species were identified at the two artificial reefs during the two year study period. These included seventeen species of algae, fifteen sponges, four hydroids, one anemone, two gorgonians, one telestacean, two stony corals, nine molluscs, six echinoderms, five crustaceans, one arthropod, and eleven tunicates. The mitigative reefs also provided a suitable replacement habitat for fishes, with a combined total of fifty-nine species observed, including utilization of the reefs by a variety of juvenile fishes. The species diversity and species composition of benthic organisms and fish observed at the mitigative artificial reefs exceeded that of the natural hardbottom communities, and approximately 50% of the fish and benthic species found at the natural hardbottom formations were also found at the mitigative reefs (CPE, 1995).

The proposed project is not expected to cause any direct impacts to the offshore hardbottom community since offshore hardbottom formations will be protected with a buffer zone beyond which no dredging will be allowed. Impacts to hardbottom habitats related to the movement and anchoring of construction vessels and/or placement and use of a submerged pipeline will also be avoided via the establishment of buffer zones between dredging-related equipment and hardbottom formations. Additionally, biological monitoring of the adjacent hardbottom habitat will be conducted during the proposed project according to the permit requirements. The unavoidable burial of low relief hardbottom formations within and adjacent to the project area was mitigated for through the construction of two artificial reefs during the 1992/93 beach nourishment project. The vertical relief exhibited by the offshore hardbottom areas ranges from no relief to nearly four feet, with a majority of the offshore formations exhibiting one to two feet of relief (CPE, 1998b). In contrast to the low relief rock outcrops within the project area, One Mile Artificial Reef provides an approximate average of five feet of relief, while the average relief provided by Nearshore Artificial Reef is approximately three feet (CPE, 1995).

Although indirect impacts at the offshore hardbottom formations may occur as a result of dredge related increases in turbidity and/or sedimentation, these impacts are expected to be temporary. Any turbidity resulting from the dredging process is expected to quickly dissipate as a result of normal currents and waves. Likewise, any suspended sediments are expected to quickly settle out of the water column.

The proposed project is not expected to cause any long-term adverse environmental impacts at the two borrow areas. Although dredging of the borrow areas will cause a localized depletion of sand, no hardbottom, reef, seagrass or other significant habitat would be altered by the proposed dredging. Dredging of the borrow areas would result in some temporary increases in turbidity near the borrow areas, however, waves and currents would quickly disperse any resulting turbidity. Additionally, turbidity is expected to be limited since the most cost effective dredging method will be use of a hydraulic dredge.

4.4.2 NO ACTION ALTERNATIVE (STATUS QUO).

There are no negative impacts to hardbottom habitats associated with the no-action alternative. Continued erosion may result in further exposure of nearshore rock outcrops.

4.5 FISH AND WILDLIFE RESOURCES

4.5.1 PROPOSED ACTION, FIRST PERIODIC RENOURISHMENT

No long-term, adverse impacts to the fish communities near the dredging site or nearshore areas are expected. Fish are motile and will leave a disturbed area to return when pre-disturbance conditions resume.

Results of the two year biological monitoring program of the mitigative reefs suggest that the nearshore artificial reefs provide a suitable replacement habitat for fishes, with a combined total of fifty-nine species observed, including utilization of the reefs by a variety of juvenile fishes. The species diversity and species composition of benthic organisms and fish observed at the mitigative artificial reefs exceeded that of the natural hardbottom communities, and approximately 50% of the fish and benthic species found at the natural hardbottom formations were also found at the mitigative reefs (CPE, 1995).

Borrow area dredging will eliminate most of the infauna within the dredged areas. This loss of infauna will be temporary, however, since infauna from outside the effected areas will quickly colonize disturbed areas (Turbeville and Marsh, 1982; Nelson, 1985; Bowen and Marsh, 1988; Saunders, unpublished). Post-construction monitoring of the borrow area for the 1992/93 Anna Maria Island demonstrated the biological succession of the infaunal borrow area communities during the six-year project study. The 1996 final post-construction survey,

conducted four-years after project construction, revealed increased species density at the borrow area compliance stations compared to earlier post-construction monitorings. Diversity indices also suggested that the borrow area compliance stations demonstrated relatively high species diversity/equitability, and the progressive colonization of the borrow area was evidenced by the emergence of new dominant species (the bivalve, *Diveracella quadrisculata*; the polychaete, *Armandia agilis*; and the amphipod, *Acanthohaustorius millsii*) during the final post-construction monitoring (CPE, 1998c).

The disposal of sand on the beach may temporarily interrupt foraging and resting activities for shorebirds that utilize the project area. This impact would be short-term and limited to the immediate area of disposal and time of construction. The disposal of sand on the beach would also have a short-term negative impact on the beach infauna. The placement of sand within the fill site would result in the burial and subsequent loss of most of the infauna present. This impact would be of limited duration since infauna from adjacent areas would quickly recolonize the disturbed areas.

4.5.2 NO ACTION ALTERNATIVE (STATUS QUO)

The no action alternative would allow for the continuing erosion and corresponding loss of beach and dune habitat, thereby impacting the species that reside there. There would be no impacts to fish associated with the no-action alternative. Continued erosion may result in further exposure of nearshore rock outcrops, thereby creating increased habitat for surf zone fishes.

4.6 ESSENTIAL FISH HABITAT

4.6.1 PROPOSED ACTION, FIRST PERIODIC RENOURISHMENT

The Anna Maria Island Shore Protection Project could affect an estimated seven acres of nearshore low-relief, ephemeral hardbottom habitat that has been re-exposed as a result of sand loss/shift. This is the amount of hardbottom habitat that was buried and mitigated for during initial construction of the project in 1992/93. These impacts are considered to be minimal on an individual project and cumulative affects basis. Therefore, based on the proposed plan, it has been determined that this action would not adversely affect the essential habitat of species managed under the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265).

4.6.2 NO ACTION ALTERNATIVE (STATUS QUO)

There are no impacts to essential fish habitat associated with the no-action alternative.

4.7 HISTORIC PROPERTIES

Cultural resource compliance includes coordination with the U.S. Army Corps of Engineers (USACE) and Florida State Historic Preservation Officer (SHPO) to determine which resources may be present, estimate the possible effects upon these resources, and analyze the proposed alternatives, such as establishment of buffer areas around any magnetic anomalies or redesign of the borrow areas to avoid anomalies. Activities with the potential to affect historic shipwrecks include conventional dredging and offshore borrowing. Cultural resources and historic properties investigations of the two proposed borrow areas were performed, and the results were provided to the USACE and SHPO for review. The investigations located unidentified magnetic anomalies in each of the proposed borrow areas. A cluster of magnetic anomalies was located at the approximate location of a chartered shipwreck in the north borrow area. Analysis of the data indicated that several anomaly clusters in each area exhibit characteristics consistent with those of historic submerged cultural resources. Three (3) clusters of magnetic anomalies were documented in the south borrow area and a total of nine (9) anomaly clusters were documented in the north borrow area (Warren, 2000). The anomaly cluster areas have been excluded from the proposed borrow area. By letter dated April 19, 2000, SHPO concurred with the cultural resources survey results that exclusion of the anomaly cluster areas will prevent the disturbance of any possible cultural remains that may be present in these areas.

4.8 SOCIO-ECONOMIC

The greatest socio-economic impact to the coastal Anna Maria Island community by implementation of the proposed project would be avoidance of storm damages. Based upon model runs displayed in the Economic Appendix of the Limited Reevaluation Report (USACE, 2000), implementation of the project is expected to result in an annual storm damage reduction benefit of approximately \$7.57 million for the project area.

4.9 AESTHETICS

The stabilization of the eroding project beach will have a long term positive effect on the visual aesthetics of the project area. Construction activities will cause a temporary, localized increase in noise and air pollution. Increased water turbidity and the presence of construction equipment will also result in a temporary decrease in the visual appeal of the project area. Adverse impacts to the aesthetics of the project area will be of limited duration (limited to the construction phase) and will not have a long-term adverse impact on the aesthetic resources of the project area. The sand color of the post-construction beach may be different from the sand color of the current beach, and may detract from the aesthetic quality of the project beaches. With the no-action alternative, the shoreline would continue to erode, resulting in the loss of existing shoreline and reducing the visual aesthetics of the area.

4.10 RECREATION

As a public safety measure, beach and water related recreation in the immediate vicinity of the discharge pipe will be prohibited during project construction. Likewise, water related activities and fishing near the dredge site will also be prohibited during project construction. Recreational access to these areas will return to pre-construction conditions following completion of the project. Fill placement will have a significant positive effect on the amount of recreational beach within the project area. Long-term effects are not anticipated. The no-action alternative would assume continued erosion and reduction of recreational beaches. No offshore recreational impacts are associated with the no-action alternative.

4.11 COASTAL BARRIER RESOURCES

The proposed renourishment will have no effect on coastal barrier resources since neither the fill site or the proposed borrow areas are located within or adjacent to a designated Coastal Barrier Resources System Unit.

4.12 WATER QUALITY

The project will have a temporary, insignificant effect on the water quality at both the dredge and discharge sites. In general, any resulting turbidity will quickly be dispersed by natural currents and wave activity. In addition, several precautionary measures will be taken to help insure that state water quality standards are maintained. These measures include the use of a low silt/clay content sand source, monitoring turbidity levels at both the dredge and discharge sites during construction; and, if turbidity levels exceed state standards during construction, suspension of all dredging activities until turbidity values meet state standards.

Two year post-construction water quality monitoring data for the 1992/93 beach nourishment project indicates that construction did not appear to affect long term water quality near the beach fill site. The highest turbidity value recorded during the period from May 1993 through February 1995 was 8.60 NTU's, and was measured at a background station on February 6, 1995. Average turbidity values recorded at the compliance stations and corresponding background or control stations were within 1.0 NTU of each other during each sampling event of the entire two year monitoring period (CPE, 1998b). There would be no water quality impacts from the no-action alternative.

4.13 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

No impacts related to hazardous, toxic or radioactive waste are expected as a result of this project. Precautionary measures will be taken to avoid/contain petroleum product spills and leaks associated with construction equipment. All waste and refuse generated by project construction will be removed and properly disposed. The no-action alternative would not create situations to cause these potential impacts.

4.14 AIR QUALITY

The short-term impact from emissions by the dredge and other construction equipment associated with the project will not significantly impact air quality. Exhaust emissions of the construction equipment, both onshore and offshore, would have a temporary effect on the air quality, but no permanent impacts are expected. The no-action alternative would have no impact upon air quality.

4.15 NOISE

There would be a temporary increase in area noise levels during project construction. The major source of noise will be the construction equipment at the discharge site. Noise levels will be minimized by the proper maintenance of the construction equipment. Project-related noise impacts will be localized, minor, and limited to the construction phase. No adverse impacts to the surrounding environment are expected as a result of this temporary increase in noise levels. The increase in noise may, however, temporarily affect the aesthetics of the area. There are no noise impacts associated with the no-action alternative.

4.16 PUBLIC SAFETY

As a public safety measure, beach and water related recreation in the immediate vicinity of the discharge pipe will be prohibited during project construction. Likewise, water related activities near the dredge site will also be prohibited during project construction. Recreational access to these areas will return to pre-construction conditions following completion of the project. Long-term effects are not anticipated. The no-action alternative would assume continued erosion, allowing the surf zone to advance landward, with the potential of negative impacts to public safety due to storm damage.

4.17 ENERGY REQUIREMENTS AND CONSERVATION

The use of the proposed borrow areas offshore of the project beach would require the expenditure of significantly less energy than the use of alternate local offshore sand sources or the use of other sand sources such as upland sources, aragonite, or distant sources. The no-action alternative would allow erosion to continue, and may require a greater expenditure of on-site preventative measures and post-storm clean-up in the event of a storm.

4.18 NATURAL OR DEPLETABLE RESOURCES

The depletable resource for the proposed project is sand. Utilization of the borrow areas will result in a depletion of sand within the dredged areas. Conversely, the placement of sand on the beach will result in a net increase in sand volumes at the project beach. Over time, some of the sand that is placed on the beach will eventually be redistributed over the nearshore areas. The rest of the sand will move further offshore or will be trapped in an ebb or flood tidal shoal. The implementation of the proposed project is expected to result in a long-term

depletion of sand in the borrow areas. The no-action alternative will allow the sand in the borrow areas to remain relatively intact, although redistribution will occur with natural cycles and storm events.

4.19 SCIENTIFIC RESOURCES

There are no known impacts to scientific resources associated with the proposed project or the no-action alternative.

4.20 NATIVE AMERICANS

None of the proposed project activities occur on land belonging to Native Americans, therefore implementation of the proposed project will not result in any impacts to Native Americans or land belonging to Native Americans.

4.21 REUSE AND CONSERVATION POTENTIAL

There is no potential for reuse associated with the proposed project activities. This is not applicable to the proposed renourishment project.

4.22 URBAN QUALITY

No direct environmental impacts related to urban quality are expected as a result of the proposed project. Implementation of the proposed project may indirectly positively impact urban quality by restoration of lost land due to shoreline recession, and an increase in the capacity for recreational beach activity. There are no impacts associated with the no-action alternative.

4.23 SOLID WASTE

No impacts related to solid waste are expected as a result of this project. Precautionary measures will be included in the contract specifications for proper disposal of solid wastes. These precautionary measures include proper containment and avoidance of overflow conditions by emptying containers on a regular schedule. Disposal of any solid waste material into Gulf waters will not be permitted.

4.24 DRINKING WATER

No municipal or private water supplies are located within or near the project site, therefore drinking water supplies will not be impacted by the implementation of the proposed project.

4.25 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 proposed project, in addition to past projects and future actions, primarily impact the beach and borrow areas. The beach will continue to be maintained as an area suitable for shoreline protection,

recreation, and wildlife habitat. The current borrow areas will likely be depleted, and repeated placement of pipeline with periodic renourishment will have an impact on nearshore hardbottom formations. Careful placement of pipelines will minimize these impacts.

The implementation of the proposed project, in conjunction with the initial beach project and subsequent beach maintenance projects within the project area, will help maintain the local beach ecosystem and sea turtle nesting habitat. The cumulative effect of these projects will also help protect the adjacent dune habitat.

Since turbidity and sedimentation impacts related to the proposed project will be localized and of short duration, no cumulative impacts are expected as a result of subsequent nourishments of the project area. However, local water quality and sedimentation rates could be affected if the proposed project is constructed concurrently with another local beach maintenance project. Concurrent projects are not expected to occur, however, given current known project schedules.

Cumulative impacts to infauna are not expected at either the fill site or borrow area. Although infauna will be lost as a result of fill placement and sand dredging, the short life span and high reproductive rates of these organisms allow them to quickly recolonize disturbed sandy areas. This rapid recolonization significantly reduces the potential for cumulative impacts.

4.26 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.26.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. The use of sand from the proposed borrow areas would essentially irreversibly deplete the suitable sand reserves within the dredged area. There will be sufficient sand reserves remaining for recolonization of benthic organisms. The sand may not replenish fast enough to be of much value to future nourishment or renourishment projects.

4.26.2 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.

One irretrievable commitment of resources which will occur as a result of the proposed project is the loss of infauna at both the fill site and borrow area. The infauna at both locations will be lost as a result of the project, however, infauna from the surrounding areas are expected to quickly colonize the disturbed sandy

areas (Turbeville and Marsh, 1982; Nelson, 1985; Bowen and Marsh, 1988; Saunders, unpublished).

An irretrievable commitment of nearshore rock habitat will occur if there are any nearshore rock outcrops within the project area that become re-exposed prior to the construction of the renourishment project. Any exposed rock outcrops would be reburied by sand placement during the project. The unavoidable burial of these habitats was mitigated for during the 1992/93 beach nourishment project. No irretrievable commitments of resources are expected at the offshore hardbottom formations due to the distance between the borrow areas and hardbottom formations.

4.27 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

A few unavoidable adverse impacts will occur as a result of the proposed project. However, these impacts are not expected to significantly affect the surrounding environment.

Most of the infauna inhabiting the borrow area and fill site will be unavoidably lost as a result of dredging and sand placement activities. However, these losses are not expected to have a significant adverse impact on the surrounding environment since infauna outside of the fill site and borrow area will quickly recolonize the disturbed sandy areas.

Unavoidable impacts will also occur at any re-exposed nearshore rock outcrops within the project fill area, if any exist at the time of project construction. These re-exposed, low relief formations will be unavoidably reburied during the proposed project due to their proximity to the project beach. The re-burial of these low relief formations will not have a significant impact on the surrounding environment due to their small size, relatively limited biological diversity, low organism densities, and ephemeral nature. Furthermore, the loss of these nearshore rock outcrops as potential habitat was mitigated through the construction of two high-relief artificial reefs during the 1992/93 beach nourishment project.

4.28 LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Shoreline protection using beach fill with periodic renourishment is an ongoing effort. However, the proposed project design reduces the renourishment frequency by increasing the renourishment interval by one year to an interval of 10 years.

Beach renourishment projects have a temporary and short-term impact on local offshore and onshore biological resources. Motile organisms (fishes, crabs, and some sand dwelling organisms) within the borrow area and nearshore zone should be able to escape these areas during construction. Many of the species that are

unable to escape from construction may be lost, but they are expected to recolonize after project completion.

4.29 INDIRECT EFFECTS

Shore protection efforts by the Corps of Engineers do not generally encourage shore front development (USACE, 1998). The purpose of these projects is generally to protect existing property, structures, or other valuable resources which are threatened by storm or erosion damage. Property protection benefits must be substantial enough to justify the cost of the effort. Some replacement development might be encouraged by continual shore protection effort (USACE, 1998).

4.30 COMPATIBILITY WITH FEDERAL, STATE, AND LOCAL OBJECTIVES

The proposed project is consistent with Federal and Local objectives. Beach fill with periodic nourishment met the Federal and Local objectives in the most economically efficient and environmentally acceptable manner in the 1991 GDM. The no-action plan failed to meet Federal objectives and was unacceptable to the non-Federal project sponsor. The proposed project is consistent with the State's Coastal Zone Management Plan.

The Federal objective is to contribute to national economic development consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements. Federal planning concerns other than economic include environmental protection and enhancement, human safety, social well being, and cultural and historical resources.

Federal and County objectives include (1) the reduction of expected storm damages through beach nourishment and other project alternatives; (2) maintaining beaches as suitable recreational areas; (3) maintaining suitable beach habitat for nesting sea turtles, invertebrate species, and shorebirds; and (4) maintaining commerce associated with beach recreation on Anna Maria Island.

4.31 CONFLICTS AND CONTROVERSY

There are no known conflicts regarding the proposed action. There was concern expressed by the bait fish industry prior to the 1992/93 beach nourishment project over potential negative impacts of dredging upon coastal herring resources. The Corps is not aware of any documented post-construction impacts to the bait fish community during the initial nourishment project.

The proposed project limits are identical to the 1991 GDM project limits. Final Supplement 2 to the Final Environmental Impact Statement (FEIS) for the 1992/93 beach nourishment stated that no significant impacts to marine resources or habitats were expected during periodic renourishment, and that impacts of periodic

nourishment should be similar to those involved in the initial nourishment, with adverse effects expected to be significantly less (USACE, 1991). No additional mitigation measures are expected to be necessary in association with the proposed renourishment since impacts to nearshore hardbottom habitats were mitigated for by the construction of two artificial reefs in 1992 and 1993.

4.32 UNCERTAIN, UNIQUE, OR UNKNOWN RISKS

As stated above, the proposed project limits are identical to the 1991 GDM project limits. Impacts of periodic renourishment should be similar to those involved in the initial nourishment, with adverse effects expected to be significantly less (USACE, 1991). There are no expected, unacceptable impacts. Precautionary measures will be included in the contract specifications to ensure that there are no impacts related to hazardous, toxic or solid waste; and necessary corrective measures will be undertaken as required by the permits and law in the unlikely events that any unacceptable impacts occur.

4.33 PRECEDENT AND PRINCIPLE FOR FUTURE ACTIONS

The recommended project involves the first periodic renourishment of the Federal Shore Protection Project for Manatee County, FL. The recommended project will renourish the 4.7 mile long project area that was originally restored during the 1992/93 beach project, including the same 0.5 mile transition zone at the south end of the project between DEP monuments R-34 and R-36. If the proposed action performs as expected, the optimal renourishment interval will be increased by one year from the 9-year interval optimization presented in the 1991 GDM to a renourishment interval of 10 years.

4.34 ENVIRONMENTAL COMMITMENTS

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

4.34.1 TURBIDITY

The following measures shall be implemented to avoid/minimize turbidity related impacts:

- (1) The water quality (turbidity) at the borrow areas and discharge site will be monitored twice daily or as required by project permits.
- (2) If turbidity values at either the borrow areas or discharge sites exceed State water quality standards (29 NTU's above background), all dredging activities shall immediately be suspended. Dredging shall not resume until water quality levels meet State standards.

