

**FINDING OF NO SIGNIFICANT IMPACT
ST. LUCIE INLET NAVIGATION IMPROVEMENTS
MARTIN COUNTY, FLORIDA**

I have reviewed the planning document and the Environmental Assessment (EA) for the proposed action. Based on information analyzed in the EA, reflecting pertinent information obtained from cooperating Federal agencies having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. This finding incorporates by reference all discussion and conclusions contained in the Environmental Assessment enclosed hereto. Reasons for this conclusion are, in summary:

- a. There will be no significant impact on threatened or endangered species.
- b. State water quality standards will be met.
- c. Measures to eliminate, reduce or avoid potential adverse impacts to fish and wildlife resources will be implemented during project construction
- d. The proposed navigation improvements will assist in the continued functional capability of the Federal navigation project at St. Lucie Inlet and will protect human resources in that area.
- e. Pending completion of coordination with the State Historic Preservation Officer the project will be in compliance with appropriate historic preservation laws.

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

Date

8 June 2000



Joe R. Miller
Colonel, U.S. Army
District Engineer

REFERENCES

U.S. Army Corps of Engineers, March 1977, "St. Lucie Inlet, Florida, Phase I General Design Memorandum", Jacksonville District, Jacksonville, FL.

U.S. Army Corps of Engineers, September 1977, "St. Lucie Inlet, Florida, Phase II General Design Memorandum", Jacksonville District, Jacksonville, FL.

U.S. Army Corps of Engineers, Waterborne Commerce of the United States; Part 1-Waterways and Harbors Atlantic Coast, Department of the Army, Water Resources Support Center, Corps of Engineers, Fort Belvoir, VA, 1996.

U.S. Army Corps of Engineers, Economic Update; St. Lucie Inlet, Florida, Department of the Army, Jacksonville District, Corps of Engineers, Jacksonville, FL, 1996.

Authorization for St. Lucie Inlet, Letter from the Secretary of the Army, House Document No. 93-294, 93rd Congress, 2nd Session, Printed April 30, 1974.

ENVIRONMENTAL ASSESSMENT
ST. LUCIE INLET NAVIGATION STUDY
DESIGN MEMORANDUM

1.0. Project Location. The site of the proposed action is St. Lucie Inlet, Martin County, Florida.

1.1. Proposed Action. The recommended plan consists of the following features. The seaward-most 450' of the north jetty will be raised to +8 feet m.l.w., a sand impoundment basin will be constructed to a length of 1750 feet, a width of 450 feet with a depth of -16 feet m.l.w., plus 2 feet overdepth. The south jetty would be lengthened by 200 feet to an elevation of +8 feet m.l.w and sand tightened. The project is shown on Plate 1 of the Main Report. Prior to initial construction of the impoundment basin, a maintenance dredging event will take place. This material, consisting of beach quality sand, will be deposited at the nearshore site along the shoreline south of the inlet. The disposal areas for all future maintenance events will be considered in the following order: (1) on the beaches of Jupiter Island beginning approximately 5000 feet south of the south jetty; or (2) in a nearshore disposal area at a depth less than -16 feet NGVD. Material removed from the impoundment basin will be placed at an artificial reef site located northeast of the north jetty. The reef site is 3000 feet by 3500 feet and lies in 40 to 50 feet of water. The center coordinate of the reef site is 27 degrees, 12.5' N and 80 degrees 06.5' W and is shown on figure 3 of the main report.

1.2. Related NEPA documents. An Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for maintenance dredging of the inlet was prepared in December 1994.

2.0. Alternatives Considered. The original array of alternatives considered included raising portions of the north jetty, expanding and deepening the impoundment basin, lengthen and sand tighten the south jetty by 500 feet and adding a new feature which would be the deepening of the area between the expanded impoundment basin and existing navigation channel.

2.1. Alternative methods of removing the material

2.2. Local Sponsor's Preferred Plan. In addition to the above alternatives, the St. Lucie Inlet Technical Advisory Committee (TAC) recommended additional modifications to the Corps' plan. These modifications include raising a portion of the north jetty adjacent to the shoreline and a requirement to place maintenance material a minimum of 8,500 feet south of the south jetty. Because the Corps is not able to include these elements due to current policy guidelines, these TAC recommended additions are considered locally preferred projects. A locally preferred project element may not be eligible for Federal funds.

3.0. Affected Environment.

3.1. Description of the Area. The natural resources of the area around St. Lucie Inlet include beaches and dunes, upland/terrestrial, wetlands/estuary and nearshore zones.

3.2. The beach and dune systems adjacent to the inlet form a natural barrier between the ocean, developed areas and the landward roadway. Stabilized beach and dune systems provide storm protection against high tide runup and storm surges and supply sand to offshore bars, thereby reducing wave size during storm events.

3.3. The Hobe Sound National Wildlife Refuge and the State Park south of the inlet include several unique upland habitats and is the only area within the vicinity of the inlet that is formally designated for conservation. A number of islands in Hobe Sound serve as nesting sites for numerous wading and diving birds, including a significant number of snowy egrets and tri-colored herons. Australian pines are the main species on the upland portions of these islands, while shallow water habitat around the islands supports mangroves and seagrasses.

3.4. The Indian River is a wide, shallow tidal lagoon which lies between the St. Lucie Inlet and the St. Lucie River estuary. The Indian River extends northward 22 miles to Fort Pierce Inlet. The physical processes of the inlet and estuary influence the water quality of Indian River. Four species of mangrove, red, black, white and buttonwood, are the dominant vegetative types of the estuarine area. Only a small percentage of the original saltmarsh acreage remains due to habitat change occurring as a result of the creation of mosquito impoundments in the 1950's and 1960's. Saltmarsh vegetation typically grows in transitional areas between mangroves and freshwater marshes and includes smooth cordgrass, saltwort, glasswort, salt grass and sea ox-eye. Mangroves, cabbage palms and exotics often mix with these species and a small portion of the original saltmarsh remains in the Hobe Sound NWR just south of St. Lucie Inlet. Extensive seagrass communities occur within the Indian River Lagoon with the densest beds occurring near the inlets, with bands along the western shoreline and in scattered patches along the eastern shoreline.

3.5. A limestone rock outcrop extends the full length of Martin County between 500 and 1,500 feet offshore with a particularly large community north of the inlet known as Bathtub Reef. The reefs were continuous past the mouth of the inlet before the reef was cut for the navigation channel.

3.6. Threatened and Endangered Species. The Corps, Fish and Wildlife Service and National Marine Fisheries Service have identified the manatee, loggerhead, leatherback, green and hawksbill sea turtles, finback, humpback, sei, right and sperm whales as possibly occurring in the project area. The IWW throughout the area is designated critical habitat for the manatee.

3.7. Water Quality. Water quality in the vicinity of St. Lucie Inlet is classified by the State of Florida as Class III (Suitable for recreation and fish and wildlife propagation).

3.8. Cultural Resources. The proposed action was coordinated with the State Historic Preservation Officer (SHPO) concerning historic resources and it was the Corps' determination that the proposed action at St. Lucie Inlet would not affect significant historic properties. The SHPO concurred with this determination.

3.9. Aesthetic Resources. The St. Lucie Inlet is a picturesque waterway which connects the Atlantic Intracoastal Waterway to the Atlantic Ocean and is used primarily by small pleasure and fishing boats.

3.10. Recreational Resources. The inlet is occasionally utilized by fishermen but serves mainly as a passageway between the inland waterways and the Atlantic Ocean.

4.0. Environmental Impacts.

4.1. General. The U.S. Fish and Wildlife Service reviewed the proposed action under the Fish and Wildlife Coordination Act and had the following comments in a letter dated 23 October 1997. This letter is included in the correspondence appendix of the Main Report.

4.2. "We have reviewed aerial photographs and seagrass survey maps to assist us in assessing the project's potential effects on fish and wildlife resources. Based on this review and on our knowledge of the project site, we submit the following comments:

1. Sand tightening the south jetty should have insignificant effects on fish and wildlife resources.

2. No seagrasses are present in the area of the proposed basin enlargement. Rock outcrops (or hardbottom habitat) are present on the sides of the existing navigation channel. As the area between the proposed basin and the navigational channel are deepened, these rock outcrops could be removed. However, these outcrops are periodically covered with sand and would remain permanently buried if dredging were to cease. Thus, the overall project will not result in a net loss of hardbottom habitat.

3. The aerial photos indicate that the area east of the south jetty appears to be sand sediments. Extending the south jetty 200 feet seaward into this area would provide substrate for the attachment of sessile organisms and provide structure for fish species, such as snook. Thus, the extension would constitute an enhancement of fish and wildlife habitat in the inlet."

4.3. Threatened and Endangered Species. The proposed action was coordinated with the National Marine Fisheries Service (NMFS) in a letter dated 13 August 1999, and the

U.S. Fish and Wildlife Service (FWS), in a letter dated 3 February 1997, under the Endangered Species Act. The Corps has committed to implementing standard precautions, as described in the attached correspondence, to protect manatees and sea turtles. In a letter dated 24 February 1998, based on the Corps' willingness to implement protective measures, the FWS has concluded that the proposed action is not likely to adversely affect manatees and/or sea turtles. The FWS also concluded that the proposed action is not likely to adversely affect designated critical habitat for the manatee. In a letter dated 24 August 1999, the NMFS concurred with the Corps' determination of no effect for species under the jurisdiction of NMFS.

4.4. Water Quality. State Water Quality Certification will be obtained prior to construction and State standards will be met at all times during construction.

4.5. Aesthetic Resources. The presence of construction equipment at the site will be unsightly; however, upon completion of the work the equipment will be removed and any adverse aesthetic impacts will be short-term and minimal.

4.6. Recreational Resources. Recreational resources will not be adversely impacted by the proposed action.

4.7. Cultural Resources. The proposed action was coordinated with the State Historic Preservation Officer (SHPO) concerning historic resources and it was the Corps' determination that the proposed action at St. Lucie Inlet would not affect significant historic properties. The SHPO concurred with this determination.

5.0. Environmental Commitments. The Corps of Engineers has made the following environmental commitments:

5.1. Observers will be stationed aboard vessels involved in construction activities to detect the presence of manatees and/or sea turtles during construction.

5.2. State water quality standards will be met during construction.

6.0 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

6.1. National Environmental Policy Act of 1969

Environmental information on the project has been compiled and is included in this Environmental Assessment. The project is in compliance with the National Environmental Policy Act provided this EA leads to a Finding of No Significant Impact.

6.2. Endangered Species Act of 1973

In a letter dated 24 February 1998, the FWS concurred with the Corps determination that no Federally listed species would be impacted by the proposed action, based on the Corps' willingness to implement protective measures as detailed in that letter. In a letter dated 24 August 1999 the NMFS concurred with the Corps determination of no effect to listed species under NMFS jurisdiction.

6.3. Fish and Wildlife Coordination Act of 1958

In a letter dated 23 October 1997 the FWS, in accordance with the Fish and Wildlife Coordination Act, determined that the FWS did not object to the project as proposed. This project is in full compliance with the Act.

6.4. NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)

In a letter dated 22 April 1999 the proposed action was coordinated with the State Historic Preservation Officer (SHPO) concerning historic resources. In that letter the Corps' determined that the proposed action at St. Lucie Inlet would not affect significant historic properties. In a letter dated August 5, 1999, the SHPO concurred with this determination.

6.5. Clean Water Act of 1972

Water quality certification will be obtained prior to initiation of construction and the project will be in compliance with the Act. The Section 404 (b) (1) Evaluation is included as Appendix A.

6.6. Clean Air Act of 1972

No air quality permits would be required for this project .

6.7. Coastal Zone Management Act of 1972

A federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as Appendix B. State consistency review is being initiated. Upon receipt of the state's concurrence with the consistency statement, the proposed action would be in compliance with the act.

6.8. Farmland Protection Policy Act of 1981

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

6.9. Wild and Scenic River Act of 1968

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

6.10. Marine Mammal Protection Act of 1972

We do not expect any impacts on marine species. For any water based activity, the standard manatee and sea turtle protection requirements would apply.

6.11. Estuary Protection Act of 1968

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

6.12. Federal Water Project Recreation Act

The principles of the Federal Water Project Recreation Act, (Public Law 89-72) as amended, have been fulfilled. We expect no impact on recreation.

6.13. Fishery Conservation and Management Act of 1976

The proposed action would not adversely impact fisheries resources.

6.14. Submerged Lands Act of 1953

The project would not adversely impact any submerged lands.

6.15. 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.

6.16. Rivers and Harbors Act of 1899

The proposed work would not obstruct navigable waters of the United States. There is no work or structures proposed in navigable waters subject to this act.

6.17. Anadromous Fish Conservation Act

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

6.18. Migratory Bird Treaty Act and Migratory Bird Conservation Act

Migratory birds will not be adversely impacted by the work.

6.19. Marine Protection, Research and Sanctuaries Act

The proposed action would be in compliance with this act.

6.20. E.O. 11990, Protection of Wetlands

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

6.21. E.O. 11988, Flood Plain Management

This E.O is not applicable

6.22. E.O. 12898, Environmental Justice

The purpose of the proposed action is to provide increased safety for navigation while protecting the environment. The proposed activity will not (a) exclude persons from participation in, (b) deny persons the benefits of, or (c) subject persons to discrimination because of their race, color or national origin, nor will the proposed action adversely impact "subsistence consumption of fish and wildlife".

7.0. Coordination. The proposed action was coordinated with the U.S. Fish and Wildlife Service under the Fish and Wildlife Coordination Act and the Endangered Species Act, with the National Marine Fisheries Service under the Endangered Species Act and with the State Historic Preservation Officer. A scoping letter was sent to interested Federal, State and local organizations and individuals on 7 May 1998. If this EA concludes with a Finding of No Significant Impact (FONSI), there will be a Notice of Availability issued in accordance with regulations (33 CFR 230.11 and 40 CFR 1501.4(e)(1)).

APPENDIX A

ST. LUCIE INLET DESIGN MEMORANDUM SECTION 404 (b)(1) EVALUATION

I. Project Description:

a. Location. St. Lucie Inlet is located near the town of Stuart in Martin County on the Atlantic coast of Florida.

b. Authority and Purpose. Private interests created the artificial inlet in 1892 with a channel 5 feet deep and a width of 30 feet to provide access to the Atlantic Ocean. The U.S. Congress authorized the initial Federal project in 1913 and a modification of the Federal project in 1945. The U.S. Congress authorized the existing project for implementation using Section 201 of the Rivers and Harbors Act of 1965. That Act specifies authorization with the adoption of House and Senate Resolutions which occurred in May 1974. The purpose of the present study is to re-examine the economic benefits for the remaining authorized but unconstructed project elements to determine the feasibility of construction.

c. General Description. The recommended plan consists of the following features. The seaward-most 450' of the north jetty will be raised to +8 feet m.l.w., a sand impoundment basin will be constructed to a length of 1750 feet, a width of 450 feet with a depth of -16 feet m.l.w., plus 2 feet overdepth. The south jetty would be lengthened by 200 feet to an elevation of +8 feet m.l.w. and sand tightened. Prior to initial construction of the impoundment basin, a maintenance dredging event will take place. This material, consisting of beach quality sand, will be deposited at the nearshore site along the shoreline south of the inlet. The disposal areas for all future maintenance events will be considered in the following order: (1) on the beaches of Jupiter Island beginning approximately 5000 feet south of the south jetty; or (2) in a nearshore disposal area at a depth less than -16 feet NGVD. Material removed from the impoundment basin will be placed at an artificial reef site located northeast of the north jetty. The reef site is 3000 feet by 3500 feet and lies in 40 to 50 feet of water with a center coordinate of 27 degrees, 12.5' N and 80 degrees 06.5' W.

d. General Description of Dredged or Fill Material.

(1). General Characteristics of Material. Material to be used for jetty work is granite rock and boulders. Material removed during dredging is a combination of rock, shell and sand.

(2). Quantity of Material. Approximately 40,000 tons of stone will be needed for the jetty work. About 250,000 cubic yards of material will be removed by dredging.

(3). Source of Material. The contractor will determine the source of the material for the jetty work.

e. Description of the Proposed Disposal Site. The jetty extensions will be on sandy bottom in the Atlantic Ocean. All dredged material from initial construction will be placed in the nearshore reef site located east-northeast of the north jetty.

f. Description of Disposal Methods. Material for jetty repair and extension will be placed by barge and crane. The sand to be placed on the beach will be moved by pipeline. Material placed in the nearshore disposal site will be taken to the site by barge.

II. FACTUAL DETERMINATIONS

a. Physical Substrate Determinations.

(1). Substrate Elevation and Slope. The jetty extensions will be on gently sloping sandy bottom in water between -15 and -30 feet m.l.w. The impoundment basin will be dredged to a depth of 16 feet plus 2 feet overdepth.

(2). Sediment Type. Sand, shell and rock.

(3). Fill Material Movement. No movement is expected at the jetty sites. Sand placed on the beach south of the inlet will move as a result of wave and tidal action.

(4). Physical Effect on Benthos. Wherever material is placed on the substrate, the benthic inhabitants will be lost. However, rapid recovery of the benthic community is expected.

(5). Other Effects. Other than the loss of benthic organisms, environmental impacts at the site are expected to be minimal.

b. Water Circulation, Fluctuation and Salinity Determinations. The purpose of the jetty rehabilitation and extensions are to alter water circulation patterns within and in the vicinity of the inlet. Water fluctuation and salinity will not be affected.

c. Suspended Particle/Turbidity Determinations.

(1). Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Disposal Sites. Except for minor disturbances at the jetty extension sites, little or no turbidity is expected from jetty repair or lengthening. Some turbidity can be expected at the dredging site; however, state water quality and turbidity standards will be met at all times during construction.

(2). Effects (Degree and Duration) on Chemical and Physical Values

(a). Light Penetration. No difference in light penetration is expected in the vicinity of jetty work. A slight reduction may occur where dredging is done, but because of tidal action in the inlet these effects will be of short duration.

(b). Dissolved Oxygen. Dissolved oxygen (DO) levels should be unaffected by construction activities.

(c). Toxic Metals and Organics. No toxic metals or organics are known to occur at the site.

(d). Pathogens. Not applicable.

(e). Aesthetics. The presence of equipment during proposed jetty repairs and extensions and during dredging activities will be aesthetically displeasing; however, upon completion of these activities all equipment will be removed. Therefore, there will be no long-term adverse aesthetic impacts.

d. Contaminant Determinations. No sources of pollutants or contaminants have been identified in the project area.

e. Aquatic Ecosystem and Organism Determinations.

(1). Effects on Plankton. No adverse impacts expected.

(2). Effect on Benthos. Benthic organisms at the dredging and disposal sites will be lost. Rapid recovery of those populations is expected.

(3). Effect on Nekton. No adverse impacts expected.

(4). Effect on the Aquatic Food Web. No significant adverse impacts expected.

(5). Effects on Special Aquatic Sites.

(a). Sanctuaries or Refuges. No sanctuaries or refuges are located in the project area.

(b). Wetlands. No wetlands will be affected by project activities.

(c). Mud Flats. No adverse impacts expected.

(d). Vegetated Shallows. No vegetated shallows will be affected by the project.

(e). Coral Reefs. No coral reefs occur in the area.

(f). Threatened and Endangered Species. The ranges of several listed species include the project area. Where appropriate, protective measures will be taken.

(g). Other Wildlife. Minimal adverse impacts to other wildlife are expected.

f. Proposed Disposal Site Determinations.

(1). Mixing Zone Determination. Not applicable.

(2). Determination of Compliance with Applicable Water Quality Standards. State water quality certification will be obtained for the work and applicable state water quality standards will be met during construction.

(3). Potential Effects on Human Use Characteristics. No adverse impacts expected.

(a). Municipal or Private Water Supply. No effect.

(b). Recreational and Commercial Fisheries. No adverse impacts expected.

(c). Water Related Recreation. By increasing the stability of the inlet, water related recreational activities will be afforded increased protection.

(d). Aesthetics. The presence of construction equipment during the construction period will be unsightly; however, upon completion of construction the equipment will be removed and there will be no long-term adverse aesthetic impacts.

(e). Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites and Similar Preserves. No such features are located in the project area.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. Over the long term, stabilization of the inlet will reduce the cumulative effects of frequent maintenance dredging operations and result in a more stable ecosystem in the area.

h. Determination of Secondary Effects on the Aquatic Ecosystem. Secondary impacts on the aquatic ecosystem will be a stabilization of the system.

APPENDIX B
ST. LUCIE INLET DESIGN MEMORANDUM
FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURE

1. Chapter 161, Beach and Shore Protection. 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.

Consistency Statement: The purpose of the proposed action is to stabilize the inlet and navigation channel at St. Lucie Inlet, Martin County, Florida. It is intended to alter the pattern of water through the inlet and, as a result, sand movement in and through the inlet. Information will be submitted to the State for a permit in compliance with this chapter.

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

Consistency Statement: The work has been coordinated with the State without objection.

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

Consistency Statement: Stabilization of the inlet and navigation channel will enhance use of the inlet by boaters seeking sanctuary during periods of rough weather. Under present conditions, during such events the unstable inlet exacerbates already dangerous boating conditions for those seeking refuge. Therefore, this work will be consistent with the efforts of the 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 historic 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; spoil islands; and artificial reefs.

Consistency Statement: Maintenance dredging, jetty construction beach disposal and related activities have previously been performed. The use of State lands has previously been approved by the State. The proposed activity will be coordinated with the State and appropriate State permits will be obtained. The proposed action will be consistent with the intent of this chapter.

5. Chapters 253, 259, 260 and 375, Land Acquisition. These chapters authorize the State to acquire land to protect environmentally sensitive areas.

Consistency Statement: As the property is already in public ownership, these chapters do not apply.

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

Consistency Statement: The proposed action will not adversely affect State parks or preserves and is consistent with the intent of this chapter.

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

Consistency Statement: The proposed action was coordinated with the State Historic Preservation Officer (SHPO) and is consistent with the intent of this chapter.

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

Consistency Statement: The stabilization of the inlet, along with increased safety would encourage increased tourist and recreational use of facilities such as party boats at nearby marinas. It would also increase use of recreational boats by individuals previously concerned about unsafe conditions in the inlet. Therefore, the work is consistent with the goals of this chapter.

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

Consistency Statement: The proposed action will not adversely affect public transportation.

10. Chapter 370, Living Saltwater 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 of fisheries products; to secure and maintain statistical records of the catch of each such species; and to conduct scientific, economic and other studies and research.

Consistency Statement; The stabilization of the inlet will not adversely affect such activities and is consistent with this chapter.

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

Consistency Statement; The work in the inlet jetties and beach will be consistent with the goals of this chapter.

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

Consistency Statement: This work does not involve water resources as described in 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.

Consistency Statement: This work does not involve the transportation or discharge of pollutants. Conditions will be placed in the contract to handle inadvertent spills of pollutants such as vehicle fuels. The proposed action will comply with 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 resources.

Consistency Statement: The proposed action does not involve the exploration, drilling or production of oil, gas or other petroleum products; 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 of large-scale development.

Consistency Statement: The proposed action is consistent with the intent of this chapter.

16. Chapter 388, Arthropod Control. This chapter provides for a comprehensive approach for abatement or suppression of mosquitoes and other arthropod pests within the State.

Consistency Statement: The proposed action will be consistent with the goals of this chapter.

17. Chapter 404, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the State by the Department of Environmental Protection.

Consistency Statement: Appropriate State permits will be obtained for this project.

18. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of State soils 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 on-site and on adjoining properties affected by the work. Particular attention will be given to work on or near agricultural lands.

Consistency Statement: The proposed action is not located near agricultural lands; therefore, this chapter does not apply.



United States Department of the Interior

AD

FISH AND WILDLIFE SERVICE

South Florida Ecosystem Office
P.O. Box 2676
Vero Beach, Florida 32961-2676

February 24, 1998

Colonel Joe R. Miller
District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Attn: Planning Division

Dear Colonel Miller:

The U.S. Fish and Wildlife Service (FWS) is in receipt of your letter dated February 3, 1997. Your letter informed us that your agency has decided to consider blasting as a project alternative for the St. Lucie Inlet dredging project. Our comments are submitted in accordance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA).

We have reviewed the information presented in your letter and other information available to us concerning the project. The project site is located within designated critical habitat for the West Indian manatee (*Trichechus manatus*). The project site is also located within the nesting ranges of the threatened loggerhead sea turtle (*Caretta caretta*) as well as the endangered green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), and hawksbill sea turtle (*Eretmochelys imbricata*). Currently, there is no designated critical habitat for sea turtles in the United States.

The U.S. Army Corps of Engineers (COE) has determined that the proposed action will have no effect on the threatened and endangered species listed above. This determination is based on the COE's commitment to implement the standard precautions to protect the manatee during blasting operations. A copy of these precautions, which were provided as Term and Condition number 2 of the Hillsboro Inlet Biological Opinion, is attached. Your letter states that these same measures will be utilized for protecting threatened and endangered sea turtles. Based on the COE's willingness to implement these protective measures, the FWS concludes that the proposed action is not likely to adversely affect manatees and sea turtles. The FWS also concludes that the proposed action is not likely to adversely affect designated critical habitat for the manatee.

Although this does not constitute a Biological Opinion described under section 7 of the ESA, it does fulfill the requirements of the ESA, and no further action is required. If the enclosed measures for protecting manatees and sea turtles cannot be implemented for any reason, your agency would be required to reinitiate consultation with the FWS pursuant to 50 CFR 402.16.

Furthermore, if modifications are made to the project or if additional information involving potential effects on listed species becomes available, reinitiation of consultation may be necessary.

Thank you for your cooperation in the effort to protect threatened and endangered species. If you have any questions regarding this matter, please contact Chuck Sultzman of our office at (561) 562-3909.

Sincerely yours,

Kalani D. Cairns

for James J. Slack
Project Leader
South Florida Field Office

enclosure

cc:

NMFS, Miami, FL

DEP (OPSM), Tallahassee, FL

GFC, Vero Beach, FL

2. In addition to the standard construction precautions for manatee protection the Service recommends that the Corps establish a manatee watch program (MWP), taking the following additional precautions to reduce the risk of a manatee injury or mortality during blasting operations, should they occur:
 - a. Seven days prior to the first blast event, the contractors will provide U.S. Fish and Wildlife Service (FWS) and Department of Environmental Protection (DEP) Office of Protected Species Management a list of the chief and primary observers for the MWP and their qualifications. An outline of the MWP will also be submitted at least seven days prior to the first blast event. The outline will include time tables for blasting, tide tables for the blasting event indicating slack tides, time tables for the MWP (start times for aerial survey and other survey positions), observer positions, a copy of the MWP log sheet and map to record manatee sightings.
 - b. A formal MWP coordination meeting will be held at least 2 days prior to the first blast event. Attendants will include the MWP chief and primary observers, construction contractors, demolition subcontractors, FDOT, FWS, DEP and other interested parties, such as the U.S. Coast Guard. All will be informed about the possible presence of manatees in the area, and that civil or criminal penalties can result from harassment, injury and/or death of an endangered species. The construction contractors, demolition subcontractors and primary observer will present the protocol and logistics of the demolition project and will include time tables for blasting, tide tables for the blasting event indicating slack tides, time tables for the MWP (start times for aerial survey and other survey positions), observer positions, a copy of the MWP log sheet and map to record manatee sightings.
 - c. The manatee watch will consist of a minimum of 3 primary observers, one chief observer and 2 additional observers. One of the six observers shall have previous experience in observing/spotting manatees and should be documented in the qualifications submitted in condition #1. One of these observers shall have previous aerial survey experience and shall be the observer conducting the surveys from the helicopter. The 3 primary observers shall be trained and informed in the methods of surveying and locating manatees.
 - d. Observers will follow the protocol established for the MWP and will conduct the watch in good faith and to the best of their ability.
 - e. Each observer will be equipped with a two-way radio and will be dedicated exclusively to the manatee watch. Observers will also be equipped with polarized sunglasses, binoculars, a red flag for a backup visual communication system and a manatee sighting log with a map to record sightings at the blasting site and vicinity.

- f. All blasting events will be scheduled at or one hour after the slack tide to allow for the optimum observing conditions. Weather conditions also play a factor in optimum observing conditions. The chief observer will make the decision on the presence of optimum observing conditions to initiate the survey for each blast event.
- g. A continuous aerial survey by helicopter will be conducted beginning one hour (60 minutes) prior to the blasting event in the vicinity of the blast site. The aerial survey will include the area within a one mile radius of the blast site. The aerial survey should be conducted at a 500 - 750 foot elevation. After detonation, the aerial survey crew shall make a complete survey of the danger and buffer zones before returning to its point of origin. The Helicopter survey crew shall remain on stand-by until the end of the watch period if the need for aerial tracking of an injured manatee arises.
- h. The additional primary observers will be located in small vessels at various positions around the blast site. These positions will be situated to provide maximum visibility of the danger zone and will have unobstructed views of the entire area surrounding the blast site. These primary observers will begin surveying the area one hour (60 minutes) prior to the blast event and continue observing for one half hour (30 minutes) after the blast event.
- i. Using the formula:

$$r = 260 \sqrt[3]{W}$$

where r = radius, W = weight of explosives (TNT equivalent in pounds), the danger zone was determined to be a 900 foot radius, based upon the use of 40 pounds of explosives. This zone marks the area that injury from the blast will incur and will be clearly marked with highly visible buoys.

- j. All of the observers will be in close communication with blasting subcontractor in order to halt the blast event. The event will be halted if a manatee(s) is spotted within 300 feet of the perimeter of the danger zone or within the danger zone (900 foot radius around the blast site). The blasting event will be immediately halted upon the request of the primary observers. The blast event will not take place until the animal(s) moves away from the area under its own volition. Manatees must not be herded away or harassed into leaving. If the manatee(s) is not sighted a second time, the event will not resume until 30 minutes after the initial sighting. (If manatees are to be guided out of the danger zone, it will be done through an established protocol developed by the FWS).
- k. Any problems encountered during any of the blasting events will be evaluated by the observers and contractors and logistical solutions will be presented to the FWS and DEP. Corrections to the MWP will be made prior to the next blasting event.