4.34.2 ENVIRONMENTAL MONITORING

Monitoring of the adjacent hardbottom habitats will be carried out prior to, during, and after construction, as required by the project permits. Biological monitoring of the adjacent hardbottom habitats will occur during the three phases of the project.

4.34.3 SEA TURTLES

The sea turtle protection measures stated in the Terms and Conditions of the USFWS Biological Opinion shall be implemented to avoid/minimize potential take of loggerhead and green sea turtles. A copy of the USFWS Biological Opinion is included in Appendix C.

4.34.4 MANATEES

The following standard protection measures will be implemented to minimize potential impacts to manatees:

- (1) 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 construction personnel shall be responsible for observing water-related activities for the presence of manatees and shall implement appropriate precautions to ensure the protection of manatees.
- (2) All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing or killing manatees which are protected under the Marine Mammals Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Sanctuary Act. The contractor shall be held responsible for any manatee harmed, harassed, or killed as a result of the construction of the project.
- (3) Prior to the commencement of construction, the construction contractor shall construct and install at least two temporary signs concerning manatees. These signs shall read "Caution: Manatee Habitat. Idle Speed is Required if Operating a Vessel in the Construction Area" and "Caution: Manatee Habitat. Equipment Must be Shutdown Immediately if a Manatee Comes Within 50 Feet of Operation".
- (4) All vessels associated with the project will be required to operate at "no wake" speeds at all times while in waters where the draft of the vessel provides less than four feet of clearance from the bottom. All vessels shall follow routes of deep water whenever possible.

- (5) If a manatee is sighted within a hundred yards of the construction area, appropriate safeguards will be taken, including suspension of construction activities, if necessary, to avoid injury to manatees.
- (6) The contractor shall maintain a log detailing sightings, collisions, or injuries to manatees should they occur during the contract period.

4.35 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.35.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Environmental information on the project has been compiled and this Final Environmental Assessment has been prepared. Pursuant to the National Environmental Policy Act, a Notice of Availability of the Preliminary Finding of No Significant Impact (FONSI) was issued in accordance with U.S. Army Corps of Engineers Regulation (33 CFR 230.11). The project is in compliance with the National Environmental Policy Act.

4.35.2 ENDANGERED SPECIES ACT OF 1973

Coordination with the U.S. Fish and Wildlife Service and National Marine Fisheries has been accomplished for the proposed project through consultation under Section 7 of the Endangered Species Act of 1973, as amended. The USACE submitted a Biological Assessment to the National Marine Fisheries Service and U.S. Fish and Wildlife Service for the proposed renourishment project pursuant to Section 7 of the Endangered Species Act. By letter dated January 28, 2000, the National Marine Fisheries Service concurred with the Biological Assessment that populations of endangered/threatened species under National Marine Fisheries Service purview will not be adversely affected by the proposed action. The Biological Opinion issued by the U.S. Fish and Wildlife Service also concurred with the Biological Assessment, and found that the proposed beach nourishment project is not likely to jeopardize the continued existence of populations of endangered/threatened species, given implementation of appropriate precautionary measures for minimization of "take" of loggerhead and green sea turtles. The project is being fully coordinated under the Endangered Species Act and is therefore in full compliance with the Act.

4.35.3 FISH AND WILDLIFE COORDINATION ACT OF 1958

This project is being coordinated with the U.S. Fish and Wildlife Service (USFWS). The Final Coordination Act Report (CAR) submitted by the USFWS is included in Appendix C. The project is in full compliance with the Act.

4.35.4 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, and field investigations were conducted in accordance with the National Historic Preservation Act, as amended;

the Archeological and Historic Preservation Act, as amended, and Executive Order 11593. The cultural resources report was submitted to the USACE for review. Consultation with the Florida State Historic Preservation Officer (SHPO) determined that the project will not affect historic properties included in or eligible for inclusion in the National Register of Historic Places. SHPO correspondence is included in Appendix C. The project is in full compliance with each of these Federal laws.

4.35.5 CLEAN WATER ACT OF 1972

Application for a Section 401 water quality certification has been submitted to the Florida Department of Protection. All State water quality standards will be met. The project is in compliance with this Act. A Section 404(b) evaluation is included in this report as Appendix A.

4.35.6 CLEAN AIR ACT OF 1972

No air quality permits would be required for this project. Exhaust emissions from labor transport and dredge equipment would likely be well under the *de minimus* levels for ozone non-attainment areas as cited in 40 CFR 91.853 (projects implemented cannot produce total emissions greater or equal to 100 tons per year of Volatile Organic Compounds (VOCs). Any indirect emissions as a result of the proposed action are beyond the control and maintenance of the USACE; therefore, a conformity determination with the Florida State Implementation Plan is inappropriate for increases of indirect emissions from the proposed action (USACE, 1998).

This project is being coordinated with U.S. Environmental Protection Agency (EPA) and will be in compliance with Section 309 of the Act.

4.35.7 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 reviews were performed during the coordination of the Environmental Assessment.

4.35.8 FARMLAND PROTECTION POLICY ACT OF 1981

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

4.35.9 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.

4.35.10 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.

4.35.11 ESTUARY PROTECTION ACT OF 1968

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

4.35.12 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)).

4.35.13 FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976

The project is being coordinated with the National Marine Fisheries Service (NMFS). Correspondence is included in Appendix C.

4.35.14 SUBMERGED LANDS ACT OF 1953

The project will occur on submerged lands of the State of Florida. The project is coordinated with the State and will be in compliance with the act.

4.35.15 COASTAL BARRIER RESOURCES ACT AND 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.

4.35.16 RIVERS AND HARBORS ACT OF 1899

The proposed work would not obstruct navigable waters of the United States. The proposed action will be presented to the public by notice, hearing, and other evaluations normally conducted for activities subject to the act. The project will be in full compliance.

4.35.17 ANADROMOUS FISH CONSERVATION ACT

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

4.35.18 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT

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

4.35.19 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 or to the placement of material for a purpose other than disposal (i.e. placement of rock material as an artificial reef or the construction of artificial reefs as mitigation). 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.

4.35.20 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

This act requires preparation of an Essential Fish Habitat (EFH) Assessment and coordination with the National Marine Fisheries Service (NMFS). Coordination of the Environmental Assessment constituted initial consultation with the NMFS under provisions of the Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265). Based on analysis discussed in the Draft EA, it was determined that the proposed action would not adversely affect the essential habitat of species managed under the Act. The project is in full compliance with this Act.

4.35.21 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.

4.35.22 E.O. 11988, FLOOD PLAIN MANAGEMENT

The project is in the base flood plain (100-year flood) and is being evaluated in accordance with this Executive Order.

4.35.23 E.O. 12898, ENVIRONMENTAL JUSTICE

The proposed project would not result in adverse human health or environmental effects, nor would the activity impact the subsistence consumption of fish and wildlife. The project is in compliance with this Executive Order.

4.35.24 E.O. 13089, CORAL REEF PROTECTION

The proposed project would not result in adverse impacts to coral reef ecosystems. No coral reef habitats exist within or adjacent to the proposed borrow area sites. The offshore hardbottom formations off the Anna Maria Island shoreline consist of large plate-like to boulder-like rock formations which exhibit a range of relief from zero to nearly four feet. These hardbottom formations are mainly supportive of

algae, sponges, tunicates, scattered gorgonians, and occasional, solitary, scleractinian corals (CPE, 1998b).

The proposed project would not result in any direct impacts to the offshore hardbottom community due to dredging or placement of discharge pipeline since offshore hardbottom areas will be protected via the establishment of buffer zones between dredging-related equipment and hardbottom formations. Biological monitoring of the adjacent hardbottom habitats will be performed during the proposed project according to the permit requirements. The unavoidable burial of low relief hardbottom formations within and adjacent to the project area was mitigated for through the construction of two artificial reefs during the 1992/93 beach nourishment project, therefore the proposed renourishment project is in compliance with this Executive Order.

5 LIST OF PREPARERS

5.1 PREPARERS

Name	Discipline	Role in EA	Experience
Richard H. Spadoni	Coastal Engineering and Marine Biology	Project Manager, Supervisor	16 years, Coastal Planning & Engineering, Inc.
Craig J. Kruempel	Coastal Zone Specialist	Document Development and Quality Control	12 years, Coastal Planning & Engineering, Inc.
Jeffrey Andrews	Geologist, Hydrographic Surveyor	Geology; Sand Source Quantity and Quality Analysis	15 years, Coastal Planning & Engineering, Inc.
Douglas W. Mann, P.E.	Senior Coastal Engineer	Engineering design and economic analysis	13 years, Coastal Planning & Engineering, Inc.
Cheryl L. Miller	Marine Biologist	Principal Writer	3 years, Coastal Planning & Engineering, Inc.
Daniel J. Warren	Marine Archaeologist	Principal Investigator Cultural Resources Survey	10 years, C & C Technologies Survey Services

6 PUBLIC INVOLVEMENT

6.1 SCOPING AND DRAFT EA

The Draft EA and Preliminary Finding of No Significant Impact (FONSI) were made available to the public by Notice of Availability dated May 18, 2000.

6.2 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 Florida Department of Environmental Protection.

6.3 LIST OF RECIPIENTS

The Draft EA was circulated to Federal, State, and local agencies for review and comment by letter dated May 18, 2000. A list of those that were sent copies can be found in Appendix C.

6.4 COMMENTS RECEIVED

Letters of comment/no comment on the Draft EA were received by the U.S. Environmental Protection Agency (EPA); National Marine Fisheries Services (NMFS); Florida State Clearinghouse; Florida Department of Environmental Protection; and Florida Department of State, Division of Historical Resources, State Historic Preservation Officer (SHPO). By letter dated June 16, 2000, the NMFS offered no additional comments on the Draft EA. Correspondence dated August 10, 2000 from the Florida State Clearinghouse states that the final consistency determination with the Florida Coastal Zone Management Act will be made during the permitting process. These letters can be found in Appendix C.

Pertinent comments with the Corps' responses are listed below.

(1) EPA letter dated June 15, 2000:

Comment: EPA stated that the shallow water depths and close proximity of the two offshore borrow areas to the deposition beach suggest that mining of the borrow areas could have some long-term repercussion(s) on the receiving beaches and possibly the island's overall transport budget. The EPA suggested that these possible effects may be lessened by obtaining renourishment sand from the deeper portions of the borrow sites, and that this possibility should be examined during routine post-project monitoring and/or prior to subsequent renourishment projects.

Response: As suggested, the Corps will consider the EPA's comment during post-project monitoring.

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APPENDIX A
SECTION 404(B) EVALUATION

SECTION 404(b) EVALUATION

FIRST PERIODIC RENOURISHMENT ANNA MARIA ISLAND SHORE PROTECTION PROJECT MANATEE COUNTY, FLORIDA

I. Project Description

a. Location. The proposed work will be performed along the Anna Maria Island shoreline of Manatee County. Manatee County is located on the west coast of Florida, south of the Tampa-St. Petersburg metropolitan area. Manatee County is bordered by Hillsborough County to the north, Hardee and De Soto Counties to the east, Sarasota County to the south, and the Gulf of Mexico to the west. The western limit of Manatee County consists of two Gulf coast barrier islands. Anna Maria Island is the largest barrier island located entirely within Manatee County. The island is approximately seven miles long and is almost a mile wide at its widest point. Anna Maria Island is separated from the mainland to the east by Tampa Bay, Anna Maria Sound and Sarasota Bay. The island is bordered by Passage Key Inlet to the north, Longboat Pass to the south, and the Gulf of Mexico to the west. Three municipalities, the City of Anna Maria, Holmes Beach, and Bradenton Beach, are located from north to south on Anna Maria Island.

b. General Description. The proposed plan calls for the first periodic renourishment of the Federal Shore Protection Project for Manatee County, Florida using two offshore borrow areas. The recommended project will restore the 75 foot design width and will provide 982,100 cy of advanced nourishment along the 4.2 mile long project area. The limits of the 0.5 mile beach fill transition will remain between R-34 and R-36. The design berm height for the project is +5 feet NGVD.

c. Authority and Purpose. The Federal Shore Protection Project for Manatee County, Florida was authorized by Public Law 98-298 dated October 27, 1965, Title II – Flood Control Act of 1965, as amended by Section 131 of the 1976 Water Resources Development Act. Resolutions approving the project under the provisions of Section 201 of Public Law 98-298 were adopted by the Senate Public Works Committee on 20 November 1975. The Chief of Engineers authorized the shore protection project for Manatee County on 19 December 1975.

The authorized shore protection project for Manatee County, Florida includes the entire 7.5 mile Gulf shoreline of Anna Maria Key. The project initially consisted of restoration of 3.2 miles of Gulf shore beach to an elevation six feet above mean low water with a 50-foot berm width and a natural slope seaward as would be shaped by wave action. The project also provided for periodic nourishment of the restored beach and such adjacent shoreline as needed and justified for the life of the project. The project is described in Senate Document No. 93-37, 93rd Congress, 1st Session.

In the 1991 General Design Memorandum, prepared by the Jacksonville District, U.S. Army Corps of Engineers (USACE), the authorized project consisted of an initial fill length of 3.2 miles, a berm width extension of 50 feet, referenced from the Corps construction baseline, and a berm elevation of +5.0 feet NGVD. The total initial fill was estimated to be 940,000 cubic yards and included 5 years of advanced nourishment. Fill for the project was to be obtained from an offshore borrow area.

Prior to the initial nourishment in 1992, the USACE approved the increase of the project fill length from 3.2 miles to 4.2 miles and an increase in the berm width from 50 feet to 75 feet. The August 4, 1992 Local Cooperation Agreement (LCA) allowed for the initial construction of a 75 foot wide elevation of +5 feet project along 4.2 miles of Gulf shore on Anna Maria Island and the establishment of a 0.5 mile long beach fill transition zone south of the berm.

d. General Description of Dredged or Fill Material.

(1) General Characteristics of Material. Based upon geotechnical investigations conducted in 1998/99 and the Corps of Engineers 1978 cores, two borrow areas have been delineated. The north borrow area material has a sand mean grain size of 0.24 mm, a sorting value of 1.37 phi, and a composite silt content of 2.72%. The south borrow area has a sand mean grain size of 0.32 mm, a sorting value of 1.76 phi, and a composite silt content of 3.09%.

(2) Quantity of Material. Approximately 5.0 million cubic yards are required for the remainder of the authorized project life. The two combined borrow areas contain approximately 13.62 million cubic yards of beach compatible sand. The north borrow area contains approximately 11.0 million cubic yards, while the south borrow area contains 2.62 million cubic yards. The estimated volume of fill required for the next project is 1.85 million cubic yards of sand. Based on the estimated volume, the borrow area provides for over 700% of the required volume.

(3) Source of Material. The north borrow area is located approximately 1,500 feet offshore at its closest point, and extends to a maximum distance of approximately 7,000 feet offshore. The north borrow area includes shoal material from Passage Key Inlet to the north of Anna Maria Island. The south borrow area is located approximately 1,800 feet offshore of Anna Maria Island at its closest point, and extends offshore to a maximum distance of 5,000 feet. The south borrow area includes the northern shoal area of New Pass, off the south end of Anna Maria Island. Water depths in the two borrow areas range from 6 feet to 23 feet (NGVD).

e. Description of the Proposed Discharge Site.

(1) Location. The project limits of the 4.2 mile design section of Anna Maria Island extend from FDEP monument R-12 to a point 300 feet south of R-33. The 0.5 mile transition zone occurs between FDEP monument R-34 and R-36.

(2) Size. The total project fill area is 4.7 miles and includes the 4.2 mile design section and the 0.5 mile transition zone.

(3) Type of Site. The disposal site is an eroded, sandy, recreational beach.

(4) Type of Habitat. The disposal site is a supratidal dry beach and high energy intertidal environment.

(5) Timing and Duration of Discharge. Construction of the project will begin in December 2000 and is expected to take 4 months to complete.

f. Description of Disposal Method. The material will be obtained from the two offshore borrow areas using a hydraulic dredge and pumped onto the beach using a submerged pipeline. Once the material is pumped on the beach, grading will be done to achieve the desired construction profile.

II. Factual Determinations

a. Physical Substrate Determinations.

(1) Substrate Elevation and Slope. Details will be available with the final design proposals.

(2) Sediment Type. Sand from the borrow areas is clean, fine-grained quartz sand and commonly contains a minimal amount of shell hash, as well as layers consisting of over 60 percent of dark grey shell hash.

(3) Dredge/Fill Material Movement. The fill material will be subject to erosion by waves with a southern net littoral drift movement of fill material.

(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 expected that no long-term adverse impacts will occur.

b. Water Circulation, Fluctuation and Salinity Determination.

(1) Water Column Effects. 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 not have 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 are predominantly tidal within the study area. Placement of the fill on the beach 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 the month, two high and two low waters occur each day, while for the remainder of the month, only one high and one low occur each day. Along the Gulf shore of Manatee County, the mean diurnal tide range is 2.3 feet (NOAA, 1989). The mean high water elevation at Anna Maria Island is +1.2 feet above the National Geodetic Vertical Datum (NGVD) of 1929 (CPE, 1998a).

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 area 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 a long term increase in aesthetic quality of the beach after the project is complete.

(3) Effects on Biota.

(a) Primary Productivity and Photosynthesis. A temporary increased level of suspended particles will occur in the surf zone. However, since primary productivity is not a recognized significant phenomenon in the surf zone, there will be no effect on the nearshore productivity as a result of the proposed beach fill.

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

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

d. Contaminant Determinations. The borrow area contains no known contaminants, therefore deposited fill material will not introduce, relocate, or increase contaminants.

e. Aquatic Ecosystem and Organism Determinations. The grain size characteristics and composition exhibited by the proposed fill material are similar to those of the existing beach sediments. Therefore, no sediment related

impacts are expected. The proposed fill material meets the exclusion criteria, therefore, no additional chemical-biological testing will be required.

(1) Effects on Plankton. No adverse long-term impacts to planktonic organisms are anticipated.

(2) Effects on Benthos. No adverse long-term impacts to non-motile or motile benthic invertebrates are anticipated.

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

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

(5) Effects on Special Aquatic Sites.

(a) Hardground and Coral Reef Communities. No significant adverse impacts are expected at the offshore hardbottom formations adjacent to the borrow area. Although the proposed project will result in some localized increases in turbidity and sedimentation, impacts to the adjacent hardbottom habitats will be minimized by the establishment of buffer zones between dredging/dredging-related equipment and hardbottom formations. Biological monitoring of the adjacent hardbottom habitats will be performed during the proposed project according to the permit requirements.

Sand placement may bury exposed ephemeral nearshore rock outcrops if any exist within the project area at the time of construction. The burial of these outcrops will not have a significant impact on the surrounding environment. The biological communities associated with these ephemeral formations are opportunistic algal and hydroid species that are subjected to periodic burial and re-exposure due to the movement of sand by natural forces. Additionally, the burial of nearshore rock outcrops within the project area was mitigated through the construction of two high relief artificial reefs in conjunction with the 1992/93 beach nourishment project.

(b) Sanctuaries and Refuges. There are no sanctuaries or wildlife refuges located within the proposed dredge and disposal areas.

(c) Wetlands. There are no wetlands located within the proposed dredge and disposal areas.

(d) Mud Flats. There are no mud flats located within the proposed dredge and disposal areas.

(e) Vegetated Shallows. There are no seagrass beds located with the proposed dredge and disposal areas.

(6) Endangered and Threatened Species. There will be no significant adverse impacts to any threatened or endangered species or to the critical habitat of any threatened or endangered species. Measures that will be implemented to protect endangered and threatened species are outlined in Section 4.34 of the Environmental Assessment.

(7) Other Wildlife. No adverse impacts to small foraging mammals, reptiles, 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 that will be implemented in conjunction with the proposed project area discussed elsewhere in this 404(b) evaluation and in the Draft Environmental Assessment for the project.

f. Proposed Disposal Site Determinations.

(1) Mixing Zone Determination. The fill material will not cause unacceptable changes in the mixing zone specified in the Water Quality Certification in relation to depth, current velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents.

(2) Determination of Compliance with Applicable Water Quality Standards. Due to the inert nature of the fill material, State 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. Recreational and commercial fisheries will not be impacted by the disposal of dredge material on the beach.

(c) Water Related Recreation. Water related recreation will be preserved and enhanced by the renourishment of the beach.

(d) Aesthetics. Aesthetic quality will be reduced during the short-term construction period. The renourishment of the eroding beach will improve long-term aesthetics.

(e) Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. City and County public beaches and public accesses line the Anna Maria shoreline within the proposed beach renourishment project area. The proposed project will not adversely affect these areas, but will restore the recreational beach at these locations.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. The proposed renourishment project will have no cumulative impacts that will result in major impairment of water resources or interfere with the productivity or water quality of the existing aquatic ecosystem.

h. Determination of Secondary Effects on the Aquatic Ecosystem. The project will not have any significant secondary effects on the surrounding aquatic ecosystem.

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.

c. 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 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.

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. On the basis of the guidelines, the proposed disposal site for the discharge of dredged material is specified as complying with the requirements of these guidelines.

APPENDIX B
COASTAL ZONE MANAGEMENT CONSISTENCY

**FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES**

**FIRST PERIODIC RENOURISHMENT
ANNA MARIA ISLAND SHORE PROTECTION PROJECT
MANATEE 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 purpose of the project is beach erosion control. Consideration will be given to impacts on natural coastal processes, activity and use systems, natural vegetation, and adjacent property during the planning process. The proposed plans and information will be submitted to the State in compliance with this chapter.

2. Chapters 163 (Part II), 186, and 187, County, Municipal, State and Regional Planning. These chapters establish the Local Comprehensive Plans, the Strategic Regional Policy Plans, and the State Comprehensive Plan (SCP). The SCP sets goals that articulate a strategic vision of the State's future. Its 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 is being 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 the placement of beach compatible material onto an eroding beach as a protective means for residents, development, and infrastructure located along the Gulf shoreline within Manatee County. 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 that is proposed to receive fill. 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, nor are there any within the immediate vicinity of the project that would be affected. 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: Magnetometer surveys of the two proposed borrow areas were performed and a cultural resources report was prepared. The results were provided to the USACE for review; and a request was submitted to the Division of Historic Resources (DHR) and Florida State Historic Preservation Officer (SHPO) for approval. The proposed Anna Maria Island Shore Protection Project is 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 provide more space for recreation and the protection of recreational facilities along the receiving beach.

This would promote beach-related tourism in the area. Therefore, the proposed project is consistent with the goals of this chapter.

9. Chapters 334 and 339, 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 project is designed to preserve an eroding public beach. The project may temporarily restrict fishing activities immediately adjacent to the dredge and discharge sites; however, no adverse impacts to recreational or commercial marine fishery resources are expected. The proposed beach fill may have a temporary short-term impact upon infaunal invertebrates by burying these organisms at the dredge and disposal sites. These organisms are highly adapted to the periodic burial by sand in the intertidal zone and are expected to return to pre-construction levels within six months to one year after construction. Nourishment activities would not be performed during sea turtle nesting season. It is not expected that sea turtles would be significantly impacted by this project. Contract specifications will contain measures to avoid or minimize impacts to sea turtles and manatees (See Section 4.34 of the Environmental Assessment). The beach nourishment will restore an eroded sea turtle nesting habitat, thereby providing a benefit for nesting sea turtles. Based upon 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 (Florida Fish and Wildlife Conservation 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. The project will meet the goals of this chapter.

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. 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. This chapter also deals with the Area of Critical State Concern program and the Coastal Infrastructure Policy.

Response: The proposed renourishment project is not a Development of Regional Impact, nor is it located within an Area of State Concern. Therefore, the project is consistent with the goals of this chapter.

16. Chapters 381 (selected subsections on on-site sewage treatment and disposal systems) and 388 (Mosquito/Arthropod Control). Chapter 388 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: The Draft Environmental Assessment has been reviewed by the appropriate resource agencies, including the Florida Department of Environmental Protection, and this Final Environmental Assessment has been prepared. The EA discusses the potential impacts of the project upon water quality. 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 will be sought from the State prior to construction. 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 water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: The proposed project is not located near or on agricultural lands; therefore, this chapter does not apply.

APPENDIX C - PERTINENT CORRESPONDENCE



United States Department of the Interior

FISH AND WILDLIFE SERVICE

6620 Southpoint Drive South
Suite 310
Jacksonville, Florida 32216-0958

IN REPLY REFER TO:
FWS/R4/ES-JAFL

September 25, 2000

Mr. James C. Duck
Chief, Planning Division
US Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

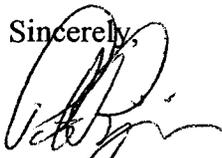
ATTN: Ms. Yvonne Haberer

Dear Mr. Duck:

In accordance with an FY 1999 funding agreement with the U.S. Army Corps of Engineers' Jacksonville District, the U.S. Fish and Wildlife Service (Service) is submitting the enclosed final Fish and Wildlife Coordination Act Section 2(b) Report with reference to the Manatee County Shore Protection Project at Anna Maria Island, Manatee County, Florida. Included in the final report is the required section 7 consultation for the Endangered Species Act.

If you have a question about this report, please contact either Don Palmer at (904) 232-2580, ext. 115 or Bryan Pridgeon at (727) 570-5398, ext. 13.

Sincerely,



David L. Hankla
Field Supervisor

Enclosure

cc with enclosure:

R. Trindell/FDEP/BPSM
J. Beaver/GFC/Punta Gorda

MANATEE COUNTY SHORE PROTECTION PROJECT
ANNA MARIA ISLAND
MANATEE COUNTY, FLORIDA

U.S. Fish and Wildlife Service
Fish and Wildlife Coordination Act Report

FINAL REPORT

Submitted to:
Department of the Army
U.S. Army Corps of Engineers
Jacksonville District
Planning Division, Environmental Branch
Jacksonville, Florida

Submitted by:
Department of the Interior
U.S. Fish and Wildlife Service
Ecological Services Field Office
Jacksonville Florida

INTRODUCTION

The U.S. Fish and Wildlife Service (Service) has reviewed project plans and further information related to the Manatee County Shore Protection Project, Anna Maria Island, Manatee County, Florida. This project is the first periodic renourishment of the Federal shore protection project for Manatee County. It will restore the 75 feet wide design width along the 4.2 miles of shore initially renourished in 1993.

This final report documents the fish and wildlife resources of the proposed project area, the anticipated effects of the project on those resources, and recommends potential mitigative measures and also provides a biological opinion regarding project affects on nesting loggerhead sea turtles. It has been prepared pursuant to a Fiscal-Year 2000 scope-of-work agreement between the Service and the Corps, and is provided in accordance with Section 2(b) of the Fish and Wildlife Coordination Act.

PROJECT DESCRIPTION

The project is located on Anna Maria Island in Manatee County on Florida's west coast (Figure 1). Four and two-tenths miles of beach (Figure 2) will be renourished with an estimated 1,852,190 cubic yards of material obtained from two offshore borrow areas (Figure 1). Sand will be dredged using a cutterhead dredge and pumped to the beach using a combination of submerged and floating pipelines. The result will be a renourished beach approximately 120 feet wide; 75 feet of design beach width plus 45 feet of advanced nourishment. On the south end of the project there will be a 0.5 mile long transition zone from the renourished beach to the existing beach that will require 32,000 cubic yards of fill material. The designed beach elevation will be +5 feet NGVD.

STUDY AREA DESCRIPTION

The study area will include the beach front of Anna Maria Island and the near off shore areas encompassing the borrow sites.

Renourishment Site

Beach renourishment will occur on Anna Maria Island, the largest barrier island entirely within Manatee County. The island is about 7 miles long, wider to the north where, if Key Royale is included, it is almost a mile wide. The lower two-thirds of the island is much narrower, being 2,000 feet wide or less. Three municipalities are on the island; Anna Maria, Holmes Beach and Bradenton Beach. About one mile on the southern end of the island remains undeveloped where the Coquina Beach, a public beach, provides recreational opportunities on the Gulf side of the island and the Leffis Key habitat restoration project is on the bay side. The entire length of the island is open to public access and receives a tremendous volume of public use. In 1997 there were 4,731,950 beach user visits to the beaches on Anna Maria Island (USACE 1999a) with 2,291,260 of those beach user visits within the project area.

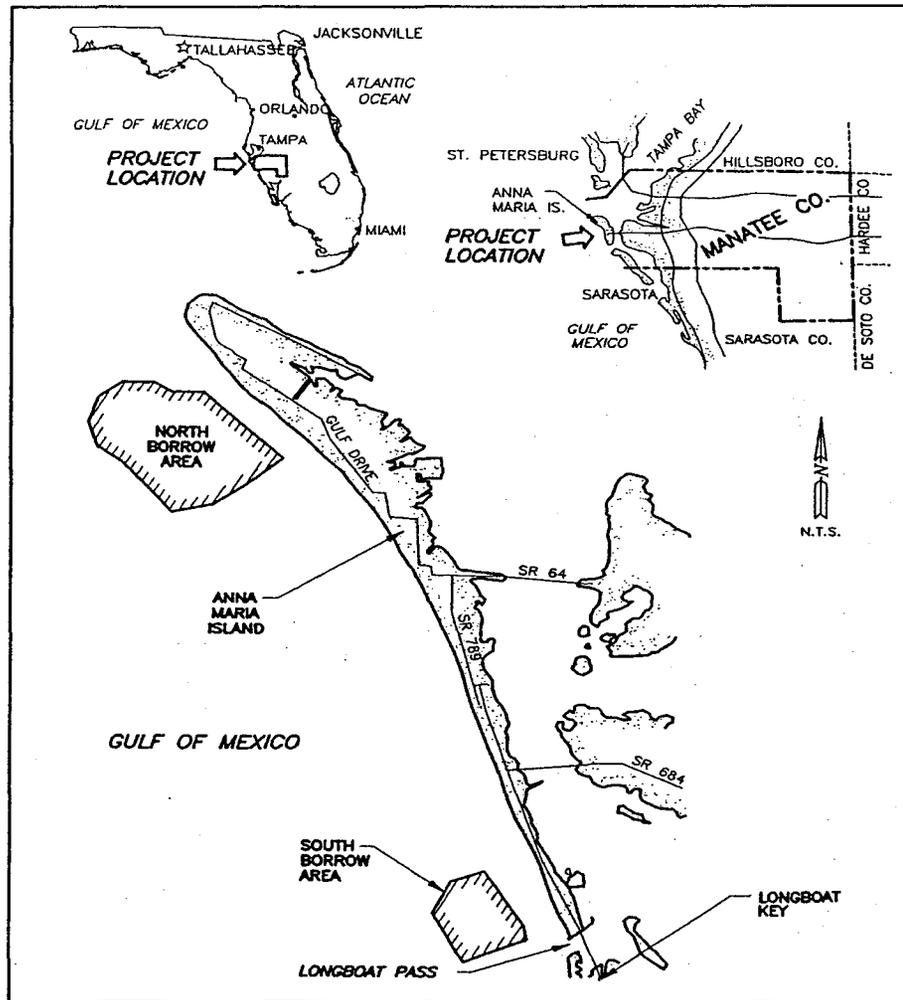


Figure 1. Anna Maria Island Shore Protection Location Map

With the island's intense development and lack of a natural primary dune system, backshore wildlife use in the project area is largely restricted to non-nesting birds that have adapted to human interaction, such as, Laughing and Ring-billed Gulls (*Larus atricilla* and *L. delawarensis* respectively), Forster's, Royal, and Sandwich Terns (*Sterna forsteri*, *S. maxima*, and *S. sandvicensis* respectively) and Black Skimmers (*Rhynchops niger*) (personal observation). The constructed dune system north of Coquina Beach is a narrow strip between the beach and Gulf Drive, the main road running the length of the island. Sea oats (*Uniola paniculata*), dune sunflower (*Helianthus debilis*), and railroad vine (*Ipomea pres-caprae*) were planted and provide dune stabilization but little wildlife habitat.

The upper beach of Anna Maria Island does provide nesting habitat for several birds. Least Terns (*Sterna antillarum*), Snowy Plovers (*Charadrius alexandrinus*), and Black Skimmers are three species that nest on the island's beach, most often north of the project site where public access is more limited. Although they typically nest north of the project site, they could nest

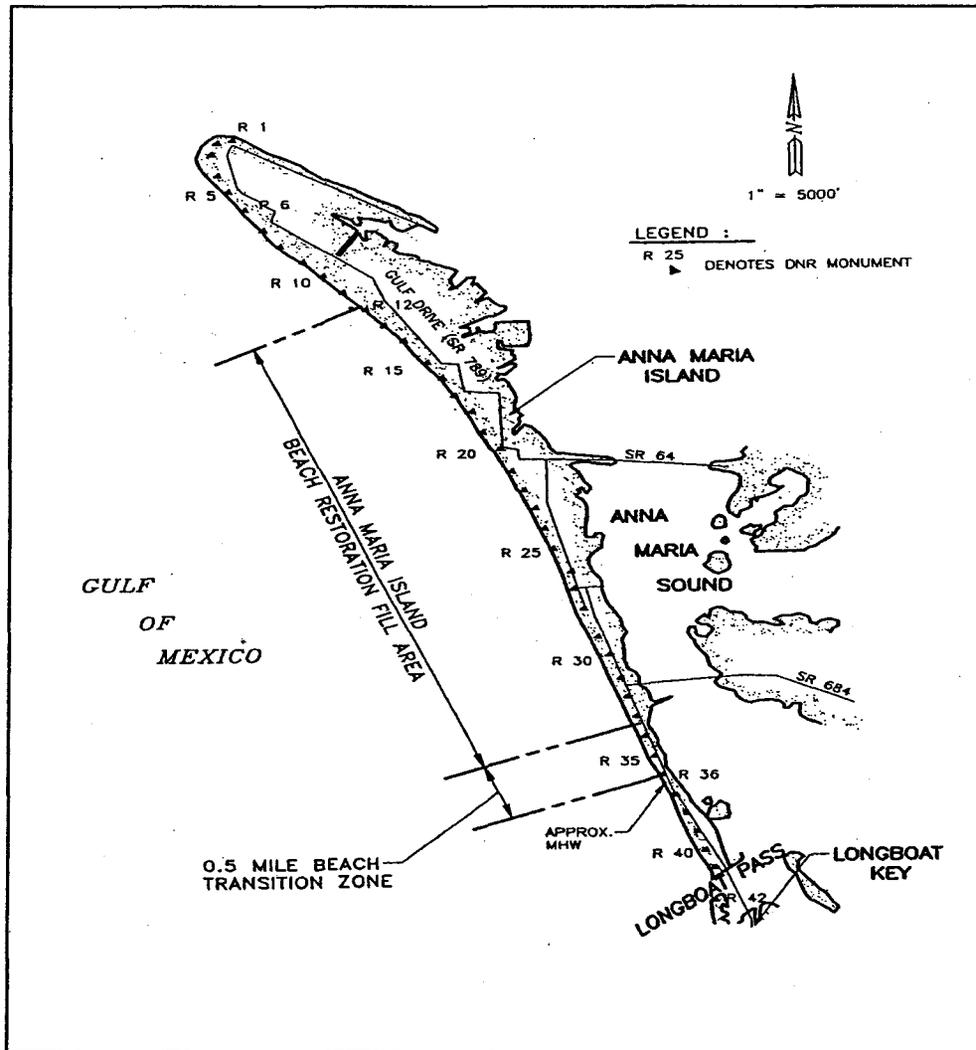


Figure 2. Anna Maria Island Shore Protection Project Limits

anywhere along the beach. Least Terns and Black Skimmers are colonial nesters and may move their colonies annually. The difference between the two relocation strategies is that the terns may move to different islands or beaches miles from the previous year's location, while the skimmers seem to fine tune their site selection within the same general locale. Snowy Plovers generally nest individually in sandy areas with scattered grass and could be found nesting anywhere along the Anna Maria Island beach where suitable habitat exists.

The loggerhead sea turtle (*Caretta caretta*) is a threatened species that nests on Anna Maria Island. The number of nests and false crawls on the island for the years 1993 through 1998 are shown in table 1.

Table 1. Loggerhead sea turtle false crawls and nests on Anna Maria Island for the years 1993-1998.

Year	Number of False Crawls	Number of Nests
1993	89	155
1994	98	136
1995	136	214
1996	161	171
1997	168	161
1998	203	225
Totals	855	1062

The Corps of Engineers has determined that this project may affect the sea turtles. We concur with that determination and are including a biological opinion regarding the effects of this project on loggerhead and green (*Chelonia mydas*) sea turtles in this report.

Benthic fauna of the intertidal zone are inconspicuous without close observation. Mole crabs (*Emerita* spp.), coquinas (*Donax variabilis*), ghost shrimp (*Callinassa* spp.), beach fleas (*Talorchestia* and *Orchestia* spp.), and polychaetes are found in this zone. They provide forage for shore birds, wading birds and fish. Table 2 lists examples of bird species that may be found feeding in the intertidal zone.

Table 2. Examples of birds that may be seen feeding in the intertidal zone of Anna Maria Island.

Common Name	Scientific Name
Snowy Egret	<i>Egretta thula</i>
Great Egret	<i>Casmerodius albus</i>
Great Blue Heron	<i>Ardea herodias</i>
Snow Plover	<i>Charadrius alexandrinus</i>
Wilson's Plover	<i>Charadrius wilsonia</i>
Semipalmated Plover	<i>Charadrius semipalmatus</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Dowitchers	<i>Limnodromus</i> spp.
Ruddy Turnstone	<i>Arenaria interpres</i>

Red Knot	<i>Calidris canutus</i>
Western Sandpiper	<i>Calidris mauri</i>
Least Sandpiper	<i>Calidris minutilla</i>
Black Skimmer	<i>Rynchops niger</i>

From the intertidal zone to the offshore boundaries of the borrow areas the Gulf's bed slopes gently to a maximum depth of 23 feet. Hardbottom formations were found in water 8 feet deep or less, inshore of the two proposed borrow sites. They are flat limestone platforms providing 1 to 2 feet of relief and are covered with a thin layer of sand. The dominant benthic species are green algae (*Caulerpa* spp.), brown algae (*Padina* sp. and *Sargassum* sp.) and two sea urchins (*Echinometra lucunter* and *Lytechinus variegatus*) (C P & E 1998a). Belted sand bass (*Serranus subligarius*), tomtates (*Haemulon aurolineatum*), slippery dicks (*Halichoeres bivittatus*), and puddingwifes (*Halichoeres radiatus*) were the dominant fish species observed. Three fish of recreational fishing importance were also observed in small numbers; lane snapper (*Lutjanus synagris*), white grunt (*Haemulon plumieri*), and sheepshead (*Archosargus probatocephalus*).

Borrow Sites

The two borrow sites are in water depths of 6 to 23 feet (USACE 1999a). Their substrates are predominantly sand with a silt content of less than 4% and with little or no hard bottom. The northern borrow area is the larger of the two in surface area and available sand volume. It begins about 1,500 feet offshore, is about 5,500 feet wide, 8,000 feet long and contains about 11,000,000 cubic yards of material. Its surface is flat with no hard structure or other physical relief that offers habitat complexity. The southern area begins about 2,000 feet offshore, is about 4,200 feet long, varies from about 2,000 to 3,000 feet wide, and contains about 2,900,000 cubic yards of sand. A trough associated with the ebb tidal delta of Longboat Pass that contains rock rubble and shell material runs through the center of the area. The surrounding borrow area has a flat sandy surface.

DISCUSSION OF PROJECT-RELATED ENVIRONMENTAL EFFECTS AND MITIGATIVE MEASURES

Beaches are vital to local economies on Florida's Gulf Coast and also to wildlife, such as, Least Terns, Snowy Plovers, shorebirds, and sea turtles. Barrier island shorelines have always undergone change, accreting and eroding over time. As humans have built houses, businesses, schools and roads close to the ocean front, beach erosional periods have become more visible and more of a problem for people. Beach renourishment has become a common activity for addressing beach recession.

The Corps examined historical beach erosion rates for Anna Maria Island and used a historic beach erosion rate of 1 foot per year for their analysis. Erosion rates have been much greater for the nourished beach than for the natural beach. Between 1993 (post construction) and March 1998 the average shoreline recession was 25.4 feet per year. Although the beach receded tremendously during that time, Coastal Planning and Engineering, Inc. (CPE 1998b) found that

over 1.9 million cubic yards of the 2.3 million cubic yards placed during the initial renourishment project remained in the project fill area. They were distributed in 6 to 18 foot depths in the nearshore Gulf. At the current erosion rates and renourishing the beach at the proposed volume, future renourishment projects will likely occur at about 10 year intervals.

Beach nourishment projects require the placement of large quantities of sand. The amount of overburden varies across the width of the beach with the greatest volume being placed on the upper beach where species diversity is generally lowest (NRC 1995). Design cross sections of the proposed project show that 3.8 feet of fill material will be placed on the beach at the mean high water line (USACE 1999a). It is unlikely that any of the resident infauna will escape burial. The loss of these organisms is expected to be short term as rapid recolonization from adjacent communities is expected and monitoring studies have generally found changes in species composition, diversity and abundance resulting from beach nourishment projects to last from weeks to a few months.