- l. If an injured or dead manatee is sighted after the blast event, the Manatee Watch Observers will contact DEP through the Manatee Hotline (1-800-DIALFMP) and contact the FWS Vero Beach Field Office at (407/562-3909). The Manatee Watch will act according to the situation and maintain contact with the injured or dead manatee.
- m. If any injured or dead manatee is rescued/recovered within 3 miles up or down river from the project site within 72 hours from an underwater blasting event, blasting will be postponed until cause of injury or mortality can be determined by DEP and FWS. If blasting injuries are documented, the demolition project will be suspended and the principle parties will meet to decide a better time period to conduct the blasting. If any injured or dead manatee is rescued/recovered and the injuries are documented to be associated with blasting outside 3 miles but within 10 miles up or down river from the project site, blasting will be postponed and the principle parties will meet to decide a better time period to conduct the blasting.
- n. Within two weeks (14 days) after completion of the all the blasting events, the chief observer will submit a report to the FWS and DEP providing the names of the observers and their positions during the event, number and location of manatees seen and what actions were taken when manatees were seen.
- o. If any one of the aforementioned conditions is not met prior to or during the blasting, the chief observer of the MWP will have the authority to terminate the blasting event. Any liability for a violation of the aforementioned protective measures will be assumed by the construction contractors and the Hillsboro Inlet Improvement and Maintenance District.

BIOLOGICAL ASSESSMENT
ST. LUCIE INLET NAVIGATION STUDY
MARTIN COUNTY, FLORIDA

1. Location. St. Lucie Inlet is located near the town of Stuart, in Martin County, Florida (Figure 1).

2. Identification of Listed Species and Critical Habitat in the Vicinity of the Proposed Action.

The National Marine Fisheries Service (NMFS) and the Corps of Engineers (Corps) have identified the finback, humpback, sei, right and sperm whales, and green hawksbill, Kemp's Ridley, leatherback and loggerhead sea turtles as possibly occurring in the project area. A marine seagrass, Johnson's seagrass, listed as threatened, has also been identified by NMFS as possibly occurring in the project area. There is no designated critical habitat in the project area.

3. Description of the Proposed Activity. The recommended plan consists of the following features. The seaward-most 450' of the north jetty will be raised to +8 feet m.l.w., a sand impoundment basin will be constructed with a length of 1750 feet, a width of 450 feet with a depth of -16 feet m.l.w., plus 2 feet overdepth. The south jetty will be lengthened by 200 feet to an elevation of +8 feet m.l.w and sand tightened. Beach quality sand dredged during channel maintenance events will be placed on the beaches of Jupiter Island beginning approximately 5000 and extending 9800 feet south of the inlet. Blasting may be required to construct the impoundment basin and the inlet. Material removed from the impoundment basin will be placed at an artificial reef site located northeast of the north jetty. The reef site is 3000 feet by 3500 feet and lies in 40 to 50 feet of water with a center coordinate of 27 degrees, 12.5' N and 80 degrees 06.5' W.

4. Assessment of Potential Impacts of the Proposed Action on Listed Species or Critical Habitat.

a. Whales. All of the proposed construction activities will be done within approximately one-quarter mile of the shoreline or inside the inlet with the exception of disposal at the artificial reef site. The reef site is in less than 50 feet of

water. Because of the location of the work and relatively shallow depths, the proposed action should have no adverse impacts on any listed species of whale.

b. Shortnose sturgeon. The shortnose sturgeon has not been recorded from the vicinity of St. Lucie Inlet and should, therefore, be unaffected by construction activities.

c. Sea turtles. The Corps will comply with the Regional Biological Opinion for Hopper Dredging if a hopper dredge is used.

d. Because blasting is being considered as an alternative for project construction, the Corps proposes to implement standard manatee and sea turtle protection measures, such as preparation of a NMFS and FWS approved blasting plan, use of on-board observers and appropriate safe-standoff distances whenever blasting is to occur.

e. Johnson's seagrass. Because of the nature of the project area, i.e., strong tidal action, currents, and wave action in an inlet, no sea grasses of any kind grow in the area of proposed construction.

5. Efforts to Eliminate Potential Impacts to Listed Species or Critical Habitats. The steps listed in 4 above, will be taken to eliminate potential impacts to listed species.



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 570-5517

JAN 27 2000

F/SER3:EGH

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

Dear Mr. Duck:

This responds to your December 21, 1999 letter document "Design Memorandum and Draft Environmental Assessment for St. Lucie Inlet, Martin County, Florida" regarding the proposed jetty construction at the St. Lucie Inlet, Martin County, Florida (a permit application number was not given for this project). The project consists of raising the seaward-most 450' of the north jetty to +8' mean low water (m.l.w.), constructing a 1750' long by 450' wide sand impoundment basin (depth of -16' m.l.w., plus 2' overdepth), and lengthening the south jetty by 200' with an elevation of +8' m.l.w..

Ms. Layne Bolen of my staff previously commented on this project in August 1999. We have reviewed the information provided and find that the project as planned is not likely to adversely affect listed species or critical habitat under the National Marine Fisheries Service (NMFS) purview. According to the biological assessment, no seagrasses of any kind, including the threatened Johnson's seagrass, occur in the proposed action area. It is understood by this office that the Corps of Engineers (COE) will comply with the Regional Biological Opinion for Hopper Dredging if a hopper dredge is used and abide by FWS manatee protection guidelines if explosives are used. In addition, since the proposed project may adversely affect NMFS trust resources under the purview of our Habitat Conservation Division (HCD), we are forwarding a copy of this letter to them. If they have any concerns they will contact you. A point of contact for HCD is Mr. David Dale at 727-570-5317.

This concludes consultation responsibilities for this action under section 7 of the Endangered Species Act. Consultation should be reinitiated, however, if you choose to use explosives as an alternative for project construction or if the activity is modified in any other manner, if new information reveals impacts of the identified activity may affect listed species and their critical habitat, a new species is listed, or new critical habitat is designated.

If you have any questions please contact Ms. Bolen at 850/234-6541, Ext. 237.

Sincerely,

Charles A. Oravetz
Assistant Regional Administrator
Protected Resources Division

cc: F/SER4 - A. Mager, D. Dale, F/SEC 21 - L. Bolen





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

February 1, 2000

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

Dear Mr. Duck:

The National Marine Fisheries Service (NMFS) has reviewed the Design Memorandum and Draft Environmental Assessment, enclosed with your letter of December 21, 1999, for proposed modifications to St. Lucie Inlet in Martin County, Florida. Based on our review, the document adequately identifies and describes potential impacts to affected resources. We anticipate that any adverse effect that might occur on marine and anadromous fishery resources would be minimal and, therefore, we have no additional comments to provide regarding the proposed activities.

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,

A handwritten signature in black ink that reads "W. Mark Thompson for Andreas Mager, Jr." The signature is written in a cursive style.

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

cc:
F/SER3
F/SER4
F/SER43-Dale



**DESIGN MEMORANDUM
AND FINAL ENVIRONMENTAL ASSESSMENT
ST. LUCIE INLET, MARTIN COUNTY, FLORIDA**

**APPENDIX D
PERTINENT CORRESPONDENCE**

**U.S. ARMY ENGINEER DISTRICT
JACKSONVILLE, FL**

MAY 2000



MARTIN COUNTY BOARD OF COUNTY COMMISSIONERS

2401 S.E. MONTEREY ROAD • STUART, FLORIDA 34996

Rick M
to

MARSHAL L. WILCOX
Commissioner, District 1

DENNIS H. ARMSTRONG
Commissioner, District 2

JANET K. GETTIG
Commissioner, District 3

ELMIRA F. GAINEY
Commissioner, District 4

DONNA SUTTER MELZER
Commissioner, District 5

RUSS BLACKBURN
County Administrator

GARY OLDEHOFF
County Attorney

April 10, 2000

Telephone: (561) 288-5927

Fax: (561) 288-5955

File: pse001.077.aw

Rick McMillan
U. S. Army Corps of Engineers
400 West Bay Street
P. O. Box 4970
Jacksonville, FL 32232-0019

Re: St. Lucie Inlet Design Memorandum & Draft Environmental Assessment

Dear Mr. McMillan:

I have enclosed selected pages from the DM for your review. My two concerns center around the placement of beach quality sand and the placement of the rock excavated from the impoundment basin. The document is unclear on whether beach quality material will be placed in the nearshore area (inside the -15 ft. contour) or directly on the beach. I believe the intention is that preference and priority will be given to direct beach disposal, however some allowance must be made for nearshore disposal in the event of an unscheduled/emergency dredging project. Beach disposal should occur as far south of the inlet as is feasible to minimize the opportunity for this material to re-enter the inlet. On page A-188, the text states that the beach disposal should be initiated at the southern limit of the economically justified disposal area (9,800 feet south of the inlet). The DM is not consistent on this point as is indicated in the other passages that I have highlighted. Figure 3 on page 35 of the DM indicates a nearshore disposal area 8.5 miles south of the inlet. You will see that I have penciled in the beach disposal area on this same figure. I think it would be helpful to have all the sights indicated like this on one exhibit.

The second point concerns the offshore disposal of excavated rock. Once again the text is not consistent in references to the disposal location. In various parts of the text it is listed as being 2, 3 or 4 miles north of the inlet. Is the disposal site one of Martin County's artificial reef sites?...possibly the Ernst site? If so, the County would like some assurance that it will have input on the specific deployment location and methods. Martin County is charged with responsible management of these reef sites and has gone to great pains to develop an artificial reef management plan, and to submit applications to re-permit these sites. The original permits for the artificial reef sites expired in January 2000, however the County has been successful in extending these permits to June 31, 2001. It is hoped that the new permits will have been issued well prior to the expiration of the extension.

Please review this information along with the enclosures. I will look forward to the opportunity to discuss these concerns with you.

Sincerely,

Kathy FitzPatrick
Kathy FitzPatrick, P.E.
Coastal Engineer

KF:srb

attachment

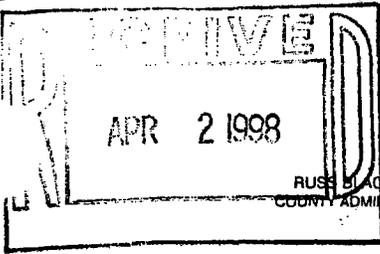
TELEPHONE
1-288-5400

WEB ADDRESS
<http://www.martin.fl.us>



MAKE MARTIN COUNTY COUNT - CENSUS 2000

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996



PHONE (561) 268-5400

COUNTY OF MARTIN



STATE OF FLORIDA

March 30, 1998

File: chr981.037

Colonel Joe R. Miller
United States Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

RECEIVED

APR 01 1998

ADMINISTRATION

Re: **St. Lucie Inlet - General Design Memorandum - Martin County**

Dear Colonel Miller:

On March 24, 1998, the Martin County Board of County Commissioners (Board) unanimously concurred with the U.S. Army Corps of Engineers (USACOE) proposed navigational improvements to the St. Lucie Inlet. These major elements include:

- Construction of an impoundment basin 1750 feet long, 450 feet wide, and 16 feet deep.
- Raising the most seaward 450 feet of the 900 foot weir section of the north jetty.
- Extension of the south jetty 200 feet.
- Disposal of maintenance dredged material on the down drift beaches of Jupiter Island, beginning approximately 5,000 feet south of the inlet.

The Board also supported two (2) locally preferred project elements as recommended by the St. Lucie Technical Advisory Committee (TAC). They are as follows:

- Raise and sand tighten 140 feet of north jetty (landward portion).
- Disposal of maintenance dredged material on the down drift beaches of Jupiter Island (a minimum of 8500 feet south of the south jetty).

The Board of County Commissioners is committed in providing the citizens of Martin County a safe navigational inlet. Raising the landward portion of the North Jetty will stabilize the shore and will prevent Inlet impacts to adjacent properties. The disposal of sand and a minimum of 8,500 feet south of the South Jetty will place sand back into the littoral system, where it belongs, as required by the State adopted St. Lucie Inlet Management Plan. The Board of County Commissioners requests the (2) two locally preferred projects be included in the USACOE GDM for the St. Lucie Inlet.

If you should have any questions or need additional information, please contact Don G. Donaldson, P.E., Acting Public Services Director at (561) 288-5927.

Sincerely,

Donna Sutter Melzer, Chair
Martin County Board of County Commissioners

FILE COPY

cc: Honorable Mark A. Foley, Representative in Congress
Honorable Members of the Board of County Commissioners
Russ Blackburn, County Administrator
Randall H. Reid, Deputy County Administrator
Richard Bonner, U.S. Army Corps of Engineers
Commission Records



MARTIN COUNTY BOARD OF COUNTY COMMISSIONERS

2401 S.E. MONTEREY ROAD • STUART, FLORIDA 34996

MARSHAL L. WILCOX
Commissioner, District 1

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Commissioner, District 2

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ELMIRA R. GAINEY
Commissioner, District 4

DONNA SUTTER MELZER
Commissioner, District 5

RUSS BLACKBURN
County Administrator

GARY OLDEHOFF
County Attorney

March 28, 2000

Telephone: (561) 288-5927

Fax: (561) 288-5955

File: pse001.074.aw

Rick McMillen
United States Army Corps of Engineers
Jacksonville District
P. O. Box 4970
Jacksonville, FL 32232-0019

Re: St. Lucie Inlet

Dear Mr. McMillen:

Enclosed please find the letter dated March 30, 1998 from Martin County Board of County Commissioners to United States Army Corps of Engineers (USACE) in support of the USACE proposed project and the locally preferred option. Please make sure this letter is included in the DM.

If you have any questions, please contact me at (561) 288-5927.

Sincerely,

Kathy FitzPatrick, P.E.
Coastal Engineer

KF:srb

attachment

TELEPHONE
(561) 288-5400

WEB ADDRESS
<http://www.martin.fl.us>



MAKE MARTIN COUNTY COUNT - CENSUS 2000



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 570-5517

JAN 27 2000

F/SER3:EGH

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

Dear Mr. Duck:

This responds to your December 21, 1999 letter document "Design Memorandum and Draft Environmental Assessment for St. Lucie Inlet, Martin County, Florida" regarding the proposed jetty construction at the St. Lucie Inlet, Martin County, Florida (a permit application number was not given for this project). The project consists of raising the seaward-most 450' of the north jetty to +8' mean low water (m.l.w.), constructing a 1750' long by 450' wide sand impoundment basin (depth of -16' m.l.w., plus 2' overdepth), and lengthening the south jetty by 200' with an elevation of +8' m.l.w..