Most beach nesting by birds on Anna Maria Island has occurred north of the project site (Rich Paul, National Audubon Society, personal communication). They have the potential to nest anywhere on the island where conditions are favorable, however. This beach nourishment project has the potential to affect beach nesting birds much the same as dredged material disposal can affect colonial nesting birds at dredged material disposal sites. Courting birds can be displaced by equipment or personnel moving and maintaining the discharge line as well as by the actual discharge. Nesting birds can be crushed or forced to abandon their nest and eggs can be crushed by the pipeline, equipment used to move it, or personnel involved in the project. The Corps has recognized the negative impacts that dredged material placement can have on nesting birds and has developed the "Migratory Bird Protection Policy" for Tampa Bay (USACE 1994). Points from that plan that would be appropriate for this project are monitoring during the nesting season and establishing a buffer zone around any birds that are found nesting.

Subtidal habitats within the footprint of the renourishment project are sand with little relief. Fish and macroinvertebrates found in the area are mobile species that can avoid burial and escape turbidity increases that are stressful, although larval forms living in the surf zone may be affected by high turbidities (NRC 1995). High turbidities associated with beach nourishment projects are generally considered to be of short duration, however, near shore data from the Gulf of Mexico from Anna Maria Island to Venice Inlet indicate a trend of increasing turbidity, nitrogen, and phosphorous (Mote Marine 1999). The cause of the increase is not clear. There have been several beach nourishment projects in this area and the increases in turbidity and nutrients may be a result of resuspending materials or it may be larger scale event.

SUMMARY OF FISH AND WILDLIFE COORDINATION ACT COMMENTS

The Anna Maria Island beach nourishment project is designed to protect homes, businesses, roads and other man made structures landward of the existing eroding beach. It is a follow up to a nourishment project that was completed on the same beach segment in 1993. Species diversity is typically low on the upper beach, where the maximum depth of fill sand will be deposited. Organisms that live in the intertidal and near shore subtidal soft bottoms will probably be lost to the nourishment but the new beach should be quickly recolonized by organisms from adjacent populations. Motile organisms should be able to avoid burial and increased turbidity associated with the discharge. The northern borrow site is a relatively flat, sandy substrate with little vertical relief or other structure. The southern borrow site has a trough through it associated with the ebb through Longboat Pass. Shell and rock rubble are present in the trough, the remainder of the site is flat, sandy substrate with little vertical relief or other structure.

Potential impacts to beach nesting birds include nesting colony displacement, individual nest abandonment, nest destruction, or the death of individuals. In order to minimize project-related adverse impacts to fish and wildlife resources the Service provides the following recommendations:

- Monitor the construction area at dawn or dusk from April 1 through August 31 to determine if bird nesting activity is occurring,
- Should bird nesting begin, a 200 foot buffer will be created around the nests and the area marked to avoid entry,
- A daily log detailing monitoring and nesting activities should be maintained,
- Within 30 days of project completion a summary report of bird nesting activity should be provided to the Corps of Engineers.

ENDANGERED SPECIES

The Corps evaluated the potential effects of this project on endangered species in a biological assessment (USACE 1999b) and provided precautions that will be implemented to protect endangered species during the construction of the project in a supplemental environmental assessment (USACE 1999c). They determined that with the implementation of the construction precautions, the project would have no effect on the manatee (*Trichechus manatus*) and **may effect sea turtles**. After reviewing the project proposal, biological assessment, and supplemental environmental assessment we concur with their findings. The following biological opinion is supplied to address potential effects on loggerhead and green sea turtles.

BIOLOGICAL OPINION

The Service has reviewed the Limited Reevaluation Report and the Biological Assessment for the Manatee County Shore Protection Project, Anna Maria Island, located in Florida. Your December 16, 1999 request for formal consultation was received. This document represents the Service's biological opinion on the effects of that action on loggerhead and green sea turtles in

accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

This biological opinion is based on information provided in the December 16, 1999 biological assessment, the October, 1999 Limited Reevaluation Report, field investigations, and other sources of information. A complete administrative record of this consultation is on file in the Jacksonville, Florida Field Office.

Consultation history

The Corps of Engineers consulted with the Service for the Manatee County Beach Erosion Control Project. The Service provided a biological opinion in 1980 that indicated given the precautions incorporated into the plan the project was not likely to jeopardize the continued existence of sea turtles. This consultation is in response to the Corps' letter of December 16, 1999 requesting the initiation of formal consultation.

Description of the proposed action

The project is located on Anna Maria Island in Manatee County on Florida's west coast. Four and two-tenths miles of beach will be renourished with an estimated 1,852,190 cubic yards of material obtained from two offshore borrow areas. Sand will be dredged using a cutterhead dredge and pumped to the beach using a combination of submerged and floating pipelines. The result will be a renourished beach approximately 120 wide; 75 feet of design beach width plus 45 feet of advanced nourishment. On the south end of the project there will be a 0.5 mile long transition zone from the renourished beach to the existing beach that will require 32,000 cubic yards of fill material. The designed beach elevation will be +5 feet NGVD. It will take about 7.5 months to complete the nourishment project.

Fill material will come from two borrow sites. The northern site contains about 11,000,000 cubic yards of sand with a mean grain size of 0.24mm and a silt content of 2.72%. The southern site contains about 2,900,000 yards of sand with a mean grain size of 0.31mm and a silt content of 3.48%. Existing beach sand has a mean grain size of 0.29mm and a silt content of 1.97%. The proposed borrow material appears to be suitable for beach nourishment.

Status of the species

The reproductive strategy of sea turtles involves producing large numbers of offspring to compensate for the high natural mortality through their first several years of life. However, for at least two decades, several human-caused mortality factors have contributed to the decline of sea turtle populations along the Atlantic coast and in the Gulf of Mexico (N R C 1990). These factors include commercial overutilization of eggs and turtles, incidental catches in commercial fishing operations, degradation of nesting habitat by coastal development, and marine pollution and debris. Therefore, human activities that affect the behavior and/or survivability of turtles on their remaining nesting beaches, particularly the few remaining high density nesting beaches, could seriously reduce our ability to conserve sea turtles.

Loggerhead Sea Turtle

The loggerhead sea turtle (*Caretta caretta*), listed as a threatened species on July 28, 1978 (43

FR 32800), inhabits the continental shelves and estuarine environments along the margins of the Atlantic, Pacific, and Indian Oceans. Loggerhead sea turtles nest within the continental U.S. from Louisiana to Virginia. Major nesting concentrations in the U.S. are found on the coastal islands of North Carolina, South Carolina, and Georgia, and on the Atlantic and Gulf coasts of Florida (Hopkins and Richardson 1984). Total estimated nesting in the Southeast is approximately 50,000 to 70,000 nests per year (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b).

From a global perspective, the southeastern U.S. nesting aggregation is of paramount importance to the survival of the species and is second in size only to that which nests on islands in the Arabian Sea off Oman (Ross 1982, Ehrhart 1989, National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b). The status of the Oman colony has not been evaluated recently, but its location in a part of the world that is vulnerable to disruptive events (e.g., political upheavals, wars, catastrophic oil spills) is cause for considerable concern (Meylan *et al.* 1995). The loggerhead nesting aggregations in Oman, the southeastern U.S., and Australia account for about 88 percent of nesting worldwide (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b). About 80 percent of loggerhead nesting in the southeastern U.S. occurs in six Florida counties (Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties) (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991b).

Recent genetic analyses using restriction fragment analysis and direct sequencing of mitochondrial DNA (mtDNA) have been employed to resolve management units among loggerhead nesting cohorts of the southeastern U.S. (Bowen *et al.* 1993; B.W. Bowen, University of Florida, Gainesville, in litt., November 17, 1994, and October 26, 1995; Encalada *et al.* 1998). Assays of nest samples from North Carolina to the Florida Panhandle have identified three genetically distinct nesting sub-populations: (1) northern nesting sub-population - Hatteras, North Carolina, to Cape Canaveral, Florida; (2) South Florida nesting sub-population - Cape Canaveral to Naples, Florida; and (3) Florida Panhandle nesting sub-population - Eglin Air Force Base and the beaches around Panama City, Florida. These data indicate that gene flow between the three regions is very low. If nesting females are extirpated from one of these regions, regional dispersal will not be sufficient to replenish the depleted nesting sub-population (Bowen *et al.* 1993, B.W. Bowen, University of Florida, Gainesville, in litt., October 26, 1995).

Green Sea Turtle

The green sea turtle (*Chelonia mydas*) was listed under the ESA on July 28, 1978 (43 FR 32800). Breeding populations of the green turtle in Florida and along the Pacific Coast of Mexico are listed as endangered; all other populations are listed as threatened. The green turtle has a worldwide distribution in tropical and subtropical waters. Major green turtle nesting colonies in the Atlantic occur on Ascension Island, Aves Island, Costa Rica, and Surinam.

Within the U.S., green turtles nest in small numbers in the U.S. Virgin Islands and Puerto Rico, and in larger numbers along the east coast of Florida, particularly in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1991a). Nesting also has been documented along the Gulf coast of Florida on Santa Rosa Island (Okaloosa and Escambia Counties) and from Pinellas County through Collier County (Florida Department of Environmental Protection, unpubl. data). Green turtles have been known to nest in Georgia, but only on rare occasions (Georgia Department of

Natural Resources, unpubl. data). The green turtle also nests sporadically in North Carolina (North Carolina Wildlife Resources Commission, unpubl. data). The first documentation of green turtle nests in South Carolina were reported in 1996 (S. Murphy, South Carolina Department of Natural Resources, pers. comm., 1996). Unconfirmed nesting of green turtles in Alabama has also been reported (R. Dailey, Bon Secour National Wildlife Refuge, pers. comm., 1995).

Status of the species within the action area

Loggerhead Sea Turtle

The loggerhead sea turtle nesting and hatching season for Manatee County, Florida extends from April 1 through November 30. Incubation ranges from about 45 to 95 days. Information provided by the Florida Marine Research Institute indicates that from 1993 through 1998 loggerhead sea turtle nest numbers varied from 136 to 225 on the approximately 11.7 mile long Anna Maria Island nesting beach.

Green Sea Turtle

The green sea turtle nesting and hatching season for Southwest Florida extends from May 15 through October 31. Incubation ranges from about 45 to 75 days. Nesting data from Meylan *et al.* (1995) and the Florida Marine Research Institute (unpubl. data) indicate that from 1979 through 1998, no green sea turtle nests were recorded on Anna Maria Island, although green turtle nesting has been reported elsewhere on Florida's Southwest coast in Pinellas, Sarasota, Charlotte, Lee, Collier, and Monroe Counties.

Effects of the action

Beneficial effects

Placement of sand on a severely eroded beach can increase sea turtle nesting habitat in an area as long as protective measures are incorporated into the project. Also, a properly engineered and constructed beach may be more stable than the eroding one it replaces, thereby benefitting sea turtles.

Direct effects

Placement of sand on an eroded section of beach or an existing beach in and of itself may not provide suitable nesting habitat for sea turtles. Although beach nourishment may increase the potential nesting area, significant negative impacts to sea turtles may result if protective measures are not incorporated during construction. Nourishment during the nesting season, particularly on or near high density nesting beaches, can cause increased loss of offspring from human-caused mortality and, along with other mortality sources, may significantly impact the long-term survival of the species. For instance, projects conducted during the nesting and hatching season could result in the loss of sea turtles through disruption of adult nesting activity and by burial or crushing of nests or hatchlings. While a nest monitoring and egg relocation program would reduce these impacts, nests may be inadvertently missed or misidentified as false crawls during daily patrols. In addition, nests may be destroyed by operations at night prior to beach patrols being performed. Even under the best of conditions, about 7 percent of the nests

can be misidentified as false crawls by experienced sea turtle nest surveyors (Schroeder 1994).

1. Nest relocation

Besides the potential for missing nests during a nest relocation program, there is a potential for eggs to be damaged by their movement or for unknown biological mechanisms to be affected. Nest relocation can have adverse impacts on incubation temperature (and hence sex ratios), gas exchange parameters, hydric environment of nests, hatching success, and hatchling emergence (Limpus *et al.* 1979, Ackerman 1980, Parmenter 1980, Spotila *et al.* 1983, McGehee 1990). Relocating nests into sands deficient in oxygen or moisture can result in mortality, morbidity, and reduced behavioral competence of hatchlings. Water availability is known to influence the incubation environment of the embryos and hatchlings of turtles with flexible-shelled eggs, which has been shown to affect nitrogen excretion (Packard *et al.* 1984), mobilization of calcium (Packard and Packard 1986), mobilization of yolk nutrients (Packard *et al.* 1985), hatchling size (Packard *et al.* 1981, McGehee 1990), energy reserves in the yolk at hatching (Packard *et al.* 1988), and locomotory ability of hatchlings (Miller *et al.* 1987).

Comparisons of hatching success between relocated and *in situ* nests have noted significant variation ranging from a 21 percent decrease to a 9 percent increase for relocated nests (Florida Department of Environmental Protection, unpubl. data). Comparisons of emergence success between relocated and *in situ* nests have also noted significant variation ranging from a 23 percent decrease to a 5 percent increase for relocated nests (Florida Department of Environmental Protection, unpubl. data). A 1994 Florida Department of Environmental Protection study of hatching and emergence success of *in situ* and relocated nests at seven sites in Florida found that hatching success was lower for relocated nests in five of seven cases with an average decrease for all seven sites of 5.01 percent (range = 7.19 percent increase to 16.31 percent decrease). Emergence success was lower for relocated nests in all seven cases by an average of 11.67 percent (range = 3.6 to 23.36 percent) (A. Meylan, Florida Department of Environmental Protection, in litt., April 5, 1995).

A final concern about nest relocation is that it may concentrate eggs in an area resulting in a greater susceptibility to catastrophic events. Hatchlings released from concentrated areas also may be subject to greater predation rates from both land and marine predators, because the predators learn where to concentrate their efforts.

2. Equipment

The placement of pipelines and the use of heavy machinery on the beach during a construction project may also have adverse effects on sea turtles. They can create barriers to nesting females emerging from the surf and crawling up the beach, causing a higher incidence of false crawls and unnecessary energy expenditure.

3. Artificial lighting

Another impact to sea turtles is disorientation (loss of bearings) and misorientation (incorrect orientation) of hatchlings from artificial lighting. Visual cues are the primary sea-finding mechanism for hatchlings (Mrosovsky and Carr 1967, Mrosovsky and Shettleworth 1968, Dickerson and Nelson 1989, Witherington and Bjorndal 1991). Artificial beachfront lighting is a well documented cause of hatchling disorientation and misorientation on nesting beaches (Philbosian 1976; Mann 1977; Florida Department of Environmental Protection, unpubl. data). In addition, research has also documented significant reduction in sea turtle nesting activity on beaches illuminated with artificial lights (Witherington 1992). Therefore, construction lights

along a project beach and on the dredging vessel may deter females from coming ashore to nest, disorient females trying to return to the surf after a nesting event, and disorient and misorient emergent hatchlings from adjacent non-project beaches. Any source of bright lighting can profoundly affect the orientation of hatchlings, both during the crawl from the beach to the ocean and once they begin swimming offshore. Hatchlings attracted to light sources on dredging barges may not only suffer from interference in migration, but may also experience higher probabilities of predation to predatory fishes that are also attracted to the barge lights. This impact could be reduced by using the minimum amount of light necessary (may require shielding) or low pressure sodium lighting during project construction.

Indirect effects

1. Changes in the physical environment

Beach nourishment may result in changes in sand density (compaction), beach shear resistance (hardness), beach moisture content, beach slope, sand color, sand grain size, sand grain shape, and sand grain mineral content if the placed sand is dissimilar from the original beach sand (Nelson and Dickerson 1988a). These changes could result in adverse impacts on nest site selection, digging behavior, clutch viability, and emergence by hatchlings (Nelson and Dickerson 1987, Nelson 1988).

Beach compaction and unnatural beach profiles that may result from beach nourishment activities could negatively impact sea turtles regardless of the timing of projects. Very fine sand and/or the use of heavy machinery can cause sand compaction on nourished beaches (Nelson *et al.* 1987, Nelson and Dickerson 1988a). Significant reductions in nesting success (i.e., false crawls occurred more frequently) have been documented on severely compacted nourished beaches (Fletemeyer 1980, Raymond 1984, Nelson and Dickerson 1987, Nelson *et al.* 1987), and increased false crawls may result in increased physiological stress to nesting females. Sand compaction may increase the length of time required for female sea turtles to excavate nests and also cause increased physiological stress to the animals (Nelson and Dickerson 1988c). Nelson and Dickerson (1988b) concluded that, in general, beaches nourished from offshore borrow sites are harder than natural beaches, and while some may soften over time through erosion and accretion of sand, others may remain hard for 10 years or more.

These impacts can be minimized by using suitable sand and by tilling the beach after nourishment if the sand becomes compacted. The level of compaction of a beach can be assessed by measuring sand compaction using a cone penetrometer (Nelson 1987). Tilling of a nourished beach may reduce the sand compaction to levels comparable to unnourished beaches. However, a pilot study by Nelson and Dickerson (1988c) showed that a tilled nourished beach will remain uncompacted for up to 1 year. Therefore, the Service requires multi-year beach compaction monitoring and, if necessary, tilling to ensure that project impacts on sea turtles are minimized. A root rake with tines at least 42 inches long and less than 36 inches apart pulled through the sand is recommended for compacted beaches. Service policy calls for beaches to be tilled if compaction levels exceed 500 psi.

A change in sediment color on a beach could change the natural incubation temperatures of nests in an area, which, in turn, could alter natural sex ratios. To provide the most suitable sediment for nesting sea turtles, the color of the nourished sediments must resemble the natural beach sand in the area. Natural reworking of sediments and bleaching from exposure to the sun would help to lighten dark nourishment sediments; however, the timeframe for sediment mixing and

bleaching to occur could be critical to a successful sea turtle nesting season.

2. Escarpments

On nourished beaches, steep escarpments may develop along their water line interface as they adjust from an unnatural construction profile to a more natural beach profile (Coastal Engineering Research Center 1984, Nelson *et al.* 1987). These escarpments can hamper or prevent access to nesting sites. Researchers have shown that female turtles coming ashore to nest can be discouraged by the formation of an escarpment, leading to situations where they choose marginal or unsuitable nesting areas to deposit eggs (e.g., in front of the escarpments, which often results in failure of nests due to prolonged tidal inundation). This impact can be minimized by leveling any escarpments prior to the nesting season.

Cumulative effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. The Service is not aware of any cumulative effects in the project area.

Conclusion

After reviewing the current status of the loggerhead and green sea turtles, the environmental baseline for the action area, the effects of the proposed beach nourishment, and the cumulative effects, it is the Service's biological opinion that the beach nourishment project, as proposed, is not likely to jeopardize the continued existence of the loggerhead or green sea turtle and is not likely to destroy or adversely modify designated critical habitat.

No critical habitat has been designated for the loggerhead sea turtle; therefore, none will be affected. Critical habitat for the green sea turtle has been designated for the waters surrounding Culebra Island, Puerto Rico, and its outlying keys; however, this action does not affect Culebra Island, Puerto Rico, or its outlying keys, and no destruction or adverse modification of that critical habitat is anticipated.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the Corps of Engineers so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps of Engineers has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps of Engineers (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps of Engineers must report the progress of the action and its impacts on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or extent of incidental take

The Service has reviewed the biological information and other information relevant to this action. Based on this review, incidental take is anticipated for (1) all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) all sea turtle nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (4) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (5) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (6) all nests destroyed as a result of escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service.

Effect of the take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and prudent measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of loggerhead and green sea turtles.

1. Only beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence shall be used on the project site.
2. If the beach nourishment project will be conducted during the sea turtle nesting season, surveys for nesting sea turtles shall be conducted. If nests are constructed in the area of beach nourishment, the eggs shall be relocated.
3. Immediately after completion of the beach nourishment project and prior to the next three nesting seasons, beach compaction shall be monitored and tilling shall be conducted as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.
4. Immediately after completion of the beach nourishment project and prior to the next three nesting seasons, monitoring shall be conducted to determine if escarpments are present and escarpments shall be leveled as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.
5. The applicant shall ensure that contractors doing the beach nourishment work fully understand the sea turtle protection measures detailed in this incidental take statement.
6. During the sea turtle nesting season, construction equipment and pipes shall be stored in a manner that will minimize impacts to sea turtles to the maximum extent practicable.
7. During the sea turtle nesting season, lighting associated with the project shall be minimized to reduce the possibility of disrupting and disorienting nesting and/or hatchling sea turtles.

Terms and conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps of Engineers must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. All fill material placed shall be sand that is similar to that already existing at the beach site in both coloration and grain size distribution. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall generally not contain, on average, greater than 10 percent fines (i.e., silt and clay) (passing the #200 sieve) and shall not contain, on average, greater than 5 percent coarse gravel or cobbles, exclusive

of shell material (retained by the #4 sieve).

2. Daily early morning sea turtle nesting surveys shall be required if any portion of the beach nourishment project occurs during the period from April 1 through November 30. Nesting surveys shall be initiated 65 days prior to nourishment activities or by April 1, whichever is later. Nesting surveys shall continue through the end of the project or through September 30, whichever is earlier. If nests are constructed in areas where they may be affected by construction activities, eggs shall be relocated per the following requirements.

2a. Nesting surveys and egg relocations shall only be conducted by personnel with prior experience and training in nest survey and egg relocation procedures. Surveyors shall have a valid Florida Fish and Wildlife Conservation Commission permit. Nesting surveys shall be conducted daily between sunrise and 9 a.m. Surveys shall be performed in such a manner so as to ensure that construction activity does not occur in any location prior to completion of the necessary sea turtle protection measures.

2b. Only those nests that may be affected by construction activities shall be relocated. Nests requiring relocation shall be moved no later than 9 a.m. the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests. Nests deposited within areas where construction activities have ceased or will not occur for 65 days shall be marked and left in place unless other factors threaten the success of the nest. Any nests left in the active construction zone shall be clearly marked, and all mechanical equipment shall avoid nests by at least 10 feet.

3. Immediately after completion of the beach nourishment project and prior to April 1 for 3 subsequent years, sand compaction shall be monitored in the area of restoration in accordance with a protocol agreed to by the Service, the State regulatory agency, and the applicant. At a minimum, the protocol provided under 3a and 3b below shall be followed. If required, the area shall be tilled to a depth of 36 inches. All tilling activity must be completed prior to April 1. If the project is completed during the nesting season, tilling shall not be performed in areas where nests have been left in place or relocated. A report on the results of compaction monitoring shall be submitted to the Service prior to any tilling actions being taken. An annual summary of compaction surveys and the actions taken shall be submitted to the Service. This condition shall be evaluated annually and may be modified if necessary to address sand compaction problems identified during the previous year.

3a. Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area); one station shall be midway between the dune line and the high water line (normal wrack line); and one station shall be located just landward of the high water line.

At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lay over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth shall be averaged to produce final values for each depth at each station. Reports shall include all 27 values for each transect line, and the final 9 averaged compaction values.

3b. If the average value for any depth exceeds 500 psi for any two or more adjacent stations, then that area shall be tilled immediately prior to April 1. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Fish and Wildlife Service shall be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling shall not be required.

4. Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project and prior to April 1 for 3 subsequent years. Results of the surveys shall be submitted to the Service prior to any action being taken. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be leveled to the natural beach contour by April 1. If the project is completed during the sea turtle nesting and hatching season, escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. The Service shall be contacted immediately if subsequent reformation of escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet occurs during the nesting and hatching season to determine the appropriate action to be taken. If it is determined that escarpment leveling is required during the nesting or hatching season, the Service will provide a brief written authorization that describes methods to be used to reduce the likelihood of impacting existing nests. An annual summary of escarpment surveys and actions taken shall be submitted to the Service.

5. The applicant shall arrange a meeting between representatives of the contractor, the Service, the Florida Fish and Wildlife Conservation Commission, and the permitted person responsible for egg relocation at least 30 days prior to the commencement of work on this project. At least 10 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.

6. From April 1 through November 30, staging areas for construction equipment shall be located off the beach to the maximum extent practicable. Nighttime storage of construction equipment not in use shall be off the beach to minimize disturbance to sea turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Temporary storage of pipes shall be off the beach to the maximum extent possible. Temporary storage of pipes on the

beach shall be in such a manner so as to impact the least amount of nesting habitat and shall likewise not compromise the integrity of the dune systems (placement of pipes perpendicular to the shoreline is recommended as the method of storage).

7. From April 1 through November 30, all on- beach lighting associated with the project shall be limited to the immediate area of active construction only and shall be the minimal lighting necessary to comply with safety requirements. Shielded low pressure sodium vapor lights are recommended to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement of lights to avoid excessive illumination of the water, while meeting all U.S. Coast Guard and OSHA requirements. Shielded low pressure sodium vapor lights are highly recommended for lights on offshore equipment that cannot be eliminated.

8. A report describing the actions taken to implement the terms and conditions of this incidental take statement shall be submitted to the Jacksonville, Florida Field Office within 60 days of completion of the proposed work for each year when the activity has occurred. This report will include the dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, descriptions and locations of self-release beach sites, nest survey and relocation results, and hatching success of nests.

9. In the event a sea turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

10. Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the U.S. Fish and Wildlife Service Law Enforcement Office located in St. Petersburg, Florida at (727) 570-5398. Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological materials in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

The Service believes that no more than the following types of incidental take will result from the proposed action: (1) all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project; (2) all sea turtle nests deposited during the period when a nest survey and egg relocation program is not required to be in place within the boundaries of the proposed project; (3) harassment in the form of disturbing or interfering with female turtles attempting to nest within the construction area or on adjacent beaches as a result of construction activities; (4) disorientation of hatchling turtles on beaches adjacent to the construction area as they emerge from the nest and crawl to the water as a result of project lighting; (5) behavior modification of nesting females due to escarpment formation within the project area during a nesting season, resulting in false crawls or situations where they choose marginal or unsuitable nesting areas to deposit eggs; and (6) all nests destroyed as a result of escarpment leveling within a nesting season when such leveling has been approved by the Fish and Wildlife Service. The reasonable

and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Appropriate native salt-resistant dune vegetation should be established on the restored dunes. The Florida Department of Environmental Protection, Office of Beaches and Coastal Systems, can provide technical assistance on the specifications for design and implementation.
2. Surveys for nesting success of sea turtles should be continued for a minimum of 3 years following beach nourishment to determine whether sea turtle nesting success has been adversely impacted.
3. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action(s) outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, Florida 33702

June 16, 2000

James C. Duck, Chief
Jacksonville District Corps of Engineers
Planning Division, Environmental Branch
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Duck:

The National Marine Fisheries Service (NMFS) has reviewed the Limited Reevaluation Report and Draft Environmental Assessment for the First Renourishment of the Manatee County, Florida, Shore Protection Project provided by cover letter dated May 18, 2000. We find that the description of fishery resources, the habitats in the project area, and the identified potential adverse impacts associated with the proposed activities adequate. Therefore, we have no additional comments to offer at this time.

If we can be of further assistance, please advise. Related comments, questions or correspondence should be directed to Mr. David N. Dale in St. Petersburg, Florida. He may be contacted at 727/570-5311 or at the letterhead address above.

Sincerely,

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

cc:
F/SER4
F/SER43





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUN 05 2000

District Engineer, Jacksonville
P.O. Box 4970
Jacksonville, FL 32232

Attn: Mr. James C. Duck

Subject: Environmental Assessment (EA) for Manatee County Shore Protection Project,
Anna Maria Island, FL

Dear Sir:

Pursuant to Section 309 of the Clean Air Act, EPA, Region 4 has reviewed the subject document, an evaluation of the environmental consequences of placing approximately 1.85 M cubic yards of sand along a 4.2 mile reach of Manatee County from DEP monuments R-12 to R-36 (frontage of Gulf Drive/SR 789). Two offshore borrow areas will provide the necessary fill material which will be pumped onshore via a submerged hydraulic pipeline. Side scan sonar and diver surveys of the two borrow sites revealed the excavated substrate is predominantly sand with only nominal/transient coverage of hardbottom habitat. Various mitigation techniques are in place to avoid these invertebrate communities scattered in/around the borrow areas.

The north and south sites contain sufficient material to accommodate this renourishment, viz., 1.1 and 2.6 million cubic yards, respectively. We understand that these two borrow areas are recharged with sediments from Passage Key Inlet and New Pass. However, their shallow depths and close proximity to the deposition beach suggest that mining these two areas of sand could have some long-term repercussion(s) on the receiving beaches and, perhaps, even the Island's overall transport budget. It may be possible to lessen problems in this regard by obtaining renourishment material this time from the deeper portions of the borrow sites. Regardless, we offer that this possibility should be examined during the routine monitoring carried out post-project and/or prior to subsequent renourishment episodes.

Thank you for the opportunity to comment. If we can be of further assistance in this matter, Dr. Gerald Miller (404-562-9626) will serve as initial point of contact.

Sincerely,

A handwritten signature in black ink that reads "Heinz J. Mueller".

Heinz J. Mueller, Chief
Office of Environmental Assessment



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

"Dedicated to making Florida a better place to call home"

JEB BUSH
Governor

STEVEN M. SEIBERT
Secretary

August 10, 2000

Ms. Yvonne Haberer
Department of the Army
Jacksonville District Corps Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

RE: U.S. Department of the Army - District Corps of Engineers - Anna Maria Island -
Manatee County Shore Protection Project - First Renourishment - Limited
Reevaluation Report with Draft Environmental Assessment - April 2000 - Two
Volumes - Manatee County, Florida
SAI: FL200005220292C

Dear Ms. Haberer:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372,
Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-
1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335,
4341-4347, as amended, has coordinated a review of the above-referenced project.

The Department of Environmental Protection (DEP) notes that the Army Corps of
Engineers submitted a permit application to DEP's Office of Beaches and Coastal Systems for an
Environmental Resource Permit/Water Quality Certification to dredge sand and renourish
beaches in the proposed project area. The final consistency determination will be made during
the permitting process. Please refer to the enclosed DEP comments.

Based on the information contained in the limited re-evaluation report and draft
environmental assessment and the enclosed comments provided by our reviewing agencies, the
state has determined that, at this stage, the above-referenced project is consistent with the Florida
Coastal Management Program. The final consistency determination will be made during the
permitting process.

In addition, the Tampa Bay Regional Planning Council (TBRPC) offers a number of
comments and has identified the policies and goals of its Strategic Regional Policy Plan which
may apply to the proposed activity. The comments provided by the TBRPC are enclosed for your
review and consideration.

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: <http://www.dca.state.fl.us>

CRITICAL STATE CONCERN FIELD OFFICE
2796 Overseas Highway, Suite 212
Marathon, FL 33050-2227
(305) 289-2402

COMMUNITY PLANNING
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 488-2356

EMERGENCY MANAGEMENT
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 413-9969

HOUSING & COMMUNITY DEVELOPMENT
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 488-7956

Ms. Yvonne Haberer
August 10, 2000
Page Two

Thank you for the opportunity to review the limited re-evaluation report and draft environmental assessment. If you have any questions regarding this letter, please contact Ms. Cherie Trainor, Clearinghouse Coordinator, at (850) 414-5495.

Sincerely,



for Ralph Cantral, Executive Director
Florida Coastal Management Program

RC/cc

Enclosures

cc: Kate Muldoon, Department of Environmental Protection
Angela Hurley, Tampa Bay Regional Planning Council



STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

"Dedicated to making Florida a better place to call home"

JEB BUSH
Governor

STEVEN M. SEIBERT
Secretary

July 5, 2000

Ms. Yvonne Haberer
Department of the Army
Jacksonville District Corps Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

RE: U.S. Department of the Army - District Corps of Engineers - Anna Maria Island -
Manatee County Shore Protection Project - First Renourishment - Limited
Reevaluation Report with Draft Environmental Assessment - April 2000 - Two
Volumes - Manatee County, Florida
SAI: FL200005220292C

Dear Ms. Haberer:

The Florida State Clearinghouse has been advised that our reviewing agencies require additional time to complete the review of the above-referenced project. In order to receive comments from all agencies, an additional fifteen days is requested for completion of the state's consistency review in accordance with 15 CFR 930.41(b). We will make every effort to conclude the review and forward the consistency determination to you on or before July 21, 2000.

Thank you for your understanding. If you have any questions regarding this matter, please contact Ms. Cherie Trainor, Clearinghouse Coordinator, at (850) 414-5495.

Sincerely,

for Ralph Cantral, Executive Director
Florida Coastal Management Program

RC/cc

2555 SHUMARD OAK BOULEVARD • TALLAHASSEE, FLORIDA 32399-2100
Phone: 850.488.8466/Suncom 278.8466 FAX: 850.921.0781/Suncom 291.0781
Internet address: <http://www.dca.state.fl.us>

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Tallahassee, FL 32399-2100

HOUSING & COMMUNITY DEVELOPMENT
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

Ms. Cherie Trainor
State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Blvd.
Tallahassee, FL 32399

RE: U.S. Army Corps of Engineers Limited Re-Evaluation Report and Draft
Environmental assessment for First Beach Renourishment of Anna Maria Island,
Shore Protection Project, Manatee County
SAI: FL200005220292C

Dear Ms. Trainor:

The Department of Environmental Protection has completed its review of the U.S. Army Corps of Engineers limited re-evaluation report and draft environmental assessment for the first beach renourishment of Anna Maria Island, Shore Protection Project, Manatee County. The Department offers the following comments.

The U.S. Army Corps of Engineers (COE) submitted a permit application to the Office of Beaches and Coastal Systems for an Environmental Resource Permit/Water Quality Certification this spring to dredge sand and renourish beaches in the proposed project area. The final consistency determination will be made during the permitting process.

Thank you for the opportunity to review and comment upon this project. If I can be of further assistance, please contact me at 7-2231.

Sincerely,

Kate Muldoon
Office of Intergovernmental Programs

kam/

cc: Roxane Dow
Dianne McCommons-Beck

COUNTY: Manatee

DATE: 05/22/2000

COMMENTS DUE DATE: 06/21/2000

CLEARANCE DUE DATE: 07/06/2000

SAI#: FL200005220292C

Message:

STATE AGENCIES

WATER MANAGEMENT DISTRICTS

OPB POLICY UNITS

Agriculture
 Community Affairs
 Environmental Protection
 Fish & Wildlife Conserv. Comm
 X State
 Transportation

*Ref: 2000-03667
 Argy Survey Review complete &
 sufficient
 6-12-00*

Southwest Florida WMD

Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of the Army - District Corps of Engineers - Anna Maria Island of the Manatee County Shore Protection Project - First Renourishment - Limited Reevaluation Report with Draft Environmental Assessment - April 2000 - Two Volumes - Manatee County, Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: *DNR RHP*
 Reviewer: *W.B. Yates*
 Date: *6-12-00*

Janet Lyda Lovell

COUNTY: Manatee

DATE: 05/22/2000
COMMENTS DUE DATE: 06/21/2000
CLEARANCE DUE DATE: 07/06/2000
SAI#: FL200005220292C

Message

STATE AGENCIES

WATER MANAGEMENT DISTRICTS

OPB POLICY UNITS

Agriculture
Community Affairs
Environmental Protection
Fish & Wildlife Conserv. Comm
State
X Transportation

Southwest Florida WMD

Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

Project Description:

U.S. Department of the Army - District Corps of Engineers - Anna Maria Island of the Manatee County Shore Protection Project - First Renourishment - Limited Reevaluation Report with Draft Environmental Assessment - April 2000 - Two Volumes - Manatee County, Florida.

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
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- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Cherie Trainor

To: Florida State Clearinghouse
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 922-5438 (SC 292-5438)
(850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Florida Department of Transportation
District One - Southwest Area Office
P.O. Box 1030
Fort Myers, FL 33902-1030

Division/Bureau:

Reviewer: *L. Bunschewitz / [Signature]*

Date: *6-22-00*

FAXED
6-22-00



Southwest Florida Water Management District

2379 Broad Street, Brooksville, Florida 34609-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
SUNCOM 628-4150 TDD only 1-800-231-6103 (FL only)
World Wide Web: <http://www.swfwmd.state.fl.us>

An Equal Opportunity Employer

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7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)
SUNCOM: 578-2070

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(883) 534-1448 or
1-800-492-7862 (FL only)
SUNCOM 572-6200

Venice Service Office
115 Corporation Way
Venice, Florida 34292-3524
(941) 486-1212 or
1-800-320-3503 (FL only)
SUNCOM 528-6900

Lecanto Service Office
3600 West Sovereign Path
Suite 226
Lecanto, Florida 34461-8070
(352) 527-8131
SUNCOM 667-3271

June 2, 2000

Ms. Cherie Trainor
Florida State Clearinghouse
Department Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Subject: US ACOE - Anna Maria Island Shore Protection Project Limited Use
Reevaluation Report with Draft Environmental Assessment,
Manatee County, Florida

SAI#: FL2000052503070 FL200005220292C

Dear Ms. Trainor:

The staff of the Southwest Florida Water Management District (District) has conducted a consistency evaluation for the project referenced above. Consistency findings are divided into four categories and are based solely on the information provided in the subject application.

FINDING	CATEGORY
X	Consistent/No Comment
	Consistent/Comments Attached
	Inconsistent/Comments Attached
	Consistency Cannot be Determined Without an Environmental Assessment Report or Additional Information/Comments Attached

This review does not constitute permit approval under Chapter 373, Florida Statutes, or any rules promulgated thereunder, nor does it stand in lieu of normal permitting procedures in accordance with Florida Statutes and District rules.

If you have any questions or if I can be of further assistance, please contact me in the District's Planning Department.

Sincerely,

Ian G. McDonald, AICP
Government Planning Coordinator

- Ronald C. Johnson
Chair, Lake Wales
- Brenda Menendez
Vice Chair, Tampa
- Sally Thompson
Secretary, Tampa
- Ronnie E. Duncan
Treasurer, Safety Harbor
- Monroe "Al" Coogler
Lecanto
- Joe L. Davis, Jr.
Wauchula
- Rebecca M. Eger
Sarasota
- John P. Harlee, IV
Bradenton
- Watson L. Haynes, II
St. Petersburg
- John K. Renke, III
New Port Richey
- Parola Stinnette-Taylor
Tampa
- E. D. "Sonny" Vergara
Executive Director
- Gene A. Heath
Assistant Executive Director
- Edward B. Heivenston
General Counsel

COUNTY: Manatee

DATE: 05/22/2000

COMMENTS DUE DATE: 06/21/2000

CLEARANCE DUE DATE: 07/06/2000

SAI#: FL200005220292C

Message:

STATE AGENCIES

WATER MANAGEMENT DISTRICTS

OPB POLICY UNITS

Agriculture
 Community Affairs
 Environmental Protection
 Fish & Wildlife Conserv. Comm
 State
 Transportation

X Southwest Florida WMD

Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

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- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

U.S. Department of the Army - District Corps of Engineers - Anna Maria Island of the Manatee County Shore Protection Project - First Renourishment - Limited Reevaluation Report with Draft Environmental Assessment - April 2000
 Two Volumes - Manatee County, Florida.

State of Florida Clearinghouse
 JUN 07 2000

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
 (850) 414-0479 (FAX)

EO. 12372/NEPA

Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

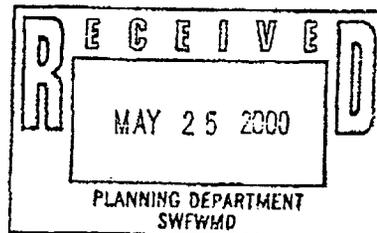
- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: _____

Reviewer: _____

Date: _____



COUNTY Manatee

DATE: 05/22/2000

COMMENTS DUE DATE: 06/21/2000

CLEARANCE DUE DATE: 07/06/2000

SAI#: FL200005220292C

Message

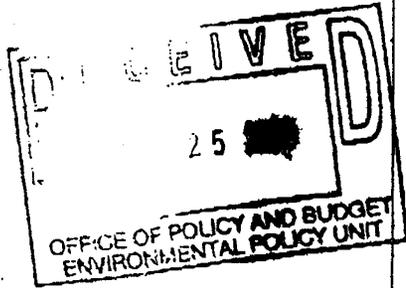
STATE AGENCIES

WATER MANAGEMENT DISTRICTS

OPB POLICY UNITS

Agriculture
 Community Affairs
 Environmental Protection
 Fish & Wildlife Conserv. Comm
 State
 Transportation

Southwest Florida WMD



X Environmental Policy/C & ED

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
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Project Description:

U.S. Department of the Army - District Corps of Engineers - Anna Marie Island of the Manatee County Shore Protection Project - First Renourishment - Limited Reevaluation Report with Draft Environmental Assessment - April 2000 - Two Volumes - Manatee County, Florida.