Ms. Layne Bolen of my staff previously commented on this project in August 1999. We have reviewed the information provided and find that the project as planned is not likely to adversely affect listed species or critical habitat under the National Marine Fisheries Service (NMFS) purview. According to the biological assessment, no seagrasses of any kind, including the threatened Johnson's seagrass, occur in the proposed action area. It is understood by this office that the Corps of Engineers (COE) will comply with the Regional Biological Opinion for Hopper Dredging if a hopper dredge is used and abide by FWS manatee protection guidelines if explosives are used. In addition, since the proposed project may adversely affect NMFS trust resources under the purview of our Habitat Conservation Division (HCD), we are forwarding a copy of this letter to them. If they have any concerns they will contact you. A point of contact for HCD is Mr. David Dale at 727-570-5317.

This concludes consultation responsibilities for this action under section 7 of the Endangered Species Act. Consultation should be reinitiated, however, if you choose to use explosives as an alternative for project construction or if the activity is modified in any other manner, if new information reveals impacts of the identified activity may affect listed species and their critical habitat, a new species is listed, or new critical habitat is designated.

If you have any questions please contact Ms. Bolen at 850/234-6541, Ext. 237.

Sincerely,

Charles A. Oravetz
Assistant Regional Administrator
Protected Resources Division

cc: F/SER4 - A. Mager, D. Dale, F/SEC 21 - L. Bolen





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

February 1, 2000

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

Dear Mr. Duck:

The National Marine Fisheries Service (NMFS) has reviewed the Design Memorandum and Draft Environmental Assessment, enclosed with your letter of December 21, 1999, for proposed modifications to St. Lucie Inlet in Martin County, Florida. Based on our review, the document adequately identifies and describes potential impacts to affected resources. We anticipate that any adverse effect that might occur on marine and anadromous fishery resources would be minimal and, therefore, we have no additional comments to provide regarding the proposed activities.

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,

A handwritten signature in black ink that reads "W. Mark Thompson for Andreas Mager, Jr." The signature is written in a cursive style.

Andreas Mager, Jr.
Assistant Regional Administrator
Habitat Conservation Division

cc:
F/SER3
F/SER4
F/SER43-Dale





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

DP
PD

JAN 12 2000

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

Subject: Environmental Assessment (EA) and Finding of No
Significant Impact (FONSI) for the Improvements to St.
Lucie Inlet Navigation, Martin County, FL

Dear Sir:

Pursuant to Section 309 of the Clean Air Act, EPA, Region 4 has reviewed the subject document, an evaluation of the immediate impacts and long-term consequences of variously raising, lengthening, and sand tightening the south and north jetties. Additionally, the entrance and bar channels will be upgraded together with construction of an impoundment basin. Appropriate quality material will be disposed on the beach south of the Inlet. Rock and other material will be placed in an offshore artificial reef site northeast of the Inlet. This action is an attempt to provide a greater degree of stability to the Inlet and its associated channels, increase maintenance efficiency, and improve boating safety.

The scope/consequences of the action appear to be within acceptable limits in order to achieve project objectives. Overall, we have no significant objections to the use of an EA to evaluate the consequences of the proposal rather than the more comprehensive environmental impact statement format.

Thank you for the opportunity to comment on this action. 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 cursive script that reads "Heinz J. Mueller".

Heinz J. Mueller, Chief
Office of Environmental Assessment



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 570-5517

AUG 24 1999

F/SER3:LEB

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

Dear Mr. Duck:

This responds to your August 13, 1999 letter and biological assessment to me regarding the proposed jetty construction at the St. Lucie Inlet, Martin County, Florida (a permit application number was not given for this project). The project consists of raising the seaward-most 450' of the north jetty to +8' mean low water (m.l.w.), constructing a 1750' long by 450' wide sand impoundment basin (depth of -16' m.l.w., plus 2' overdepth), and lengthening the south jetty by 200' with an elevation of +8' m.l.w..

We have reviewed the information provided and find that the project as planned is not likely to adversely affect listed species or critical habitat under the National Marine Fisheries Service (NMFS) purview. According to the biological assessment, no seagrasses of any kind, including the threatened Johnson's seagrass, occur in the proposed action area. It is understood by this office that the Corps of Engineers (COE) will comply with the Regional Biological Opinion for Hopper Dredging if a hopper dredge is used. This office recommends that the COE consult with U.S. Fish and Wildlife Service on possible adverse affects to nesting and hatching sea turtles in the proposed action area. In addition, the proposed project may adversely affect NMFS trust resources and we refer you to Mr. David Dale of our Habitat Conservation Division at 727-570-5317.

This concludes consultation responsibilities for this action under section 7 of the Endangered Species Act. Consultation should be reinitiated, however, if you choose to use explosives as an alternative for project construction or if the activity is modified in any other manner, if new information reveals impacts of the identified activity may affect listed species and their critical habitat, a new species is listed, or new critical habitat is designated.

Sincerely,

Charles A. Oravetz
Chief, Protected Resources Division

cc: F/SER4 - A. Mager, D. Dale



Planing Division
Environmental Branch

AUG 18 1989

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

Dear Mr. Oravetz:

Enclosed is a biological assessment prepared by the U.S. Army Corps of Engineers (Corps), Jacksonville District, under Section 7 of the Endangered Species Act, as amended, for the St. Lucie Inlet Navigation Study, Martin County, Florida.

The National Marine Fisheries Service (NMFS), and the Corps have identified the finback, humpback, right, sei and sperm whales, and green hawksbill, Kemp's Ridley, leatherback, and loggerhead sea turtles as possibly occurring within the project area. A marine seagrass, Johnson's seagrass, listed as threatened, has also been identified by NMFS as possibly occurring in the area. There is no designated critical habitat in the project area.

Based on the enclosed biological assessment, the Corps has determined that the proposed activity will not adversely affect listed species or critical habitat.

This completes coordination under the Act, unless new information should indicate that the proposed action may affect listed species or their habitat, or that the proposed action is substantially modified, or a new species is proposed for listing which may be affected by the proposed action, or you request consultation. Your written response to this notification is requested.

Point of contact is Mr. Rea Boothby at phone number 904-232-3453.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosure

mb Boothby/CESAJ-PD-ER/3453/als *2/8 3/5/99*
WHD ~~Duggar~~/CESAJ-PD-ER
~~St~~/CESAJ-PD-E
JK Schmidt/CESAJ-PD-PN
DF Memillen/CESAJ-DP-I
JK Strain/CESAJ-PD-P
JK Dyck/CESAJ-PD

L: group/pde/boothby/stlnmfssec7

BIOLOGICAL ASSESSMENT
ST. LUCIE INLET NAVIGATION STUDY
MARTIN COUNTY, FLORIDA

1. Location. St. Lucie Inlet is located near the town of Stuart, in Martin County, Florida (Figure 1).

2. Identification of Listed Species and Critical Habitat in the Vicinity of the Proposed Action.

The National Marine Fisheries Service (NMFS) and the Corps of Engineers (Corps) have identified the finback, humpback, sei, right and sperm whales, and green hawksbill, Kemp's Ridley, leatherback and loggerhead sea turtles as possibly occurring in the project area. A marine seagrass, Johnson's seagrass, listed as threatened, has also been identified by NMFS as possibly occurring in the project area. There is no designated critical habitat in the project area.

3. Description of the Proposed Activity. The recommended plan consists of the following features. The seaward-most 450' of the north jetty will be raised to +8 feet m.l.w., a sand impoundment basin will be constructed with a length of 1750 feet, a width of 450 feet with a depth of -16 feet m.l.w., plus 2 feet overdepth. The south jetty will be lengthened by 200 feet to an elevation of +8 feet m.l.w and sand tightened. Beach quality sand dredged during channel maintenance events will be placed on the beaches of Jupiter Island beginning approximately 5000 and extending 9800 feet south of the inlet. Blasting may be required to construct the impoundment basin and the inlet. Material removed from the impoundment basin will be placed at an artificial reef site located northeast of the north jetty. The reef site is 3000 feet by 3500 feet and lies in 40 to 50 feet of water with a center coordinate of 27 degrees, 12.5' N and 80 degrees 06.5' W.

4. Assessment of Potential Impacts of the Proposed Action on Listed Species or Critical Habitat.

a. Whales. All of the proposed construction activities will be done within approximately one-quarter mile of the shoreline or inside the inlet with the exception of disposal at the artificial reef site. The reef site is in less than 50 feet of

water. Because of the location of the work and relatively shallow depths, the proposed action should have no adverse impacts on any listed species of whale.

b. Shortnose sturgeon. The shortnose sturgeon has not been recorded from the vicinity of St. Lucie Inlet and should, therefore, be unaffected by construction activities.

c. Sea turtles. The Corps will comply with the Regional Biological Opinion for Hopper Dredging if a hopper dredge is used.

d. Because blasting is being considered as an alternative for project construction, the Corps proposes to implement standard manatee and sea turtle protection measures, such as preparation of a NMFS and FWS approved blasting plan, use of on-board observers and appropriate safe-standoff distances whenever blasting is to occur.

e. Johnson's seagrass. Because of the nature of the project area, i.e., strong tidal action, currents, and wave action in an inlet, no sea grasses of any kind grow in the area of proposed construction.

5. Efforts to Eliminate Potential Impacts to Listed Species or Critical Habitats. The steps listed in 4 above, will be taken to eliminate potential impacts to listed species.

DIVISIONS OF FLORIDA DEPARTMENT OF STATE

Office of the Secretary
Office of International Relations
Division of Elections
Division of Corporations
Division of Cultural Affairs
Division of Historical Resources
Division of Library and Information Services
Division of Licensing
Division of Administrative Services



MEMBER OF THE FLORIDA CABINET

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Department of Veterans' Affairs

FLORIDA DEPARTMENT OF STATE
Katherine Harris

Secretary of State

DIVISION OF HISTORICAL RESOURCES

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

August 5, 1999

RE: DHR Project File No. 992804
St. Lucie Inlet Improvement Project
Impoundment Basin Reconfiguration, Jetty Alterations and Channel Dredging
Martin County, Florida

Dear Mr. Duck:

In accordance with the responsibilities of the State Historic Preservation Office as contained in 36 CFR Part 800 ("Protection of Historic Properties"), we have reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places.

A review of the Florida Master Site File and our files indicates that no significant archaeological or historical properties are recorded for, or considered likely to be present within the project area. Therefore, this office concurs that the proposed project will not affect historic properties.

If you have any questions concerning our comments, please do not hesitate to contact Laura Kammerer, Historic Preservationist Supervisor, at (850) 487-2333 or (800) 847-7278. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

for 
George W. Percy, Director
Division of Historical Resources and
State Historic Preservation Officer

GWP/Klk

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Director's Office
(850) 488-1480 • FAX: 488-3355 | <input type="checkbox"/> Archaeological Research
(850) 487-2299 • FAX: 414-2207 | <input checked="" type="checkbox"/> Historic Preservation
(850) 487-2333 • FAX: 922-0496 | <input type="checkbox"/> Historical Museums
(850) 488-1484 • FAX: 921-2503 |
| <input type="checkbox"/> Historic Pensacola Preservation Board
(850) 595-5985 • FAX: 595-5989 | <input type="checkbox"/> Palm Beach Regional Office
(561) 279-1475 • FAX: 279-1476 | <input type="checkbox"/> St. Augustine Regional Office
(904) 825-5045 • FAX: 825-5044 | <input type="checkbox"/> Tampa Regional Office
(813) 272-3843 • FAX: 272-2340 |

Planning Division
Environmental Branch

APR 22 1977

Mr. George W. Percy
State Historic Preservation Officer
Division of Historical Resources
500 South Bronough Street
Tallahassee, Florida 32399-0250

Dear Mr. Percy:

The U.S. Army Corps of Engineers (Corps), Jacksonville District is studying the environmental effects of improvements to St. Lucie Inlet. Proposed improvements include reconfiguring the impoundment basin, raising the north jetty, and extending the south jetty.

St. Lucie Inlet is a man-made opening from the Atlantic Ocean to the Indian and St. Lucie Rivers. Although the inlet is referenced in older maps and documents, the inlet was very unstable prior to the initial dredging in 1892. Subsequently, the channel has been dredged numerous times and has been improved and stabilized through the construction of jetties and an impoundment basin.

The impoundment basin was never completed because rock was encountered during construction. Under the proposed plan, the impoundment basin will be dredged and rock removed to a depth of 16 feet and will be 1750 feet long rather than the 2250 feet recommended in the General Design Memorandum (March 1977). Because the impoundment basin was previously dredged to rock, significant historic properties are not likely to be located there. The rock will be placed in an approved and permitted artificial reef site about 3 miles east of the project area.

The north jetty was initially constructed in 1927 and has been modified and maintained since that time. Raising the jetty will include the addition of materials similar to the existing structure. The affect on the historic structure will not be adverse.

The south jetty was authorized in 1974 and is not a historic structure. Since the north jetty was constructed, the shoreline

south of the inlet has eroded about 2000 feet to the west. Because of this erosion and regular maintenance dredging of the channel, significant historic properties are not likely to be located in the vicinity of the south jetty extension.

Maintenance dredging of the channel will also be completed for St. Lucie Inlet. Sand removed from the channel will be placed on the beach beginning 5000 feet south of the inlet. Beach placement of dredged material will not have an adverse effect on significant historic properties.

Research conducted for the St. Lucie Inlet vicinity did not identify any potentially significant historic properties in the areas of impact. Based on the history of the area and the background discussed in this letter, it is the Corps' determination that the proposed improvements to St. Lucie Inlet will not affect significant historic properties.