To: Florida State Clearinghouse
 Department of Community Affairs
 2555 Shumard Oak Boulevard
 Tallahassee, FL 32399-2100
 (850) 922-5438 (SC 292-5438)
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EO. 12372/NEPA

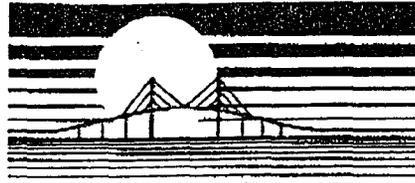
Federal Consistency

- No Comment
- Comments Attached
- Not Applicable

- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From:

Division/Bureau: OPB/Env Policy Unit
 Reviewer: Carli...
 Date: 6-26-00



Tampa Bay Regional Planning Council

Chairman
Commissioner Chris Hart

Vice-Chairman
Frederick T. Reeves

Secretary/Treasurer
Mayor Pat Whitesel

Executive Director
Manny L. Pumariega

July 10, 2000

Ms. Cherie L. Trainor, Coordinator
Florida State Clearinghouse
Florida Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Subject: IC&R #194-00, DRAFT Shore Protection Project at Anna Maria
Island, SAI #FL200005220292C, Manatee County

Dear Ms. Trainor:

The aforementioned project was reviewed for consistency with the Tampa Bay
Regional Planning Council's *Strategic Regional Policy Plan*. The attached report
was approved by the Council at its July 10, 2000 meeting and summarizes the
Council staff's findings.

Please contact me if further information regarding this item is desired.

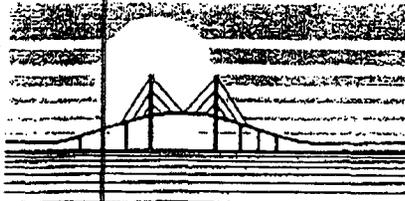
Sincerely,

Angela Hurley, Research Planner
Intergovernmental Coordination & Review

AH/bj

Enclosure

cc: Ms. Yvonne Haberer, U. S. Army Corps of Engineers



Tampa Bay Regional Planning Council

IC&R

Intergovernmental Coordination and Review

9455 Koger Blvd., Suite 219, St. Petersburg, FL 33702
Phone (727) 570-5151 Suncom 513-5066 FAX (727) 570-5118
<http://www.tbrpc.org>

ANNA MARIA ISLAND SHORE PROTECTION PROJECT, SAI #FL200005220292C,
MANATEE COUNTY, IC&R #194-00.

The FL State Clearinghouse has requested review and comment on the Limited Re-evaluation Report with Draft Environmental Assessment, prepared for the US Army Corps of Engineers by Manatee County, for the first renourishment of the beach. The project is located on the Gulf shore of Anna Maria Island, in westernmost Manatee County.

The proposed project entails renourishment of a 4.2-mile section of the 7.5-mile long Gulf beachfront of Anna Maria Island. An estimated 1.85 million cubic yards of sand would be obtained from two borrow areas located nearby. The material would be removed by cutterhead dredge and pumped onshore to create a 75 foot-wide design beach, plus an average of 45 feet of advanced nourishment at equilibrium. A 0.5-mile long transition beach will be added at the south end of the project, to taper the construction to current grade. The design berm elevation will be +5 feet NGVD. No structures will be added to the beach.

The initial beach nourishment occurred in 1992-93. That project placed an estimated 2.324 million cubic yards of sand on 4.7 miles of beach and included 85 feet of advanced nourishment fill, also with a berm elevation of +5 feet NGVD.

The proposed renourishment could affect about seven acres of near-shore, low-relief hard bottom habitat that was buried and mitigated for in the 1992-93 project, but that has been re-exposed as a result of sand shift. This loss was mitigated by the creation of two artificial reefs. No additional loss of hard bottom habitat is expected. Existing hard bottom habitat in the vicinity of the borrow areas and nearshore will be protected through the establishment of buffer zones. Biological monitoring of adjacent hard bottom habitat will be performed before, during and after project construction.

Two borrow areas have been identified for the project. The north borrow area is located about 1,500 feet offshore at a point nearest the renourishment site, and extends a maximum distance of about 7,000 feet offshore, with a total area of 864 acres and 11 million cubic yards of sand. The south borrow area is located about 1,800 feet offshore Anna Maria Island at its closest point, and extends a maximum of 5,000 feet offshore, with a total area of 130 acres and about 2.62 million cubic yards of material available.

Council Comments/Concerns

The project will impact "Natural Resources of Regional Significance" in *Future of the Region: A Strategic Regional Policy Plan for the Tampa Bay Region (FRSRPP)*. The site

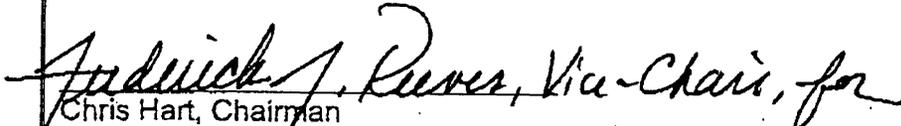
includes Strategic Habitat Conservation Areas, i.e. sea turtle nesting beach. In this instance, however, the impact to nesting sea turtles, particularly *Caretta caretta*, the Loggerhead sea turtle, is expected to be **beneficial**, since the project will provide nesting habitat. It was noted that nesting by this species almost doubled for the seven years after the initial nourishment, compared to the pre-nourished condition. The Draft Environmental Assessment requires specific actions to avoid and minimize impact to nesting sea turtles, their eggs and young, and to manatees.

Additionally, the project will provide protection from storm surge for public and private property, will protect the hurricane evacuation route, and will provide an enhanced recreational beach.

It appears that the proposal does not include plans for establishing native vegetation on the renourished beach. Plants such as sea oats and beach sunflower would help stabilize the new beach sands and retard wind erosion. It is recommended that the local sponsor, Manatee County, consider adding this component to the project.

Further, it is recommended that any additional comments addressing local concerns be considered prior to final action.

Council adopted July 10, 2000


Chris Hart, Chairman
Tampa Bay Regional Planning Council

This project has been reviewed for consistency with the Council's adopted growth policy, *Future of the Region: A Strategic Regional Policy Plan for the Tampa Bay Region*. This project is consistent with the adopted policies.

Pertinent policies:

4.5.1: Protect, preserve and restore all regionally-significant natural resources shown on the Map of Regionally-Significant Natural Resources.

4.5.10: Maintain a minimum horizontal buffer necessary to preserve the natural value and function of the regionally-significant natural resource.

4.5.12: Prohibit hardening of unaltered shorelines or other structural lining of natural waterways or shorelines, except when required by watershed and/or stormwater management plans.

Regional Goal 4.6: The integrity and natural value of marine, estuarine and intertidal habitat shall be maintained.

4.9.1: Protect undeveloped barrier islands from development that impedes geological function, the environmental character and the function of the islands and immediate vicinity.

4.9.2: Implement strategies to protect beaches, dune systems, and other natural coastal habitats from

4.9.2: Implement strategies to protect beaches, dune systems, and other natural coastal habitats from the adverse effects of development and recreational use.

4.9.5: Establish a dune preservation zone to protect the primary and secondary dunes, including prohibitions on excavations, destruction of native vegetation and other activities which affect the natural movement of the dunes.

4.9.6: Where appropriate, coastal shorelines lacking vegetation should be planted with appropriate native vegetation in order to minimize potential flood damage; stabilize beaches and dunes; and provide additional habitat for fish and wildlife.

4.9.9: Maintain natural beach processes by prohibiting structures that adversely affect sand transport.

4.9.10: Shoreline armoring shall only be used as a last resort to provide protection to upland property and the structures thereon.

4.9.11: All fill allowed on or near beaches and sand dune areas shall be materials characteristic of, and compatible with these natural features, and shall not impact hard-bottom communities.

4.9.12: Beach renourishment projects shall protect and enhance existing native vegetation; sea turtle and shorebird nesting habitat.

4.9.13: Prohibit development which would bury in place any structure that, upon erosion, could result in an in-place vertical bulkhead or seawall. Encourage the removal of perpendicular structures prior to beach renourishment.

PLEASE NOTE: The Committee's comments constitute compliance with Florida's Intergovernmental Coordination and Review process only.

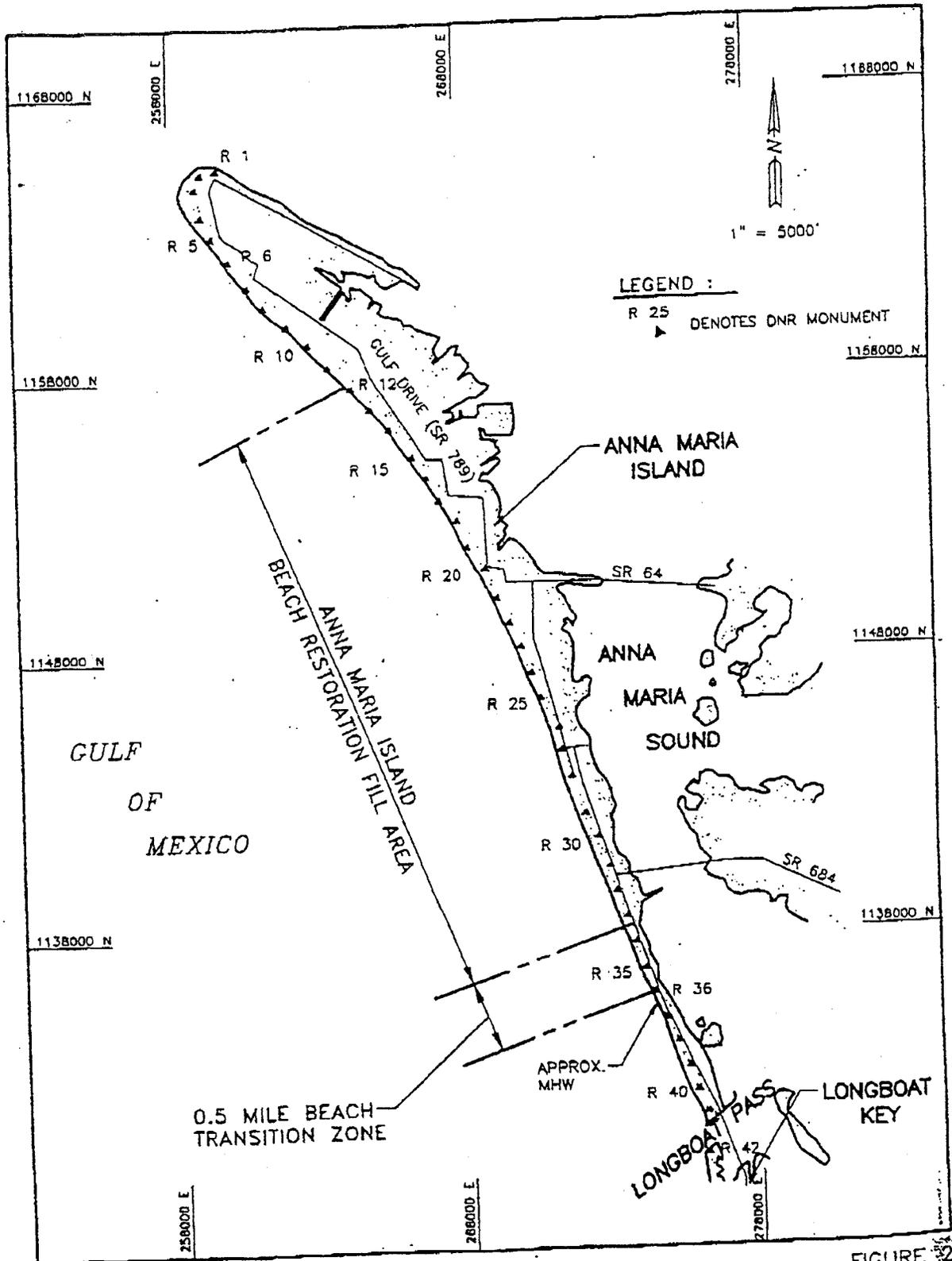
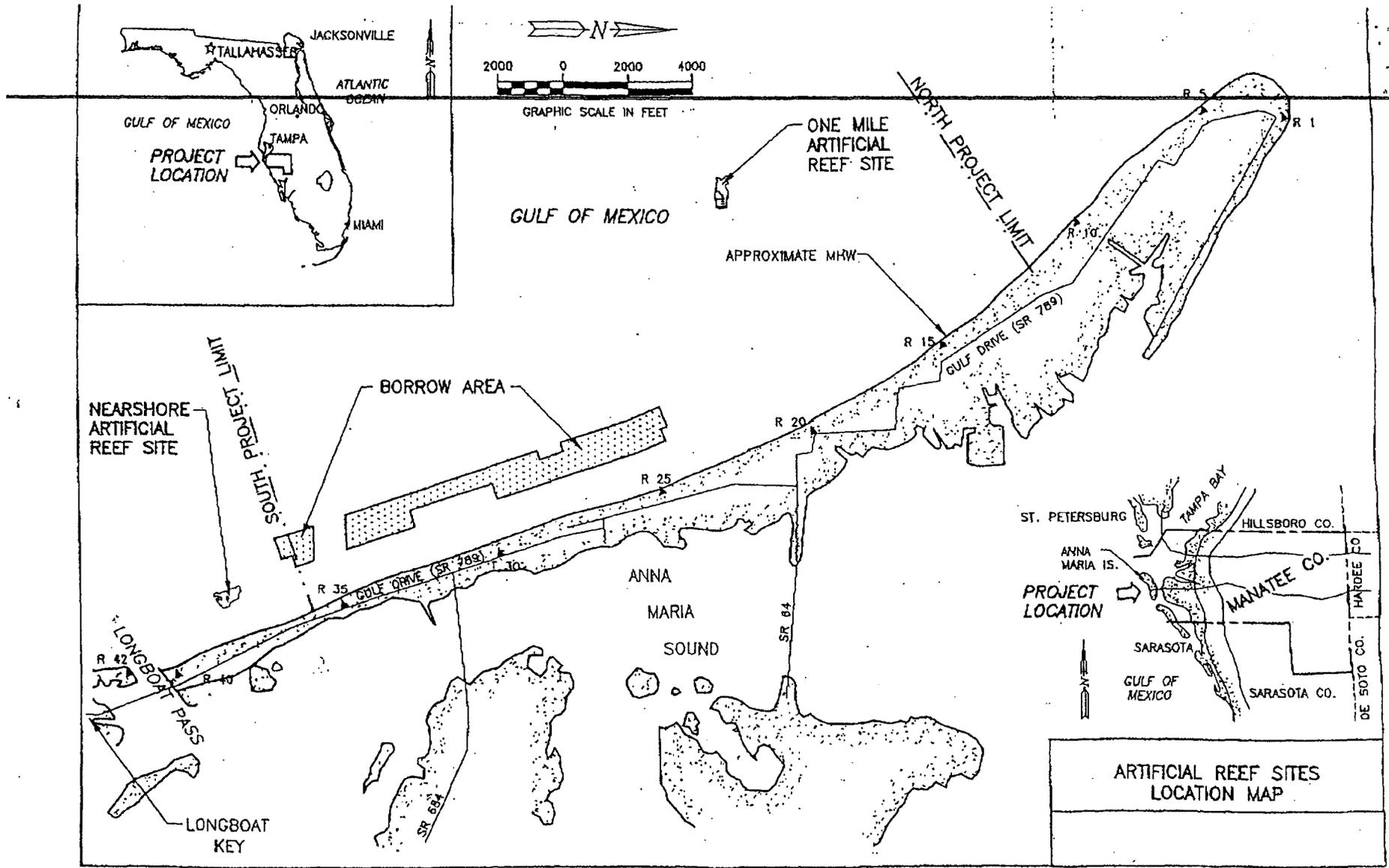
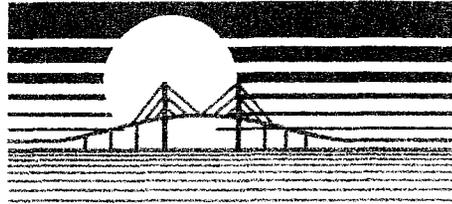


FIGURE 12

MANATEE COUNTY, FLORIDA
 (ANNA MARIA ISLAND)
 SHORE PROTECTION PROJECT
 LOCATION MAP





Tampa Bay Regional Planning Council

Chairman
Commissioner Chris Hart

Vice-Chairman
Frederick T. Reeves

Secretary/Treasurer
Mayor Pat Whitesel

Executive Director
Manny L. Pumariega

June 30, 2000

Ms. Yvonne Haberer
Department of the Army
Jacksonville District Corps of Engineers
P. O. Box 4970
Jacksonville, Florida 32232-0019

Subject: IC&R #194-00, DRAFT Shore Protection Project at Anna Maria Island, SAI
#FL200005220292C, Manatee County

Dear Ms. Haberer:

The above-referenced item will appear on the Consent Agenda for the July 10, 2000 meeting of the Tampa Bay Regional Planning Council which will be held at the Council offices at 10:00 a.m. This item was originally scheduled to be considered at the June 26, 2000 meeting of the Clearinghouse Review Committee, but due to the lack of a quorum at that meeting, it is being placed on the agenda of the aforementioned Council meeting. An agenda and a copy of the report are enclosed for your information should you or your representative wish to attend.

If you have any questions, please call me at (727) 570-5151, Ext. 244.

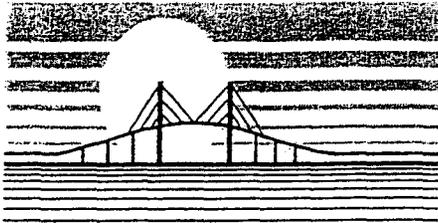
Sincerely,

A handwritten signature in cursive script that reads "Angela Hurley/bj".

Angela Hurley, Research Planner
Intergovernmental Coordination & Review

AH/bj

Enclosures



Tampa Bay Regional Planning Council

IC&R

Intergovernmental Coordination and Review

9455 Koger Blvd., Suite 219, St. Petersburg, FL 33702
Phone (727) 570-5151 Suncom 513-5066 FAX (727) 570-5118
<http://www.tbrpc.org>

ANNA MARIA ISLAND SHORE PROTECTION PROJECT, SAI #FL200005220292C,
MANATEE COUNTY, IC&R #194-00.

The FL State Clearinghouse has requested review and comment on the Limited Re-evaluation Report with Draft Environmental Assessment, prepared for the US Army Corps of Engineers by Manatee County, for the first renourishment of the beach. The project is located on the Gulf shore of Anna Maria Island, in westernmost Manatee County.

The proposed project entails renourishment of a 4.2-mile section of the 7.5-mile long Gulf beachfront of Anna Maria Island. An estimated 1.85 million cubic yards of sand would be obtained from two borrow areas located nearby. The material would be removed by cutterhead dredge and pumped onshore to create a 75 foot-wide design beach, plus an average of 45 feet of advanced nourishment at equilibrium. A 0.5-mile long transition beach will be added at the south end of the project, to taper the construction to current grade. The design berm elevation will be +5 feet NGVD. No structures will be added to the beach.

The initial beach nourishment occurred in 1992-93. That project placed an estimated 2.324 million cubic yards of sand on 4.7 miles of beach and included 85 feet of advanced nourishment fill, also with a berm elevation of +5 feet NGVD.

The proposed renourishment could affect about seven acres of near-shore, low-relief hard bottom habitat that was buried and mitigated for in the 1992-93 project, but that has been re-exposed as a result of sand shift. This loss was mitigated by the creation of two artificial reefs. No additional loss of hard bottom habitat is expected. Existing hard bottom habitat in the vicinity of the borrow areas and nearshore will be protected through the establishment of buffer zones. Biological monitoring of adjacent hard bottom habitat will be performed before, during and after project construction.

Two borrow areas have been identified for the project. The north borrow area is located about 1,500 feet offshore at a point nearest the renourishment site, and extends a maximum distance of about 7,000 feet offshore, with a total area of 864 acres and 11 million cubic yards of sand. The south borrow area is located about 1,800 feet offshore Anna Maria Island at its closest point, and extends a maximum of 5,000 feet offshore, with a total area of 130 acres and about 2.62 million cubic yards of material available.

Council Comments/Concerns

The project will impact "Natural Resources of Regional Significance" in *Future of the Region: A Strategic Regional Policy Plan for the Tampa Bay Region (FRSRPP)*. The site

4.9.2: Implement strategies to protect beaches, dune systems, and other natural coastal habitats from the adverse effects of development and recreational use.

4.9.5: Establish a dune preservation zone to protect the primary and secondary dunes, including prohibitions on excavations, destruction of native vegetation and other activities which affect the natural movement of the dunes.

4.9.6: Where appropriate, coastal shorelines lacking vegetation should be planted with appropriate native vegetation in order to minimize potential flood damage; stabilize beaches and dunes; and provide additional habitat for fish and wildlife.

4.9.9: Maintain natural beach processes by prohibiting structures that adversely affect sand transport.

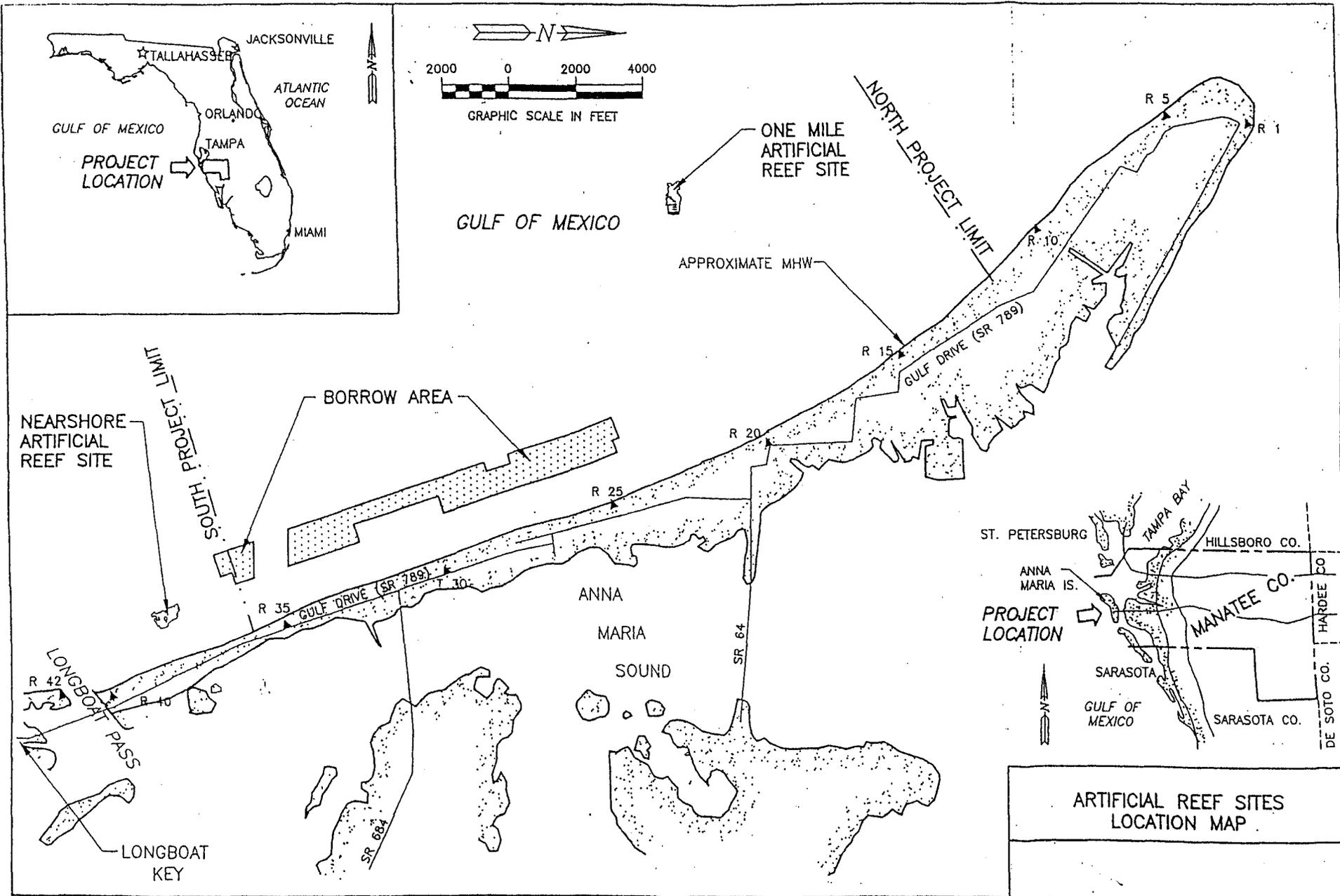
4.9.10: Shoreline armoring shall only be used as a last resort to provide protection to upland property and the structures thereon.

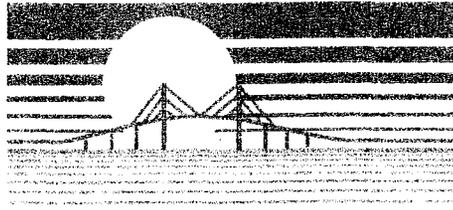
4.9.11: All fill allowed on or near beaches and sand dune areas shall be materials characteristic of, and compatible with these natural features, and shall not impact hard-bottom communities.

4.9.12: Beach renourishment projects shall protect and enhance existing native vegetation; sea turtle and shorebird nesting habitat.

4.9.13: Prohibit development which would bury in place any structure that, upon erosion, could result in an in-place vertical bulkhead or seawall. Encourage the removal of perpendicular structures prior to beach renourishment.

PLEASE NOTE: The Committee's comments constitute compliance with Florida's Intergovernmental Coordination and Review process only.





Tampa Bay Regional Planning Council

Chairman
Commissioner Chris Hart

Vice-Chairman
Frederick T. Reeves

Secretary/Treasurer
Mayor Pat Whitesel

Executive Director
Manny L. Pumariega

June 16, 2000

Ms. Yvonne Haberer
Department of the Army
Jacksonville District Corps of Engineers
P. O. Box 4970
Jacksonville, Florida 32232-0019

Subject: IC&R #194-00, DRAFT Shore Protection Project at Anna Maria
Island, SAI #FL200005220292C, Manatee County

Dear Ms. Haberer:

The above-referenced item will be discussed at the next meeting of the Council's Clearinghouse Review Committee on June 26, 2000, at 9:30 a.m. in the Council conference room. A copy of this report and an agenda are enclosed should you or your representative wish to attend.

If I can be of any further assistance, please do not hesitate to contact me at (727) 570-5151, ext. 257, regarding this matter.

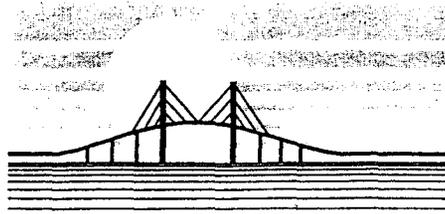
Sincerely,

Kristi Thum /bj

Kristi Thum, Associate Planner
Intergovernmental Coordination & Review

KT/bj

Enclosure



Tampa Bay Regional Planning Council

IC&R

Intergovernmental Coordination and Review

9455 Koger Blvd., Suite 219, St. Petersburg, FL 33702
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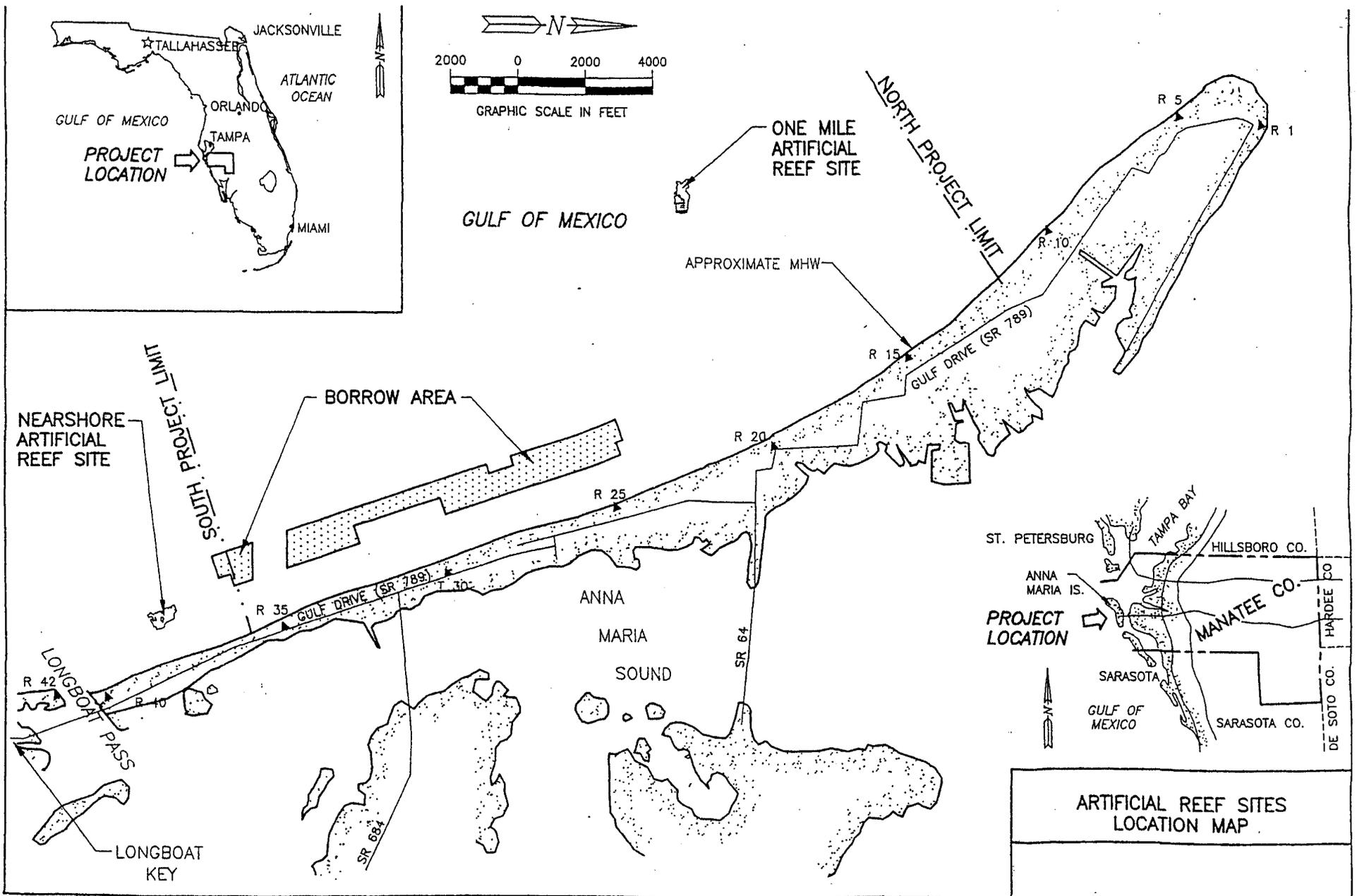
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ARTIFICIAL REEF SITES LOCATION MAP



Agenda

CLEARINGHOUSE REVIEW COMMITTEE

9:30 a.m.
June 26, 2000

The Committee, in accordance with its adopted rules of procedure, may take action only on matters on the printed agenda. It may exercise agency discretion and policy-making upon a finding by the Committee of an emergency situation affecting the public's health, safety, and welfare.

Committee meetings are public meetings within the context of Section 286.011, Florida Statutes (F.S.). Committee meetings are not public hearings within the context of Section 120.54, F.S. The Chairman has full discretion as to whether or not to recognize speakers other than Committee members or staff, and is not required to recognize individuals to speak on issues before the Committee. Public hearings on issues before the Committee are conducted by individual local governments and are the proper forum for public comment.

Please note that if a person decides to appeal any decision made by the Committee with respect to any matter considered at this meeting, that person must ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

***** THIS MEETING IS OPEN TO THE PUBLIC *****

9455 Koger Blvd., Suite 219, St. Petersburg, FL 33702
Phone (727) 570-5151 Suncom 586-3217 FAX (727) 570-5118
<http://www.tbrpc.org>

If you are a person with a disability who needs any accommodation in order to participate in this meeting, you are entitled, at no cost to you, to the provision of certain assistance. Please contact the Tampa Bay Regional Planning Council at (727) 570-5151, x 217 within three working days of the meeting.

5. DRI #181 - Tri-County Business Park, Hills. County {Sustainable Communities}

Additional Material: Respective NOPC Reports.

D. DRI STATUS MATRIX

The following listing identifies the status of all "active" DRIs in the various levels of review process - INFORMATION ONLY

Additional Material: DRI Status Matrix.

E. REGIONALLY SIGNIFICANT INTERGOVERNMENTAL COORDINATION AND REVIEW (IC&R) REPORTS (other regionally significant to be discussed are outlined in Agenda Item #5).

IC&R #176-00, Pasco County MPO FY 2000/01 Thru 2004/05 Transportation Improvement Program, Pasco County.

Additional Material: Respective report for items above.

F. SUMMARY OF MONTHLY IC&R APPLICATIONS PROCESSED

A summary has been provided regarding the IC&R applications processed during the period of May 9, 2000 to June 12, 2000 with funding totaling \$150,633,587 for this period.

Additional Material: Monthly Report.

MOTION TO APPROVE CONSENT AGENDA

Agenda Item #3

ITEMS REMOVED FROM CONSENT AGENDA - DISCUSSION

Agenda Item #4

DEVELOPMENTS OF REGIONAL IMPACT

A. PRE-APPLICATION CONFERENCES

DRI #247 Long Lake Ranch, Pasco County

Geraci Family Associates, Ltd. is seeking Development of Regional Impact (DRI) approval for the construction of a multi-use development in southern Pasco County. The project is located along the southern side of State Road 54 between the Suncoast Parkway and U.S. 41/Dale Mabry Highway. The property abuts the eastern boundary of the St. Petersburg Wellfield. Upon buildout of the project's proposed 2015 buildout date, it is anticipated that the project will include: 1,116 single-family residential units, 825 multi-family residential units, 2,046,000 sq. ft. of commercial space, and 304,000 sq. ft. of office space. The

applicant has submitted the *Summary Narrative* for the project which provides greater detail of the proposal.

Additional Material: *Summary Narrative* (prepared by the applicant) and *Preapplication Conference Report* (prepared by Council staff).

Action Recommended: Conduct Pre-Application Conference.
1. Presentation by TBRPC staff.
2. Presentation by applicant.
3. Comments by other reviewing agencies.

Motion to approve the Preapplication Conference Report containing the recommended regional issues to be addressed in the ADA.

B. PRELIMINARY DEVELOPMENT AGREEMENT

NONE

C. NOTICES OF PROPOSED CHANGE - INCONSISTENT

NONE

D. ANNUAL REPORTS INCONSISTENT WITH THEIR DEVELOPMENT ORDERS

NONE

Agenda Item #5 REGIONALLY SIGNIFICANT INTERGOVERNMENTAL COORDINATION AND REVIEW REPORTS (To be discussed individually - others may appear under the Consent Agenda)

A. IC&R #163-00, Environmental Assessment for Tampa Harbor-Alafia River Channel Expansion, Hillsborough County.

B. IC&R #194-00, Anna Marie Island Shore Protection Project, SAI #FL200005220292C, Manatee County

Additional Material: Staff reports.

Action Recommended: Motion to concur with staff reports.

Agenda Item #6 **CRC SUBCOMMITTEES**

A. EMERGENCY MANAGEMENT

A status report on Project Impact and emergency management activities will be presented.

B. REGIONAL TRANSPORTATION

A status report on regional transportation activities will be presented.

Agenda Item #7 **UPDATE OF THE COUNCIL'S REGIONAL
VISION STEERING COMMITTEE**

A report on the Big Picture project will be presented.

Agenda Item #8 **OTHER BUSINESS - CHAIRMAN**

Agenda Item #9 **ANNOUNCEMENT OF NEXT MEETING DATE**

July 24, 2000, 9:30-11:00 a.m. — Council conference room

Agenda Item #10 **ADJOURN**



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

MAY 18 2000

RECEIVED
AUG 17 2000
E.M.D.

Planning Division
Environmental Branch

To Whom It May Concern:

Pursuant to the National Environmental Policy Act and U.S. Army Corps of Engineers Regulation (33 CFR 230.11), this letter constitutes the Notice of Availability of the Preliminary Finding of No Significant Impact (FONSI) for the first Periodic renourishment of Anna Maria Island of the Manatee County Shore Protection Project.

Comments or questions concerning the Environmental Assessment (EA) that led to the FONSI should be provided to Ms. Yvonne Haberer at the letterhead address within 30 days of receipt of this document. Ms. Haberer can also be reached at 904-232-1701.

Additionally, a copy of the Draft EA is available at the Holmes Public Library, 5701 Marina Drive, Holmes Beach, Florida. The library hours are 10:00 a.m. to 8:00 p.m. on Monday and Wednesday; 10:00 a.m. to 6:00 p.m. on Tuesday and Thursday; and 10:00 a.m. to 5:00 p.m. on Friday and Saturday. You can contact the library at 941-778-6341.

Sincerely,

A handwritten signature in cursive script, appearing to read "JP Duck, for".

James C. Duck
Chief, Planning Division

Enclosures

SENATOR CONNIE MACK
1342 COLONIAL BLVD SUITE 27
FT MYERS FL 33907

SENATOR BOB GRAHAM
101 EAST KENNEDY BLVD
SUITE 3270
TAMPA FL 33602

U S FISH AND WILDLIFE SERVICE
JACKSONVILLE FIELD OFFICE
6620 SOUTHPOINT DRIVE SUITE 310
JACKSONVILLE FL 32216-0912

MR HEINZ MUELLER
U S ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL POLICY SECTION
61 FORSYTH STREET
ATLANTA GA 30303-3104

DIRECTOR, DIVISION OF BEACHES AND SHORES
FLORIDA DEPT OF ENVIRONMENTAL PROTECTION
5050 WEST TENNESSEE STREET
TALLAHASSEE FL 32399

DIVISION OF BEACHES AND SHORES
FLORIDA DEPT OF ENVIRONMENTAL PROTECTION
3900 COMMONWEALTH BLVD
TALLAHASSEE FL 32399

HOLMES BEACH PUBLIC LIBRARY
5702 MARINA DRIVE
HOLMES BEACH FL 34217

FLORIDA STATE CLEARINGHOUSE
DEPT OF COMMUNITY AFFAIRS
2555 SHUMARD OAK BLVD
TALLAHASSEE FL 32399-2100

NATIONAL MARINE FISHERIES SERVICE
OFFICE OF MARINE REC FISHERIES
WASHINGTON DC 20235

NATIONAL MARINE FISHERIES SERVICE
ENVIRONMENTAL ASSESSMENT BRANCH
3500 DELWOOD BEACH ROAD
PANAMA CITY FL 32407-7499

NATIONAL MARINE FISHERIES SERVICE
CHIEF, PROTECTED SPECIES BRANCH
9721 EXECUTIVE CENTER DRIVE
ST PETERSBURG FL 33702

MR GEORGE W PERCY, DIRECTOR
DIV OF HISTORICAL RESOURCES
STATE HIST PRESERVATION OFFICE
500 S. BRONOUGH STREET
TALLAHASSEE FL 32399-0250

DAVID DALE
NATIONAL MARINE FISHERIES SERVICE
HABITAT CONSERVATION DIVISION
9721 EXECUTIVE CENTER DRIVE NORTH
ST. PETERSBURG, FL 33702

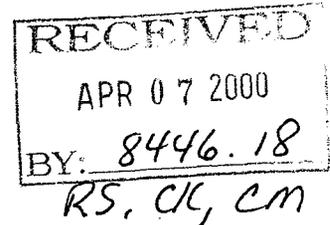


UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, FL 33702
(727) 570-5312; FAX (727) 570-5517

F/SER3:EGH

JAN 28 2000

Mr. James C. Duck
Chief, Planning Division
Army Corps of Engineers, Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019



Dear Mr. Duck:

This responds to your December 16, 1999 letter to Mr. Charles Oravetz and enclosed Biological Assessment (BA). Your BA, submitted pursuant to Endangered Species Act (ESA) section 7 consultation requirements, assesses the effects of Department of the Army permit authorization for dredging of offshore sand borrow areas in the southeastern Gulf of Mexico near Anna Maria Island, Manatee County, Florida, as part of the Manatee County Shore Protection Project.

The proposed project consists of offshore dredging and shoreline renourishment of 4.2 miles of Gulf of Mexico shoreline using an estimated 1,850,000 cubic yards of dredged material. Sand will be dredged from two offshore borrow areas using a cutterhead pipeline dredge. The material will be pumped to the beach using a series of submerged and floating pipelines. If the Corps decides that hopper dredge use is necessary, it will abide by the terms and conditions set forth in the August 29, 1997 Regional Biological Opinion for the use of hopper dredging of channels and beach nourishment activities on the East Coast.

Mr. Eric Hawk of my Protected Resources staff has reviewed the BA and concurs with your determination that populations of endangered/threatened species under National Marine Fisheries Service (NMFS) purview will not be adversely affected by the proposed action. This concludes consultation responsibilities under section 7 of the ESA. Consultation should be reinitiated if new information reveals impacts of the identified activity that may affect listed species or their critical habitat, a new species is listed, the identified activity is subsequently modified or critical habitat determined that may be affected by the identified activity.

We appreciate the opportunity to comment and work with the Jacksonville District, Corps of Engineers. We are forwarding a copy of your letter and documentation and our response to our Habitat Conservation Division. They will contact you if they have any concerns over potential adverse impacts of the project on NMFS trust resources and essential fish habitat. You may contact them at 850/234-5061 for information, recommendations and guidelines and on how the Corps can avoid/minimize potential adverse impacts of Corps projects on NMFS trust resources and essential fish habitat.

If you have any questions, please call Mr. Eric Hawk, Fishery Biologist, at 727/570-5312.