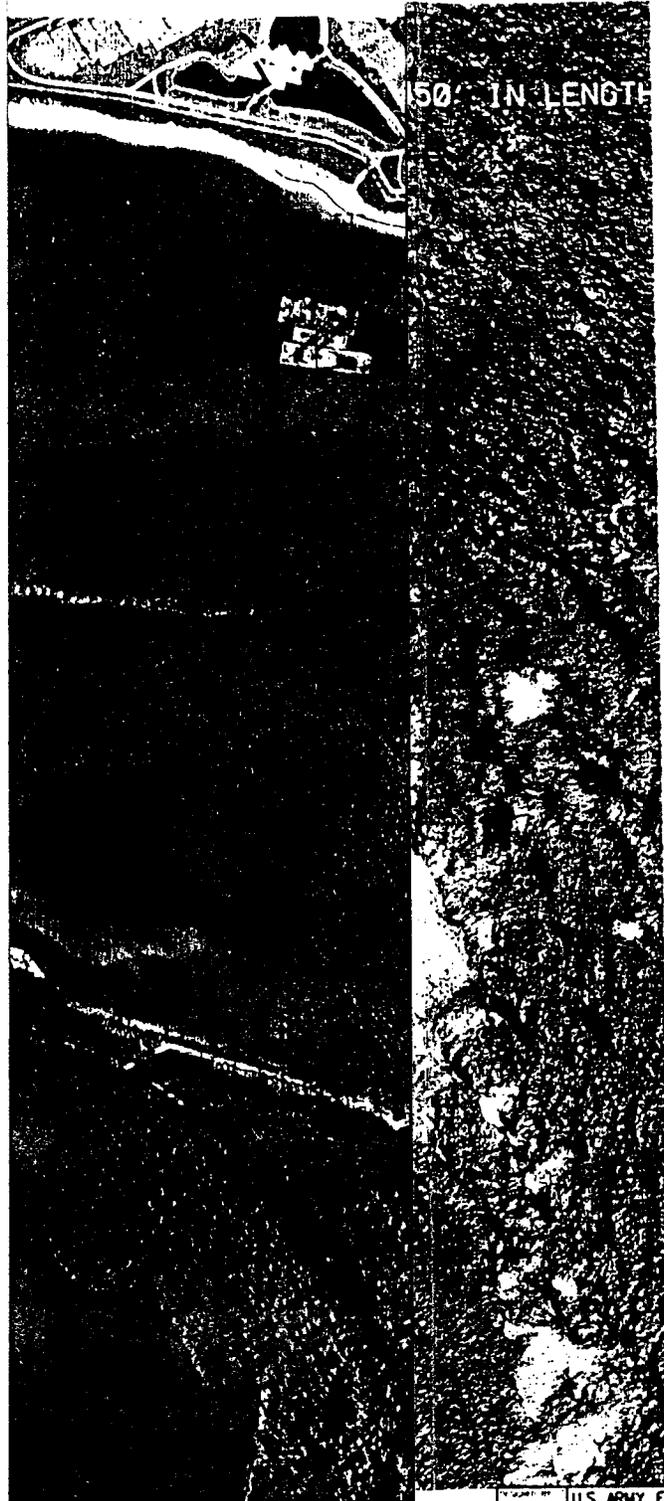
This determination is made according to the guidelines established in 36 CFR Part 800 and in compliance with Section 106 of the National Historic Preservation Act. Your written concurrence with this determination is requested within 30 calendar days. If there are questions regarding this matter, please contact Ms. Janice Adams, 904-232-2016.

Sincerely,

James C. Duck
Chief, Planning Division

Enclosure

bcc (w/encl):
CESAJ-DP-I (McMillen)
✓CESAJ-PD-ER (Boothby)



E

D

C

B

U.S. ARMY ENGINEER DISTRICT, JACKSONVILLE	
CORPS OF ENGINEERS	
JACKSONVILLE, FL.	
SELECTED PLAN	
Y-1	

FEB 0 ? 1998

Planning Division
Environmental Branch

Mr. James J. Slack, Project Leader
South Florida Field Office
U.S. Fish and Wildlife
Post Office Box 2676
Vero Beach, Florida 32961-2676

Dear Mr. Slack:

I am writing to you concerning the proposed dredging of St. Lucie Inlet in Martin County, Florida. Since our last correspondence, we have decided to consider blasting as an alternative for project construction. The U.S. Army Corps of Engineers proposes to implement standard manatee and sea turtle protection measures, such as on-board monitors and safe-standoff distances whenever blasting is to occur, as discussed in telephone conversations with Mr. Chuck Sultzman of your office on January 21 and January 26, 1998.

Please confirm that there would be no adverse effects on listed species from blasting if the above measures were implemented. If you have any questions, please contact Mr. Rea N. Boothby of my staff at 904-232-3453.

Sincerely,

John R. Hall,
Acting Chief, Planning Division

Copies Furnished:

Mr. Kirby Green, 3900 Commonwealth Boulevard, Tallahassee,
Florida 32399-3000
Mr. David Arnold, 3900 Commonwealth Boulevard, Tallahassee,
Florida 32399-3000

Boothby/CESAJ-PD-ER/3453/mr
Dugger/CESAJ-PD-ER
KURZBACH/CESAJ-PD-E
STRAIN/CESAJ-PD-P
HALL/CESAJ-PD

w/boothby/stlsect7





United States Department of the Interior

AD

FISH AND WILDLIFE SERVICE

South Florida Ecosystem Office
P.O. Box 2676
Vero Beach, Florida 32961-2676

February 24, 1998

Colonel Joe R. Miller
District Engineer
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Attn: Planning Division

Dear Colonel Miller:

The U.S. Fish and Wildlife Service (FWS) is in receipt of your letter dated February 3, 1997. Your letter informed us that your agency has decided to consider blasting as a project alternative for the St. Lucie Inlet dredging project. Our comments are submitted in accordance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA).

We have reviewed the information presented in your letter and other information available to us concerning the project. The project site is located within designated critical habitat for the West Indian manatee (*Trichechus manatus*). The project site is also located within the nesting ranges of the threatened loggerhead sea turtle (*Caretta caretta*) as well as the endangered green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), and hawksbill sea turtle (*Eretmochelys imbricata*). Currently, there is no designated critical habitat for sea turtles in the United States.

The U.S. Army Corps of Engineers (COE) has determined that the proposed action will have no effect on the threatened and endangered species listed above. This determination is based on the COE's commitment to implement the standard precautions to protect the manatee during blasting operations. A copy of these precautions, which were provided as Term and Condition number 2 of the Hillsboro Inlet Biological Opinion, is attached. Your letter states that these same measures will be utilized for protecting threatened and endangered sea turtles. Based on the COE's willingness to implement these protective measures, the FWS concludes that the proposed action is not likely to adversely affect manatees and sea turtles. The FWS also concludes that the proposed action is not likely to adversely affect designated critical habitat for the manatee.

Although this does not constitute a Biological Opinion described under section 7 of the ESA, it does fulfill the requirements of the ESA, and no further action is required. If the enclosed measures for protecting manatees and sea turtles cannot be implemented for any reason, your agency would be required to reinitiate consultation with the FWS pursuant to 50 CFR 402.16.

Furthermore, if modifications are made to the project or if additional information involving potential effects on listed species becomes available, reinitiation of consultation may be necessary.

Thank you for your cooperation in the effort to protect threatened and endangered species. If you have any questions regarding this matter, please contact Chuck Sultzman of our office at (561) 562-3909.

Sincerely yours,

Kalani D. Cairns

for James J. Slack
Project Leader
South Florida Field Office

enclosure

cc:

NMFS, Miami, FL

DEP (OPSM), Tallahassee, FL

GFC, Vero Beach, FL

2. In addition to the standard construction precautions for manatee protection the Service recommends that the Corps establish a manatee watch program (MWP), taking the following additional precautions to reduce the risk of a manatee injury or mortality during blasting operations, should they occur:
 - a. Seven days prior to the first blast event, the contractors will provide U.S. Fish and Wildlife Service (FWS) and Department of Environmental Protection (DEP) Office of Protected Species Management a list of the chief and primary observers for the MWP and their qualifications. An outline of the MWP will also be submitted at least seven days prior to the first blast event. The outline will include time tables for blasting, tide tables for the blasting event indicating slack tides, time tables for the MWP (start times for aerial survey and other survey positions), observer positions, a copy of the MWP log sheet and map to record manatee sightings.
 - b. A formal MWP coordination meeting will be held at least 2 days prior to the first blast event. Attendants will include the MWP chief and primary observers, construction contractors, demolition subcontractors, FDOT, FWS, DEP and other interested parties, such as the U.S. Coast Guard. All will be informed about the possible presence of manatees in the area, and that civil or criminal penalties can result from harassment, injury and/or death of an endangered species. The construction contractors, demolition subcontractors and primary observer will present the protocol and logistics of the demolition project and will include time tables for blasting, tide tables for the blasting event indicating slack tides, time tables for the MWP (start times for aerial survey and other survey positions), observer positions, a copy of the MWP log sheet and map to record manatee sightings.
 - c. The manatee watch will consist of a minimum of 3 primary observers, one chief observer and 2 additional observers. One of the six observers shall have previous experience in observing/spotting manatees and should be documented in the qualifications submitted in condition #1. One of these observers shall have previous aerial survey experience and shall be the observer conducting the surveys from the helicopter. The 3 primary observers shall be trained and informed in the methods of surveying and locating manatees.
 - d. Observers will follow the protocol established for the MWP and will conduct the watch in good faith and to the best of their ability.
 - e. Each observer will be equipped with a two-way radio and will be dedicated exclusively to the manatee watch. Observers will also be equipped with polarized sunglasses, binoculars, a red flag for a backup visual communication system and a manatee sighting log with a map to record sightings at the blasting site and vicinity.

- f. All blasting events will be scheduled at or one hour after the slack tide to allow for the optimum observing conditions. Weather conditions also play a factor in optimum observing conditions. The chief observer will make the decision on the presence of optimum observing conditions to initiate the survey for each blast event.
- g. A continuous aerial survey by helicopter will be conducted beginning one hour (60 minutes) prior to the blasting event in the vicinity of the blast site. The aerial survey will include the area within a one mile radius of the blast site. The aerial survey should be conducted at a 500 - 750 foot elevation. After detonation, the aerial survey crew shall make a complete survey of the danger and buffer zones before returning to its point of origin. The Helicopter survey crew shall remain on stand-by until the end of the watch period if the need for aerial tracking of an injured manatee arises.
- h. The additional primary observers will be located in small vessels at various positions around the blast site. These positions will be situated to provide maximum visibility of the danger zone and will have unobstructed views of the entire area surrounding the blast site. These primary observers will begin surveying the area one hour (60 minutes) prior to the blast event and continue observing for one half hour (30 minutes) after the blast event.
- i. Using the formula:

$$r = 260 \sqrt[3]{W}$$

where r = radius, W = weight of explosives (TNT equivalent in pounds), the danger zone was determined to be a 900 foot radius, based upon the use of 40 pounds of explosives. This zone marks the area that injury from the blast will incur and will be clearly marked with highly visible buoys.

- j. All of the observers will be in close communication with blasting subcontractor in order to halt the blast event. The event will be halted if a manatee(s) is spotted within 300 feet of the perimeter of the danger zone or within the danger zone (900 foot radius around the blast site). The blasting event will be immediately halted upon the request of the primary observers. The blast event will not take place until the animal(s) moves away from the area under its own volition. Manatees must not be herded away or harassed into leaving. If the manatee(s) is not sighted a second time, the event will not resume until 30 minutes after the initial sighting. (If manatees are to be guided out of the danger zone, it will be done through an established protocol developed by the FWS).
- k. Any problems encountered during any of the blasting events will be evaluated by the observers and contractors and logistical solutions will be presented to the FWS and DEP. Corrections to the MWP will be made prior to the next blasting event.

- l. If an injured or dead manatee is sighted after the blast event, the Manatee Watch Observers will contact DEP through the Manatee Hotline (1-800-DIALFMP) and contact the FWS Vero Beach Field Office at (407/562-3909). The Manatee Watch will act according to the situation and maintain contact with the injured or dead manatee.
- m. If any injured or dead manatee is rescued/recovered within 3 miles up or down river from the project site within 72 hours from an underwater blasting event, blasting will be postponed until cause of injury or mortality can be determined by DEP and FWS. If blasting injuries are documented, the demolition project will be suspended and the principle parties will meet to decide a better time period to conduct the blasting. If any injured or dead manatee is rescued/recovered and the injuries are documented to be associated with blasting outside 3 miles but within 10 miles up or down river from the project site, blasting will be postponed and the principle parties will meet to decide a better time period to conduct the blasting.
- n. Within two weeks (14 days) after completion of the all the blasting events, the chief observer will submit a report to the FWS and DEP providing the names of the observers and their positions during the event, number and location of manatees seen and what actions were taken when manatees were seen.
- o. If any one of the aforementioned conditions is not met prior to or during the blasting, the chief observer of the MWP will have the authority to terminate the blasting event. Any liability for a violation of the aforementioned protective measures will be assumed by the construction contractors and the Hillsboro Inlet Improvement and Maintenance District.



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



February 20, 1998

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Honorable Mark A. Foley
Representative in Congress
County Annex Building
250 NW Country Club Drive
Port Saint Lucie, Florida 34986

Dear Mr. Foley:

This is in response to your letter dated January 11, 1998, pertaining to St. Lucie Inlet. You will be pleased to know that the Jacksonville District is making great strides in evaluating improvements to the Federal Navigation project for St. Lucie Inlet and preparation of the design document.

As discussed with Ms. Ann Decker of your staff and members of the Technical Advisory Committee on January 28, 1998, the U.S. Army Corps of Engineers, Jacksonville District, has identified improvements to the inlet that we feel are justified and necessary in order to provide a more efficient navigation project. These improvements will be described in greater detail and recommended for construction in the design document currently under preparation. To synopsise, the recommended improvements are:

- construction of an impoundment basin 1750 feet long, 450 feet wide, and 16 feet deep;
- raising the most seaward 450 feet of the 900 foot weir section of the north jetty;
- extension of the south jetty 200 feet;
- and, disposal of maintenance dredged material on the down drift beaches of Jupiter Island, beginning approximately 5,000 feet south of the inlet.

Indications at this time reveal that these recommendations fall within the scope of the originally authorized project. As a result, the Jacksonville District is considering preparing a

General Design Memorandum rather than a General Reevaluation Report as no new features are being recommended that would require Congressional authorization. Also, we are currently evaluating whether a Supplemental Agreement to the existing Project Cooperation Agreement for the navigation project would be required. We will keep you and your staff apprised of this development.

As for incorporating the Florida approved Inlet Management Plan (IMP) into our improvements, the Jacksonville District has gone to great lengths in our analysis to stay within the scope of the recommendations stipulated in the IMP. However, our recommended project must be consistent with those Federal laws and regulations governing this type of project. During the evaluation of the improvements to this project, the Jacksonville District not only applied those applicable laws and regulations, but also tried to keep within the intent of the IMP and address the concerns and recommendations of the Technical Advisory Committee.

At present, we are looking to have a draft design document complete and under review by April 1998 with final approval anticipated for June 1998. We hope this information is sufficient for your needs. If you have additional questions or need additional information, please contact me or have your staff contact Mr. Joseph Burns, Congressional Liaison, at 904-232-2243.

Sincerely,



Joe R. Miller
Colonel, U.S. Army
District Engineer

Copies Furnished:

Mr. Don Donaldson, Acting Director for Public Services, Public Services Department, 2401 SE. Monterey Road, Stuart, Florida 34996

Commander, U.S. Army Corps of Engineers (CECW-L)
Commander, South Atlantic Division (CESAJ-PM)

NATHANIEL PRYOR REED
POST OFFICE BOX 375
HOBE SOUND, FLORIDA 33475

TELEPHONE
(407) 546-2666

TELEFAX
(407) 546-5019

January 19, 1995

Albrecht
Colonel Terrence L. Rice, District Engineer
U.S. Army Corps of Engineers
PO Box 470
Jacksonville, FL 32232

Dear Colonel Rice,

I am absolutely perturbed at the State's Department of Environmental Protection over two issues that directly concern the Corps. The first is to agree on the St. Lucie Inlet plan so that the Corps can provide adequate and safe passage in and out of the inlet and deliver the sand clogged in the inlet to Jupiter Island's eroding beaches.

The second issue is over the restrictions imposed by the state and backed by the U.S. Fish and Wildlife Service which effectively prevents summer renourishment projects. The additional expense and the inherent danger to the dredging crews is of serious concern to all of us who live on barrier islands and survive by frequent, expensive renourishment projects. Being downstream of the worst beach sand guzzler in the state -- the St. Lucie Inlet -- we desperately need your assistance.

The first step is for the Department of Environmental Protection to publish emergency rules allowing summer dredging where seawalls are in imminent danger of collapse or have collapsed. If we are successful in changing the state's attitude toward beach nourishment, then we need to turn to the Corps and have you or the Assistant Secretary overrule the Fish and Wildlife Service's objections to all summer renourishment programs.

My FAX to Virginia Wetherell on the subject is enclosed. Frankly, forcing municipalities and counties to dredge in the winter or spring is simply illogical. The experiment was tried and it failed. If the Service and the state really want to help the turtles, let the projects be completed during the calm summer months. The arguments that moving 1,000 nests or 5,000 nests is going to have any impact on the number or sex of the baby turtles is scientifically unsound.

Common sense seems to be in short supply and we need to face the realities of erosion with a clean slate of ideas.

Sincerely,

Nathaniel P. Reed

Nathaniel P. Reed

/j
enc.

cc: Mayor Russell Simpson
Town Commissioners
County Commissioners

*DP —
R. C. Hines — RES PONS
PLS — NO more TRO
1 PAGE. A*

MARK FOLEY
 16TH DISTRICT, FLORIDA
 DEPUTY MAJORITY WHIP
 TASK FORCE ON IMMIGRATION REFORM
 AGRICULTURE COMMITTEE
 BANKING AND FINANCIAL
 SERVICES COMMITTEE
 SCIENCE COMMITTEE
 VICE CHAIRMAN,
 ENERGY AND ENVIRONMENT
 SUBCOMMITTEE

Congress of the United States
House of Representatives
 Washington, DC 20515

January 11, 1998

Mr. Richard McMillan
 Project Engineer
 Army Corps of Engineers
 P. O. Box 4970
 Jacksonville, FL 32332

Re: St. Lucie Inlet

Dear Rick,

Over the past several years, a great deal of effort has been made to deal with the problems associated with the St. Lucie Inlet. Through various federal appropriations, the Corps has been able to study the inlet and determine what can be done at the inlet to allow the sand to flow naturally southward to Jupiter Island as well as prevent the huge amounts of sand from going into the inlet and causing great havoc to boating traffic.

Approximately two years ago, a local Technical Advisory Committee was formed in Martin County to give input to the Corps on the inlet project. It is my understanding that all interested parties affected by the inlet have been a part of the Technical Advisory Committee.

It is important to me that I understand what the Corps is looking to do before you come to Congress and seek appropriations. Can you provide me with the current status of any design changes to the inlet the Corps is considering? Also, how are you incorporating the Florida approved Inlet Management Plan into your plans? What general plans are being considered for the jetty north of the inlet?

Please understand that I am not asking for a copy of the design specifications or the design plans. I just want a general outline of what is being placed into Design Memorandum on the St. Lucie Inlet before the whole thing is finalized and is sent to the Corps Headquarters for final approval.

Please reply to me at my office located at the County Annex Building, 250 NW Country Club Drive, Port Saint Lucie, FL 34986.

Looking forward to hearing from you, I am,

Sincerely,

Mark A. Foley
 Member of Congress

MAF/ald

- REPLY TO:
- 113 CANNON BUILDING
 WASHINGTON, DC 20515-0910
 (202) 225-6792
 FAX: (202) 225-3132
 E-MAIL: mark.foley@mail.house.gov
 WEBSITE: http://www.house.gov/foley
 - FLORIDA DISTRICT OFFICES:
 - 4440 PGA BLVD., SUITE 408
 PALM BEACH GARDENS, FL 33410
 (561) 627-6192
 FAX: (561) 626-4749
 - COUNTY ANNEX BUILDING
 250 NW COUNTRY CLUB DRIVE
 PORT ST. LUCIE, FL 34986
 (888) 878-3181
 FAX: (861) 871-0651
 - HIGHLANDS COUNTY
 (841) 471-1813

August 4, 1997

MEMORANDUM

ADMINISTRATION

AUG - 7 1997



Coastal Engineering

To: Will Whitson
Alan Golden

From: Kevin Bodge, Ph.D., P.E. *KB*

Re: St. Lucie Inlet Technical Advisory Committee;
Minutes of Meeting #9

The ninth meeting of the St. Lucie Inlet T.A.C. was held at Stuart on July 31st. In attendance were Rick McMillen and a few other Corps representatives; Don Donaldson and Mike Walther; Clay Bryant and John Ramsey; Mark Leadon; David Roach; and myself, among others.

- 1.) No new technical design information was presented. (Ed Hodgens was on vacation, and not present.)
- 2.) The County has authorized Mike Walther's firm to conduct a field-measurement and numerical study of the inlet's current patterns in an effort to better assess the appropriate geometry of the impoundment basin.
- 3.) The Corps asked that TAC members (or the entities they represent) inquire to the Vero Beach Office of the U.S.F. & W.S. as to the release of its draft "Coordination Act Report" regarding the federal project's environmental impacts. This "CAR" report was due in July but has not yet been provided. A delay in receiving this report could jeopardize the G.R.R. schedule — which requires that a completed report, including all Environmental Reviews, be sent for Washington's review by March, 1998.
- 4.) The County anticipates awarding a construction contract in a few months by which 500,000 cy of sand will be dredged from the flood shoal; 80,000 cy from the impoundment basin; and 80,000 from the I.C.W.W. (in cooperation with F.I.N.D.). Placement will be in the vicinity of Peck's Lake along Jupiter Island. Construction is anticipated to commence in November of this year.

olsen
associates, inc.

4438 Herschel Street
Jacksonville, FL 32210
(904) 387-6114
(Fax) 384-7368

- 5.) Don Donaldson read a letter he had drafted that stated that the proposed Sailfish Point beach stabilization project had been presented to, and discussed by, the T.A.C. on three occasions, and that the majority of its members did not object to the project as long as it performed in accordance with the designers' predictions and was maintained as proposed. Mark Leadon of the F.D.E.P. (Beaches & Coastal Systems) questioned why such a letter was necessary, and proposed that it was too early to render such a statement. I responded that F.D.E.P. (and the Martin County Commissioners) had requested that the project be reviewed by the T.A.C.,; that the project had been discussed three times since last autumn; and that the subject letter was necessary to bring the issue to closure. Others stated their concern that the letter might be interpreted or used as a T.A.C. endorsement of the project. Don Donaldson, Mike Walther and I strongly noted that the letter was clearly *not* worded as an endorsement, nor was it intended as such. Don offered to make some modifications to the text before finalizing the letter. Erik and I will follow-up with this on Monday (8/4/97).
 - 6.) Rick McMillen expressed concern that he should not compose a letter on behalf of Sailfish Point that may be perceived as placing the Corps between any of the inlet's parties. He suggested that Don (instead of me) request that the Corps write a clarifying letter that "proposed activities adjacent to the inlet are not currently interfering with, nor are anticipated to interfere with, the ongoing formulation of federal improvements to St. Lucie Inlet; and that any such activities shall be duly reviewed outside of the G.R.R. by virtue of standard federal regulations (i.e., Army and State permits, etc.)". The letter would be from the Corps to Don Donaldson, Chairman of the T.A.C. This appeared to be satisfactory to Don and Rick.
 - 7.) The discussion summarized in Items 5 and 6, above, were held immediately after the T.A.C. meeting was adjourned, and are not part of the formal T.A.C. record.
 - 8.) The next meeting of the T.A.C. will be held in Jacksonville on September 3rd at 9:00 a.m.
- cc: Don Donaldson

AGENDA

St. LUCIE INLET TECHNICAL ADVISORY COMMITTEE MEETING

July 31, 1997

11:00 A.M., 4th Floor Workshop Room, Martin County Administration Bldg.

- A. Additions/Deletions to the Agenda**
- B. US Army Corps of Engineers Update**
 - **GRR Status**
- D. Martin County Update**
 - **Flood Shoal & ICW Dredging Schedule**
 - **Coastal Monitoring & Inlet Modeling**
- E. Action Items:**

None
- F. Discussion Items:**
 - 1. Sediment Budget**
 - 2. Impoundment Basin Alternatives**
- G. Schedule Next Meeting**

H. Adjourn

(3:05)

was 3:00

minutes of 3/13 9:00AM

MARSHAL L. WILCOX
District 1

DENNIS H. ARMSTRONG
District 2

JANET K. GETTIG
District 3

ELMIRA R. GARNEY
District 4

DONNA SUTTER MELZER
District 5

*Don
Rick M-*

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

RUSS BLACKBURN
County Administrator

PHONE (561) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

November 7, 1997

File: pse981.025

Mr. Rick McMillen
US Army Corps of Engineers, Project Management Branch
P.O. Box 4970
Jacksonville, FL 32232-0019

Re: St. Lucie Inlet TAC Meeting for November 13, 1997

Dear Mr. McMillen:

Enclosed is the agenda for the next TAC meeting scheduled for November 13, 1997 at 9:00 a.m. in the 4th floor Workshop Meeting Room, County Administrative Center. The agenda was also faxed to you on November 5, 1997.

Coastal Technology has been running the RMA-2 model with two impoundment basin configurations proposed by the USACE. In addition, the SED 2D model is being run to determine if its results can be used for design considerations. Preliminary results indicate that the SED 2D results are showing sedimentation patterns similar to the observed patterns. An explanation of methods and current results will be provided.

Please contact me at (561) 288-5927 if you will not be attending this meeting, or if you have any questions or comments.

Very Truly Yours,

for *Don G. Donaldson*
Don G. Donaldson, P.E.
Coastal Engineer

GD/pmr

Enclosure

RMT

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

RANDALL H. REID
ACTING COUNTY ADMINISTRATOR

PHONE (561) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

ce971.054

FAX (904) 232-1213

June 9, 1997

Mr. Richard Bonner, P.E.
Deputy District Engineer for Project Management
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Fl 32232-0019

Re: St. Lucie Inlet - Martin County, Florida

Dear Mr. Bonner:

On behalf of Martin County, I am writing to request participation by the District in dredging proposed by the County. Dredging at St. Lucie Inlet is now planned to occur between November 1997 and March 1998.

In particular, the County plans to transfer sand from the flood shoal at the Inlet to the beaches at Jupiter Island as a non-federal project as partial implementation of the St. Lucie Inlet Management Plan in conjunction with the State of Florida. We anticipate that by November 1997, the federal project channel and impoundment basin at St. Lucie Inlet will likely require dredging to provide for reasonable navigation of the Inlet. It is also our understanding that, next winter, the District intends to perform maintenance dredging of the ICCWW in the vicinity of the Inlet.

To provide for continuous navigation of the federal navigation projects at St. Lucie Inlet, and to minimize mobilization costs of dredging equipment, we propose that the District participate with the County under one construction contract for all necessary dredging.

We specifically request that the District:

1. program funds to provide for maintenance dredging of the St. Lucie Inlet project channel and impoundment basin in FY 1998 - in concert with the County's planned dredging, and

2. identify District requirements for a County and District dredging project under one construction contract to provide for the non-federal sand transfer project and federal maintenance dredging of the ICWW and St. Lucie Inlet.

Please note that we are prepared to provide supervision and administration of the construction contract or otherwise "tag onto" a District contract. In so far as it is the County's desire to advertise for bids by August 1997, we would very much appreciate your prompt response to our requests.

If you have any questions or require additional information, please contact me.

Very truly yours,

A handwritten signature in cursive script that reads "Don G. Donaldson". Below the signature, the initials "d m" are written in a smaller, simpler script.

Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm

cc: Randall H. Reid, Acting County Administrator
Rick McMillen, USACE, Jacksonville
Don Fore, USACE, Jacksonville
Michael Walther, P.E., Coastal Tech.

MARSHAL L. WILCOX
District 1

DENNIS H. ARMSTRONG
District 2

JANET K. GETTIG
District 3

ELMIRA R. GAINEY
District 4

DONNA SUTTER MELZER
District 5

DAO
Ridm ✓

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

RANDALL H. REID
ACTING COUNTY ADMINISTRATOR

PHONE (561) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

February 20, 1997

ce971.030

Mr. Alan Golden
Sailfish Point Property Owners and Country Club Association, Inc.
2201 S.E. Sailfish Point Blvd.
Stuart, FL 34996

Re: St. Lucie Inlet Management Plan - North Jetty Improvements

Dear Mr. Golden:

I am responding to a letter from Will Whitson dated February 20, 1997. Martin County and the State of Florida have adopted an Inlet Management Plan for the St. Lucie Inlet (see Attached). An Inlet Management Report was prepared by Applied Technology and Management, Inc. to assist in the development of the St. Lucie Inlet Management Plan (SLIMP). This report does recommend sand tightening a portion of the North Jetty to improve Inlet maintenance activities. However, any sand tightening of the North Jetty must adhere to Item 3 in the SLIMP (i.e., the proposed alternatives must facilitate the continued bypassing of sand, consistent with Section 161.142, Florida Statutes).

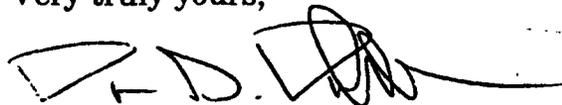
The County and the State of Florida have postponed implementation of the that portion of the SLIMP which involves the Federal Navigation project until the U.S. Army Corps of Engineers (USACE) completes the General Re-evaluation Report for the St. Lucie Inlet. North Jetty modifications, impoundment basin improvements and sand bypassing are among the top priorities for review by the USACE. Complete sand tightening of the North Jetty is not being considered because of the sand transfer requirements. In addition, the County and State value highly the adjacent submerged hardground communities and do not see any benefit to covering them with sand.

Sailfish Point Homeowner Association is cautioned from pursuing any project that will impede the County's ability to transfer the net Southerly transport of sand to the beaches downdrift of the St. Lucie Inlet. Also, for your information, the USACE Jacksonville District has agreed to not respond in writing to questions or requests regarding the GRR

or Federal Project unless a request is made by the local sponsor (Martin County). Please address all future requests regarding the Federal Project to this office.

Should you have any questions or comments, please contact my office (288-5429).

Very truly yours,

A handwritten signature in black ink, appearing to read "D.G. Donaldson", with a long horizontal flourish extending to the right.

Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm
attachment

cc: **Randall H. Reid, Acting County Administrator**
Rick McMillen, P.E., USACE

**ST. LUCIE INLET MANAGEMENT STUDY
IMPLEMENTATION PLAN**

CERTIFICATE OF ADOPTION

WHEREAS the Department of Environmental Protection, in partnership with Martin County, has conducted a study of the St. Lucie Inlet, under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and

WHEREAS the Department has developed an implementation plan which contains corrective measures to mitigate the identified impacts of the inlet, and

WHEREAS the implementation plan is consistent with the Department's program objectives under Chapter 161, Florida Statutes,

The Department does hereby adopt the following implementation actions:

- 1) Continue periodic maintenance dredging activities, including dredging of the channel and sedimentation basin.**

An optimum dredging plan including the most beneficial dredging cycle, in terms of bypassing sand at the inlet, should be established for current conditions as well as for conditions with the proposed expanded sedimentation basin. Place all beach compatible dredged material on downdrift beaches in eroded areas. Location for placement of material shall be on areas most in need and environmentally suited. As a minimum, bypassing of material shall meet average annual placement objectives as stated in the sediment budget (see 4) below).