Sincerely,

William T. Hogarth, Ph.D.
Regional Administrator

cc: F/SER4 - A. Mager
F/PR3
o:\section7\informal\anamaria
File: 1514-22 f.1. FL





DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT CORPS OF ENGINEERS
 P. O. BOX 4970
 JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
 ATTENTION OF

Planning Division
 Environmental Branch

DEC 16 1999

Mr. Charles A. Oravetz
 Chief, Protected Species Management Branch
 National Marine Fisheries Service
 9721 Executive Center Drive North
 St. Petersburg, Florida 33702

DEC 21 1999

SECTION 7 PROCESSING	
IN:	12/23/99
RECORD#	15142226.1 FL
STAFF:	EM
OUT:	1/28/00
FILE #:	15142226.1 FL

Plg to Habitat 1/28/00

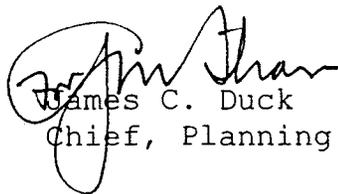
Dear Mr. Oravetz:

Manatee County is proposing to renourish 4.2 miles of the Manatee County Shore Protection Project at Anna Maria Island, Manatee County, Florida.

Pursuant to Section 7(a) of the Endangered Species Act, please find enclosed the Biological Assessment (BA) addressing the concerns of the threatened and endangered species under the purview of the National Marine Fisheries Service (NMFS). The Corps has determined that the authorized project may affect sea turtles, and, therefore requests that formal consultation with the NMFS be initiated.

If you have any questions, please contact Ms. Yvonne Haberer at 904-232-1701.

Sincerely,


 James C. Duck
 Chief, Planning Division

Enclosure

ENDANGERED SPECIES ACT
BIOLOGICAL ASSESSMENT
MANATEE COUNTY SHORE PROTECTION PROJECT
ANNA MARIA ISLAND, MANATEE COUNTY, FLORIDA

1. PROJECT AUTHORITY: The Federal shore protection project for Manatee County, Florida was authorized by Public Law 98-298 dated October 27, 1965, Title II - Flood Control Act of 1965, as amended by Section 131 of the 1976 Water Resources Development Act.

2. LOCATION: Manatee County is located on the west coast of Florida, south of the Tampa-St. Petersburg metropolitan area. The western limit of Manatee County consists of two gulf coast barrier islands. Anna Maria Island is the largest of the two barrier islands located entirely within Manatee County (figure 1). The island is approximately seven miles long and is almost a mile wide at its widest point. The island is located between Passage Key Inlet to the north and Longboat Pass to the south.

3. DESCRIPTION OF PROPOSED ACTION: The proposed project consists of the renourishment of 4.2 miles of Gulf of Mexico shoreline using an estimated 1,850,000 cubic yards of material. The project limits for the renourishment of the 4.2 mile design on Anna Maria Island extend from Florida Department of Environmental Protection (FDEP) beach monument R-12 to a point 300 feet south of R-33 (figure 2). The 0.5 mile transition zone remains between FDEP monument R-34 and R-36. The proposed design beach width is seventy-five feet with a design berm elevation of plus five (+5) feet (NGVD).

Sand will be dredged from two offshore borrow areas using a cutterhead dredge. The material will be pumped from the borrow areas to the beach using a series of submerged and floating pipelines. The north borrow area is located approximately 1500 feet offshore at its closest point, and extends to a maximum distance of approximately 7000 feet offshore. The north borrow area includes shoal material from Passage Key Inlet to the north of Anna Maria Key. The beach quality sand in the north borrow site has an average mean grain size of 0.24 mm (2.07 phi) and a silt content of 2.72 percent. The center of the north borrow area is located approximately 5,500 feet offshore of FDEP monument R-12. Water depths in the north borrow area range from approximately -6 feet (NGVD) to -22 feet (NGVD). The south

borrow area includes the northern shoal area of New Pass, off the south end of Anna Maria Key. The beach quality sand in the south borrow site has an average mean grain size of 0.31 mm (1.67 phi) and a silt content of 3.48 percent. The south borrow area is located approximately 1800 feet offshore of Anna Maria Key at its closest point, and extends offshore to a maximum distance of 5000 feet. The center of the south borrow area is located offshore of FDEP monument R-33. Water depths in the south borrow area range from approximately -12 feet (NGVD) to -23 feet (NGVD).

Two artificial reefs were constructed between May 1992 and August 1993 as mitigation for the burial of 7.3 acres of nearshore low-relief, submerged hardbottom habitat during the initial beach renourishment project.

4. LISTED SPECIES WHICH MAY BE AFFECTED: Listed species which may occur in the vicinity of the proposed work and are under the jurisdiction of the National Marine Fisheries Service (NMFS) are: loggerhead turtle (*Caretta caretta*, T), green turtle (*Chelonia mydas*, E), leatherback turtle (*Dermochelys coriacea*, E), hawksbill turtle (*Eretmochelys imbricata*, E), Kemp's ridley turtle (*Lepidochelys kempii*, E), blue whale (*Balaenoptera musculus*, E), finback whale (*Balaenoptera physalus*, E), humpback whale (*Megaptera novaeangliae*, E) sei whale (*Balaenoptera borealis*, E), sperm whale (*Physeter macrocephalus*, E), and the gulf sturgeon (*Acipenser oxyrinchus desotoi*, T).

Loggerheads, green turtles, and leatherbacks nest regularly in Florida. Nesting by the hawksbill turtle and the Kemp's ridley turtle in Florida is rare. During a 14-year study period (1979-1992), it was reported that 95.3% of all reported sea turtle nesting activity in the state of Florida occurred on the east coast, and 4.7% occurred on the gulf coast (Meyland, Schroeder, and Mosier 1995). The loggerhead sea turtle accounts for the vast majority of reported sea turtle nesting in Florida. The majority of loggerhead nesting on the gulf coast occurs from Sarasota through Collier counties. Sarasota County has the greatest amount of nesting activity, accounting for an average of 47.5% of all nesting on the west coast of Florida during 1988-1992 (Meyland, Schroeder, and Mosier 1995).

Utilizing the best available data, it has been determined that only the threatened loggerhead turtle have known nesting habitat on Anna Maria Island beaches. Therefore, other turtle species are not likely to be found near the offshore borrow areas or the nearshore water of Anna Maria Island. The Florida Marine Institute (FDEP) provided the Corps with sea turtle nesting data for Anna Maria Island (Table 1). Leatherback, green, Kemp's ridley, or hawksbill turtles have never been recorded nesting on Anna Maria Island.

Table 1: Nesting data from 1992 to 1998 for *C. caretta* on Anna Maria Island, Manatee County, Florida.

Year	Beach Length	Days per week	False Crawls	Nest#
1992	11.3	7	75	102
1993	11.3	7	89	155
1994	11.3	7	98	136
1995	11.3	7	136	214
1996	11.7	7	161	171
1997	11.7	7	168	161
1998	11.7	7	203	225

Additional endangered or threatened species which may occur in the vicinity of the project and are under the jurisdiction of the NMFS are whales and the Gulf sturgeon. Section 5 contains a discussion of potential impacts to the above listed species.

5. DISCUSSION OF POTENTIAL IMPACTS TO LISTED SPECIES:

WHALES - Since all construction activities will occur in shallow coastal waters not frequented by whales, the proposed project is not expected to have any effect on whales.

GULF STURGEON - Historically, the Gulf sturgeon occurred from the Mississippi River to Charlotte Harbor, Florida. It still occurs occasionally throughout this range but in greatly reduced numbers. River systems where the Gulf sturgeon are known to be viable today include the Mississippi, Pearl, Escambia, Yellow, Choctawhatchee,

Apalachicola, and Swanee Rivers, and possibly others (USFWS 1995).

No information has been found to indicate a past history of negative impacts to whales or the Gulf sturgeon as a result of previous beach nourishment activities in the project area. It has been determined that the proposed work will not have any effect on whales or the Gulf sturgeon.

SEA TURTLES - A pipeline dredge is the method of dredging that has been used in previous beach nourishment projects on Anna Maria Island. This again is the intended method of dredging to be used for the proposed beach renourishment project. If a pipeline dredge is used, the Corps has determined that dredging activities would not have any effect on sea turtles. However, if a hopper dredge is to be used, the Corps has determined that sea turtles could be affected by dredging activities.

6. EFFORTS TO ELIMINATE POTENTIAL IMPACTS ON LISTED

SPECIES: Care will be taken during the dredging process as well as the transport of personnel and materials between the borrow sites and the project beaches to ensure the safety of marine endangered and threatened species, and that the threat of boat collisions with these species is minimized. If it is decided that the use of a hopper dredge is necessary, the Corps will abide by the terms and conditions set forth in the Regional Biological Opinion for the use of hopper dredging of channels and beach nourishment activities on the east coast by the NMFS. At a minimum, shipboard observers on hopper dredges will be required as will the use of a sea turtle deflecting draghead during the months that turtles may be present.

7. EFFECT DETERMINATION: Because of the nature of the work and the precautions to be taken as described in the previous section, the Corps has determined that the proposed action will have no effect on whales or Gulf sturgeon. If a pipeline dredge is used for borrow area activities as proposed, then there will be no effect on sea turtles. However, if it is determined that a hopper dredge is necessary for borrow area activities, then the Corps has determined that sea turtles may be affected.

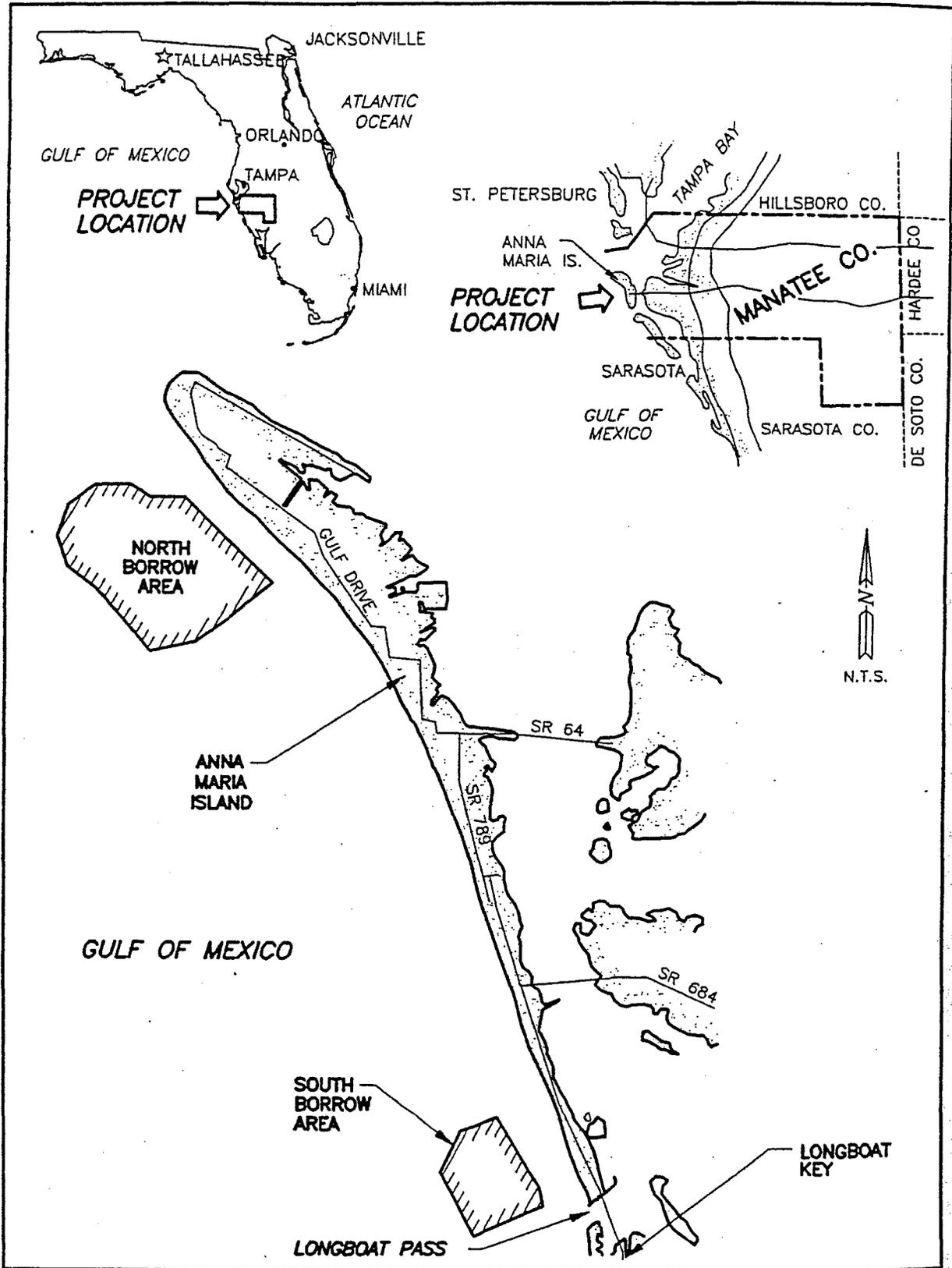
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MANATEE COUNTY, FLORIDA
 (ANNA MARIA ISLAND)
 SHORE PROTECTION PROJECT
 LOCATION MAP

FIGURE 1

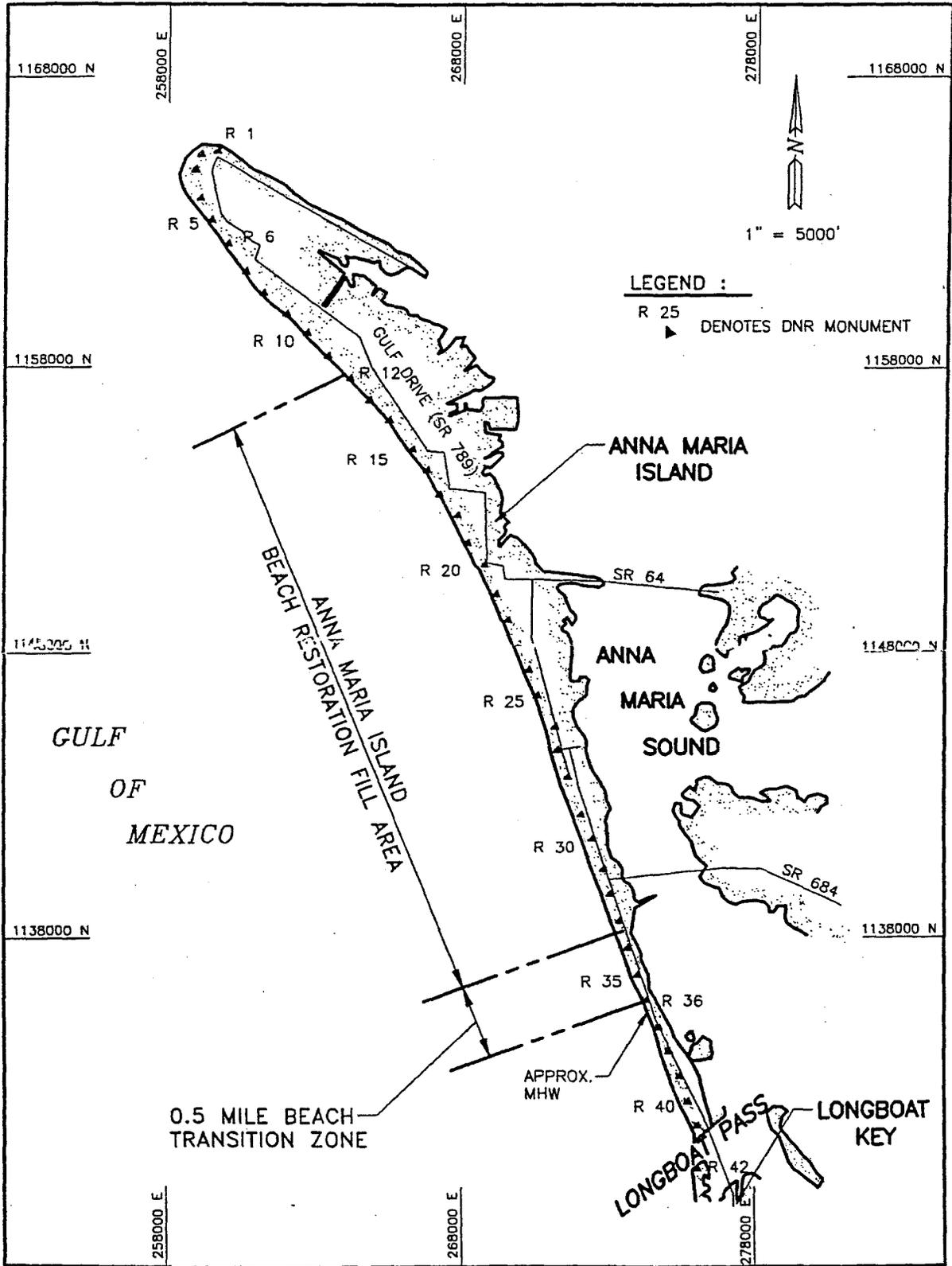


FIGURE 2

**ANNA MARIA ISLAND
 SHORE PROTECTION PROJECT
 PROJECT AREA LIMITS**

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Division of Elections
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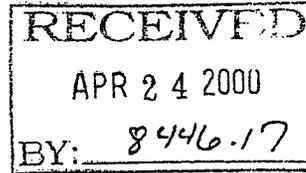


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Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Jeffrey L. Andrews
Coastal Planning & Engineering, Inc.
2481 N.W. Boca Raton Blvd.
Boca Raton, Florida 33431



April 19, 2000

RE: DHR No. 2000-02155 (Ref: 998905)
Cultural Resource Assessment Survey Review Request: *Submerged Cultural Resource Remote Sensing Survey of Two Proposed Borrow Areas Selected as Sources for Beach Renourishment Projects, Anna Maria Island, Manatee County, Florida.*

JA, RS, CK

Dear Mr. Andrews:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), as well as those contained in Chapter 267.061, *Florida Statutes*, as implemented through 1A-46 *Florida Administrative Code*, we have reviewed the results of the cultural resource survey of the referenced project and find them to be complete and sufficient.

Coastal Planning and Engineering has conducted a magnetometer survey of the proposed offshore borrow areas located south of Passage Key Inlet and north of Longboat Pass. A total of 185 magnetic anomalies were identified in the proposed borrow areas. Data analysis indicates three anomaly clusters in the south borrow area and nine anomaly clusters in the north borrow area that have the characteristics consistent with magnetic signatures indicating possible shipwreck sites. It was noted that one of these anomaly clusters is located in the approximate location of a charted wreck and may represent the remains of that vessel.

It is the understanding of this agency that these anomaly clusters will be avoided during borrowing activities so as not to disturb any potentially significant cultural resources either eligible, or potentially eligible, for listing in the *National Register of Historic Places*, or otherwise of significant archaeological or historic value. After careful review of the survey results, it is the opinion of this office that these findings are soundly based upon available information and we concur with these determinations.

If you have any questions concerning our comments, please contact Brian Yates, Historic Sites Specialist at (850) 487-2333 or 1-800-847-7278. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

Janet Snyder Matthews, Ph.D., Director
Division of Historical Resources
State Historic Preservation Officer

JSM/Yby

R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399-0250 • <http://www.flheritage.com>

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FLORIDA DEPARTMENT OF STATE
Katherine Harris
 Secretary of State

DIVISION OF HISTORICAL RESOURCES

Richard H. Spadoni
 Vice President, Coastal Planning & Engineering, Inc.
 2481 N.W. Boca Raton Boulevard
 Boca Raton, FL 33431

December 7, 1999

RE: DHR No. 998905
 Request for Research Design Review of Proposed Magnetometer Survey:
Manatee County, Florida Anna Maria Island Offshore Borrow Areas
Magnetometer Survey and Cultural Resources Analysis.
 Submitted by: Coastal Planning and Engineering, Inc.
 2481 N. W. Boca Raton Boulevard
 Boca Raton, Florida 33431

Dear Mr. Spadoni:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), as well as those contained in Chapter 267.061, *Florida Statutes*, as implemented through 1A-46 *Florida Administrative Code*, we have reviewed the research design for the proposed magnetometer survey.

It is the opinion of this office that the proposed methodology is sound. Providing that the proposed project follows the submitted methodology, this office maintains no objections to the proposed magnetometer survey and the project may proceed as planned. However, in the event that the research methodology for the proposed project should be altered, please provide our office with an update of the changes as soon as possible.

If you have any questions concerning our comments, please contact Brian Yates, Historic Sites Specialist at (850) 487-2333 or 1-800-847-7278. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

Janet Snyder Matthews
 for Janet Snyder Matthews, Ph.D., Director
 Division of Historical Resources
 State Historic Preservation Officer

JSM/Yby

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