- 2) Dredge interior inlet flood tidal shoal and place beach quality material on downdrift beaches.**

Sediment quality and method of transportation to spoil site must be resolved prior to application for permit.

- 3) Investigate options which include modifications to the north jetty and expansion of the sedimentation basin.**

Proposed alternatives must facilitate the continued bypassing of sand, consistent with Section 161.142, Florida Statutes.

- 4) The sediment budget in the report is adopted as an interim measure only and shall be formally validated or redefined based on a comprehensive monitoring plan by December 31, 2000.**

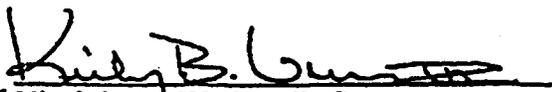
- 5) Implement a comprehensive beach and offshore monitoring program subject to the approval of the Department.
- 6) Evaluate the feasibility and need for an extension of the south jetty.

This plan is based on the supporting data contained in the study report and each action is subject to further evaluation, and subsequent authorization or denial, as part of the Department's environmental permitting and authorization process. Any action that may affect navigation associated with the inlet shall be consistent with all applicable federal requirements and subject to authorization from the U.S. Army Corps of Engineers.

It is the intent of the Department to assist in the implementation of the plan through the provision of funds granted under the Florida Beach Erosion Control Assistance Program. The Department's financial obligations shall be contingent upon sufficient legislative appropriations.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management at the St. Lucie Inlet.

APPROVED FOR ADOPTION


for Virginia B. Wetherell, Secretary
Department of Environmental Protection

7 August 95
Date



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019
January 31, 1997



REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Donald A. Wisdom, P.E.
President, Wisdom Associates, Inc.
844 E. Ocean Boulevard, Suite 3
Stuart, Florida 34994-2425

Dear Mr. Wisdom:

This is in reference to your letter dated January 7, 1997, concerning the proposed steel cantilever wall at Sailfish Point in Stuart, Florida.

Personnel from the Jacksonville District have reviewed the design criteria you provided to us in the subject letter. It is the Jacksonville District's opinion that the basis for the design of the proposed seawall structure should be made with the understanding that the structure has to be stable under the condition of the possible absence of any material within the sand spit area. The design should also be based under the assumption that, at a minimum, the currently authorized impoundment basin will be constructed and any potential impacts of basin construction on the seawall are accounted for in the design of the seawall. Further, by letter dated January 10, 1997, from the Martin County Board of County Commissioners (copy enclosed), additional conditions for obtaining a county permit would include:

"The property owners agree legally to accept responsibility to maintain the wall, hold the County, State of Florida and U.S. Army Corps of Engineers (USACE) harmless for any damage to the wall that is a direct, or indirect result of dredging and maintaining the inlet as presently designed and permitted. Also, in the event of seawall failure the property owners must pay for any cleanup or repair costs."

In addition to the county's response, the USACE recommends that:

"The property owners further agree to hold the county, state, and USACE harmless for any damage or injury to third parties resulting from construction/existence of the seawall structure. Also, the property owners agree to hold the county, state, and

WTR

USACE harmless for any damage to the wall that is a direct or indirect result of maintaining the Federal navigation project for St. Lucie Inlet as presently designated or modified per the General Reevaluation Report (GRR) prepared by the USACE.)"

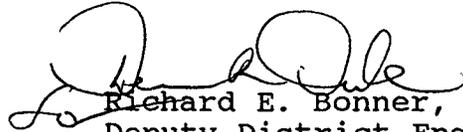
Our recommendation is based upon the following:

- The sand spit is located within the throat of St. Lucie Inlet along the southern boundary of the property owned by the citizens in question and is ephemeral in nature. Review of historical aerial photography indicates extreme variance in the size and shape of the spit with some instances when the spit did not exist and the high water line was along the south jetty alignment.
- The existing authorization for the Federal navigation project at St. Lucie Inlet includes the provision for an impoundment basin 2,500 feet long, 450 feet wide, and 14 feet deep with a required over depth of 2 feet, referenced to mean low water (mlw). The purpose of the basin would be to intercept and contain all the material moving through the north jetty with ultimate transfer to the beaches south of the inlet. Provision of a basin would also severely reduce the supply of sand which currently sustains the inlet throat spit.
- A GRR is currently being prepared by the Jacksonville District. The purpose of the report is to advance the level of engineering and recommend alternatives which would improve the navigability of the Federal channels and provide for increased transfer of littoral sands to the beaches south of the inlet. An impoundment basin would retain the sand which moves through the north jetty and would satisfy the primary objectives of the subject GRR. Both of these improvements will have an effect on the size, shape, and volume of the existing sand spit.

Given the ephemeral nature of the sand spit, the existing authorized impoundment basin dimensions, and the potential for further alteration of the basin by the GRR, it would appear prudent that the design of the proposed steel cantilever seawall would be based on the possibility of a limited or nonexistent volume of sand within the spit fronting the structure.

If you have any questions or need further information, please contact Mr. Rick McMillen, at 904-232-1231.

Sincerely,



Richard E. Bonner, P.E.
Deputy District Engineer
for Project Management

Enclosure

Copy Furnished (w/Enclosure):

Mr. Don Donaldson, 2401 SE Monterey Road, Stuart, Florida 34496

Minutes of Meeting

St. Lucie Inlet Technical Advisory Committee

December 19, 1996

The December meeting of the St. Lucie Inlet Technical Advisory Committee (TAC) was held on Thursday, December 19, 1996 at the Martin County Administration Building in Stuart, Florida.

The following were in attendance:

Don Donaldson	Martin County	561-288-5429
John Ramsey	Aubrey Consulting	508-563-5030
David Unsell	SFWMD	561-687-6888
Ed Hodgins	COE	904-232-2477
Louis Novak	COE	904-232-3096
Manuel Perez	COE	904-232-1967
Mitch Granat	COE	904-232-1839
Tom Conboy	SFWMD	561-687-6318
Ted Guy	MIA-TC	561-286-7372
Gordon Hu	SFWMD	561-687-6720
Michael Walther	Coastal Tech/Martin	561-562-8580
Mark Leadon	DEP/Beaches & Coast.Sys.	904-487-4469
Mike Kiefer	Kimley-Horn & Assoc.	561-962-7981
Kevin Bodge	Olsen Assoc.	n/a
Clay Bryant	Gahagan & Bryant	n/a

A. Additions/Deletions to the Agenda

Additions:

4. Inlet Erosion
5. COE Maintenance Dredging
6. Pares Dredging
7. Sailfish Point Update

:

B. US Army Corps of Engineers Update

Ed Hodgins states that he could not give an update on the overall status of Martin County GRR, but engineering wise the Corps has received the Wave Input for Genisis. They are proceeding on with developing the shorelines for collaboration of verification of the model. He has a really good solid 71 72 shoreline and they have their 96 shoreline. The problem they are running into is in the mid-80's. They would like to have another shoreline as part of their effort and south of the Inlet is sketchy as far as data. He requested that if

anyone has any shoreline data for the 80's , within the state park area primarily, it would be very helpful.

A Representative of Water Management commented that they are engaging in a dementric survey to establish a shoreline in that area but data may not be available to soon.

Mr. Hodgens continues to say they have a good 96 shoreline to work from. Someone asked the boundries of the line and Hodgens says they are running from R31 north of the Inlet to about R76 south of the Inlet.

Don Donaldson asked about the wave tranformations and what techniques was used. Mr. Hodgens said they used techniques similiar to Olsens. These were completed last week and they look real good. Asked when they run Genesis if they were going to break it at the Inlet, they said they would run it across first and give it a shot first time around. The wave data across the Inlet is real smooth so we will see how Genesis will handle it.

The conventional Genesis way where we just collected the wave transmission data at a sea reference line which gave us 5 1/2 meters and findings show its flat, no reversals , no local energy wise just a straight line. Mr. Hodgens concludes that testing is going fine and data is much more accurate and up to date. It is being run much better.

Don Donaldson advises group of Rick McMillans' absence to provide an update on the Economic Analysis. He asked if anyone any knowledge of this. The corp advises that results will be in by the end of January and then they need to review to see if it is up to requirements they want. He feels that it will be complete by the middle of February. Also the Genesis model will be collabrated and ready for testing by the end of January or mid February.

GRR STATUS

Don Donaldson suggests that at the next meeting they focus on GRR and provide the areas of the Inlet that should be investigated by GRR.

Don Donaldson went on to discuss that Martin County feels the Corps Inlet model project was not feasible as the County is interested in long term data performance. Also the cost factor and the time the data would take to gather.

Mr. Hodgens states for the record that the Corps is still going on with the modeling of the Inlet. By the end of the 97 year they will have a calibrated model that would include the Inlet, Estuary and a portion of the lagoon.

Ed also proposed that the committee formally write to the Corp and suggest that contingent upon what the committee finds from alternative discussion to propose moving ahead with the documents for a broad enviornmental view. He feels that if not put on record it would never happen. He noted also that the Geo-Tech data is still not available for review, and Don Donaldson should formally request this information from Doug.

Don Donaldson reported to committee that Martin County and the State are very happy with the mapping of the Inlet and the relocation to the south. The review people are very comfortable with the mapping also.

Ed Hodgens question if a draft GRR document is needed and is told he could ask for a consultation. Also discussed was a conceptual design contingent upon the alternatives: Don Donaldson asks that the committee work together on the phrasing of the scope session. Draft GRR document target date is for the end of June.

MARTIN COUNTY FLOOD SHOAL UPDATE

Don Donaldson reported to Committee that Martin County has a completed application. Florida Inland Navigation District has contracted with T.L. James to remove flood shoal and dredge the crossroads of the coastal waterway for a total of 580,000 cubic yards. Work will begin in January. The county also has discussed with Florida Inland Navigation that we will amend their project for us for our project either by a change order or amendment to the project. The county will enter into a interlocal agreement to pay for additional work.

RANK MOST IMPORTANT INLET FEATURES FOR GRR STUDY

Don Donaldson reports that the Countys' disposal area is from the Inlet Jetty south to the outer limits of Jupiter Island.

Don was asked the progress of the necessary permits from DEP. He informed the committee that they are waiting for a Notice of Intent. Once that is in motion this will enable the Corp to finish their project. Permits should be in place by the end of January providing no obstacles.

Don Donaldson reports that the setback is that no property is owned on the north side of inlet so it would have to be done by condination or build it out in the water somewhere. Options are a fixed plant, sedimentation basin and transferring conventionally or with the Panes.

Options listed by committee:

- 1A. North Jetty and Basin combined together for sand efficiency.
- 1B. Sand disposal option
2. Navigation Channel
 - a. deepening and widening
 - b. relocation
 - c. breakwater fixed trans pro plant

SAILFISH POINT UPDATE

Don points out the the County does not have the right of way only a easement so the homeowners do have rights to do the seawall. This still has to be presented to the commission. Both the Corp and the County's main concern is that the wall is built structually sound and strong so not to collapse into inlet. Also the Corp expects the homeowners to be completely responsible for the seawall and they offer no objection to the federal, state or county plans for the Inlet improvement in this area.

INLET EROSION

Photos taken by a citizen named Woodruff who frequents the Inlet shows about 60 feet at the end of the spoil area into the channel eroding. The channel has moved due to shoaling. This was last dredged in 1992.

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

PETER L. CHENEY - COUNTY ADMINISTRATOR

PHONE (561) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

ce971.020

January 10, 1996

Mr. Richard Bonner, P.E.
Deputy District Engineer for Project Management
US Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: St. Lucie Inlet North Jetty - Sailfish Point Proposed Seawall

Dear Mr. Bonner:

Martin County has received a request to build a 1,355 feet seawall within the County's 50 foot North Jetty easement. The proposed seawall is to be located on the waterward side of the rock jetty. Also, rock from the jetty is to be used to create a revetment (see Attached Plans).

The property owners are concerned that their property is eroding rapidly and they feel immediate action is necessary to correct the problem. Based upon a report by the Florida Department of Environmental Protection and visual observations, it appears that eroding spit of land is the result of dredging the Inlet and Impoundment basin and the trapping of sand by the Mobile groin (built by the developer). Notwithstanding the causes, the spit is eroding back to the Jetty and some of the properties are exposed to damage from extreme events.

Should the property owners revise the seawall location to the landward side of the jetty, the Coastal Engineer would recommend the immediate issuance of a County permit. Given the present proposed location of the seawall the County's Coastal Engineer has stated that a County permit is dependent upon the following:

- Martin County Department of Growth Management must determine that the proposed shoreline hardening is consistent with the County's Growth Management Plan.
- The property owners agree legally to accept responsibility to maintain the wall, hold the County, State of Florida and US Army Corps of Engineers (USACE) harmless for any damage to the wall that is a direct, or indirect result of dredging and maintaining the Inlet as presently designed and permitted. Also, in the event of seawall failure the property owners must pay for any cleanup or repair costs.

- The US Army Corps of Engineers approves the project (i.e., its construction will not jeopardize the continued involvement of the Federal Government or the completion of the St. Lucie Inlet General Reevaluation Report).
- The State of Florida agrees that an approval is possible.
- The seawall is designed and constructed to account for toe scour and wave conditions that are indicative of the present USACE design and permitted conditions (i.e., the seawall or revetment should not fail or contribute debris into the channel or impoundment basin when a storm hits the Inlet after a dredging event).

Martin County attorneys are investigating the best instrument for authorization to construct the seawall within the County's easement. The County would appreciate any involvement by the USACE legal staff that you feel is appropriate.

The State of Florida has received an application for the seawall. Bob Brantley, FDEP staff, has stated that they have written a letter indicating that the State could permit a wall to protect the homes but has not guaranteed the location.

Martin County told the homeowners representative, Don Wisdom, that a conservative design criteria would be to design the seawall as if the berm in front of the wall is equal to the impoundment basin design elevation or the existing top of rock, whichever is less. If this design is not acceptable, the homeowners are responsible to present an alternative design with justification.

An alternative design is what the homeowners consultant has presented. The County does feel a properly designed seawall, at the proposed location, could benefit the adjacent property owners and not impact the Federal project. The question is, what are the parameters that should govern its design without unduly burdening the property owners with excessive construction costs.

Please assist the County by reviewing the attached plans and help evaluate or quantify;

1. the acceptable berm elevation on the waterward side of the seawall and at the toe of the armor layer, (where proposed);
2. the length of the revetment, (Should the western terminus of the revetment end at the western terminus of the Impoundment basin?)
3. the return section design at the eastern seawall terminus.

Proper design criteria are directly related to how the USACE maintains the Inlet and Impoundment Basin in the absence of a GRR. Federal participation for maintaining and improving St. Lucie Inlet is very important to Martin County. The County will not grant any permits for construction within the Federal project without confirmation from the USACE.

improving St. Lucie Inlet is very important to Martin County. The County will not grant any permits for construction within the Federal project without confirmation from the USACE.

We would like to discuss this project in greater detail at your earliest convenience. If you have any questions, please contact Don Donaldson at (561) 562-8580.

Very truly yours,

A handwritten signature in black ink, appearing to read 'D.G. Donaldson', with a long horizontal flourish extending to the right.

Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm

enclosures

cc: Randall Reid, Acting County Administrator w/o
Bob Guthrie, County Attorney w/o
Mike Sinkey, Building Department Director w/
Hugo Carter, Growth Management w/
Rick Mc Millen, USACE w/
Bob Brantley, FDEP w/
Don Wisdom, Wisdom Assoc, Inc. w/o

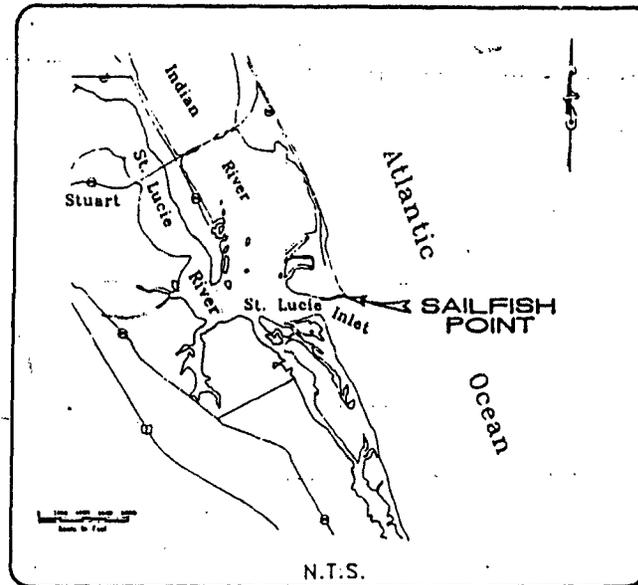
ST. LUCIE INLET SHORELINE STABILIZATION at SAILFISH POINT STUART, FLORIDA FOR MASTERCRAFT HOMES AT THE POINT

GENERAL NOTES:

1. The work consists of furnishing all labor, equipment, and materials and performing all operations in connection with construction of a steel sheet pile cantilever wall with concrete cap as shown on these drawings and as specified in the contract documents.
2. All work shall conform to the plans and project description approved by the State of Florida Department of Environmental Protection and any other required permits. The Contractor who performs the work shall post on the job site all permit placards and the Contractor shall comply with all terms of permits as pertaining to the performance of the work.
3. Prior to construction, the Contractor shall meet with the Engineer, (pre-construction meeting) to verify construction access locations, design details and methods of construction.
4. Existing features from a specific purpose survey titled "Mastercraft Homes at the Point" by Richard W. Bussell, Inc., dated 11/11/96
5. The proposed wall is designed with a berm of elevation +1.0 N.G.V.D. with the rock revetment and 0.0 N.G.V.D. without the rock revetment. In the event that erosion lowers the berm or the rock below elevation +2.0 N.G.V.D., additional rock should be placed at the toe to stabilize the berm of the design berm elevation or above.
6. The location and cap elevation of the proposed wall are prescribed to allow for drainage of the upland and meet the the Owner's objectives for aesthetics. In the event of extreme tidal surge and/or waves from the southeast, overtopping of the wall may occur.

INDEX OF SHEETS

Sheet No.	Description
1.....	COVER SHEET
2.....	PLAN VIEW
3.....	CROSS-SECTIONS
4.....	CROSS-SECTIONS
5.....	CONSTRUCTION DETAILS & NOTES



LOCATION MAP



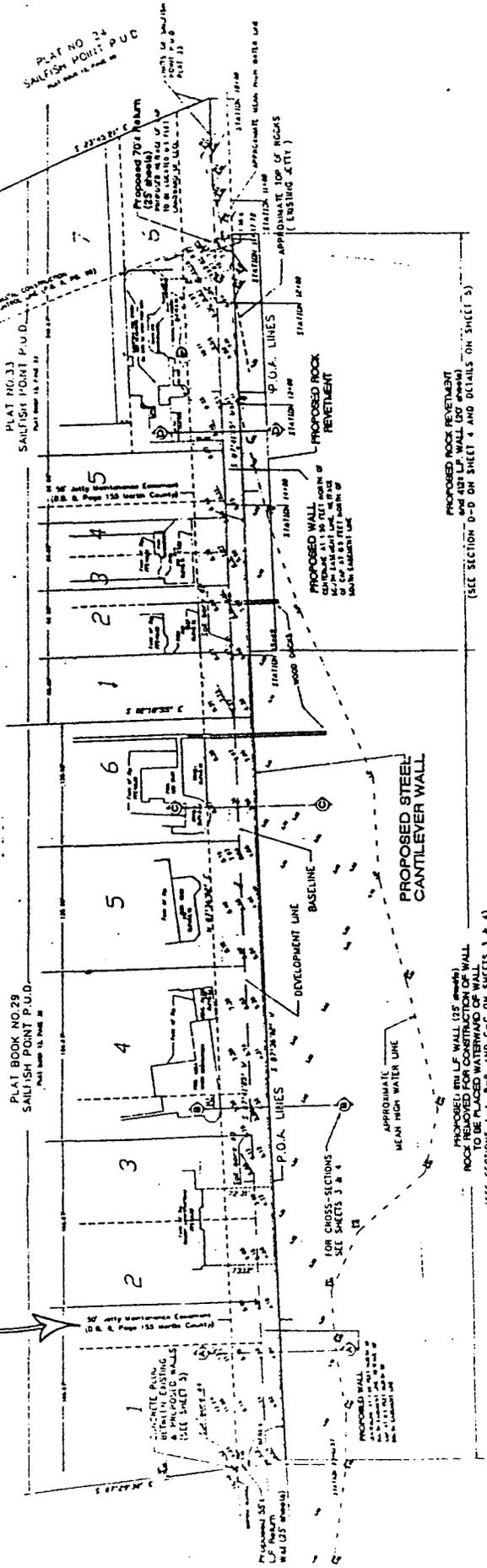
COASTAL TECH

COASTAL TECHNOLOGY CORPORATION

COASTAL, ENVIRONMENTAL, CIVIL
ENGINEERING AND PLANNING

3625 20TH STREET, VERO BEACH, FLORIDA 32960 (407) 582-0500
1234 AIRPORT ROAD, SUITE 104, DESTIN, FLORIDA (904) 850-1889

CONSTRUCTION ACCESS



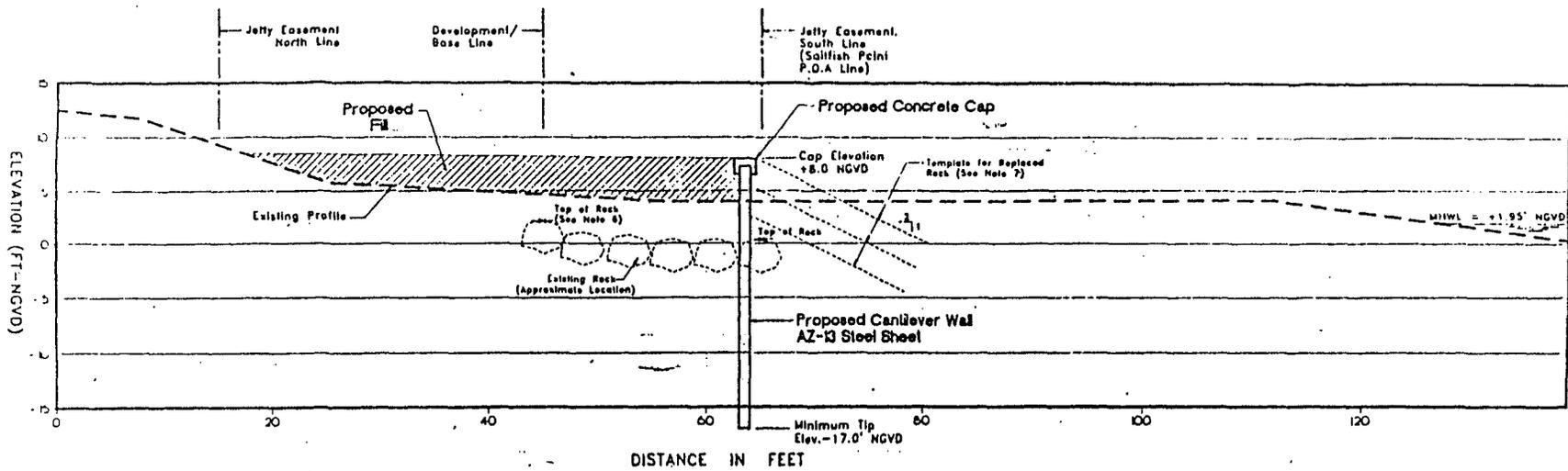
ST. LUCIE INLET

NOTE: ALL DIMENSIONS AND EXISTING SITE FEATURES FROM A SURVEY BY RICHARD W. BUSSELL, INC. DATED 12-18-88, 11, 1988.

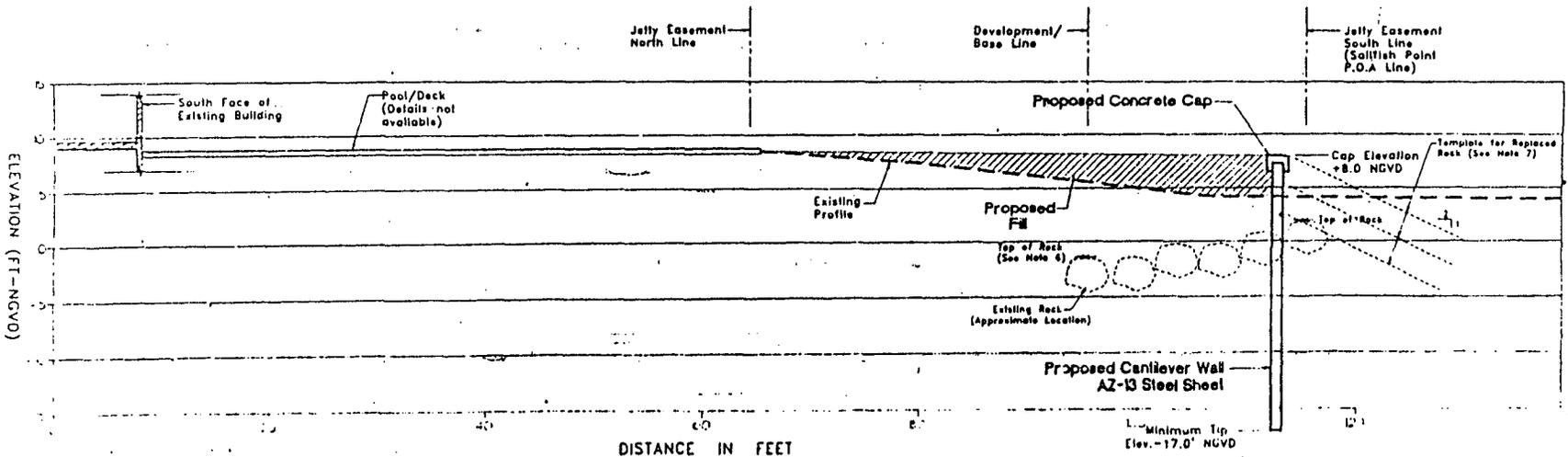
Scale
1" = 100'

STATION	DEPTH FROM MEAN HIGH WATER	STATION	DEPTH FROM MEAN HIGH WATER
1+00	-1.0' - TOP OF ROCK	10+00	-1.0' - TOP OF ROCK
1+10	-1.0' - TOP OF ROCK	10+10	-1.0' - TOP OF ROCK
1+20	-1.0' - TOP OF ROCK	10+20	-1.0' - TOP OF ROCK
1+30	-1.0' - TOP OF ROCK	10+30	-1.0' - TOP OF ROCK
1+40	-1.0' - TOP OF ROCK	10+40	-1.0' - TOP OF ROCK
1+50	-1.0' - TOP OF ROCK	10+50	-1.0' - TOP OF ROCK
2+00	-1.0' - TOP OF ROCK	10+60	-1.0' - TOP OF ROCK
2+10	-1.0' - TOP OF ROCK	10+70	-1.0' - TOP OF ROCK
2+20	-1.0' - TOP OF ROCK	10+80	-1.0' - TOP OF ROCK
2+30	-1.0' - TOP OF ROCK	10+90	-1.0' - TOP OF ROCK
2+40	-1.0' - TOP OF ROCK	11+00	-1.0' - TOP OF ROCK
2+50	-1.0' - TOP OF ROCK		
3+00	-1.0' - TOP OF ROCK		
3+10	-1.0' - TOP OF ROCK		
3+20	-1.0' - TOP OF ROCK		
3+30	-1.0' - TOP OF ROCK		
3+40	-1.0' - TOP OF ROCK		
3+50	-1.0' - TOP OF ROCK		
4+00	-1.0' - TOP OF ROCK		
4+10	-1.0' - TOP OF ROCK		
4+20	-1.0' - TOP OF ROCK		
4+30	-1.0' - TOP OF ROCK		
4+40	-1.0' - TOP OF ROCK		
4+50	-1.0' - TOP OF ROCK		
5+00	-1.0' - TOP OF ROCK		
5+10	-1.0' - TOP OF ROCK		
5+20	-1.0' - TOP OF ROCK		
5+30	-1.0' - TOP OF ROCK		
5+40	-1.0' - TOP OF ROCK		
5+50	-1.0' - TOP OF ROCK		
6+00	-1.0' - TOP OF ROCK		
6+10	-1.0' - TOP OF ROCK		
6+20	-1.0' - TOP OF ROCK		
6+30	-1.0' - TOP OF ROCK		
6+40	-1.0' - TOP OF ROCK		
6+50	-1.0' - TOP OF ROCK		
7+00	-1.0' - TOP OF ROCK		
7+10	-1.0' - TOP OF ROCK		
7+20	-1.0' - TOP OF ROCK		
7+30	-1.0' - TOP OF ROCK		
7+40	-1.0' - TOP OF ROCK		
7+50	-1.0' - TOP OF ROCK		
8+00	-1.0' - TOP OF ROCK		
8+10	-1.0' - TOP OF ROCK		
8+20	-1.0' - TOP OF ROCK		
8+30	-1.0' - TOP OF ROCK		
8+40	-1.0' - TOP OF ROCK		
8+50	-1.0' - TOP OF ROCK		
9+00	-1.0' - TOP OF ROCK		
9+10	-1.0' - TOP OF ROCK		
9+20	-1.0' - TOP OF ROCK		
9+30	-1.0' - TOP OF ROCK		
9+40	-1.0' - TOP OF ROCK		
9+50	-1.0' - TOP OF ROCK		
10+00	-1.0' - TOP OF ROCK		
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10+50	-1.0' - TOP OF ROCK		
11+00	-1.0' - TOP OF ROCK		

JAN 01 1991



Section A-A



Section B-B

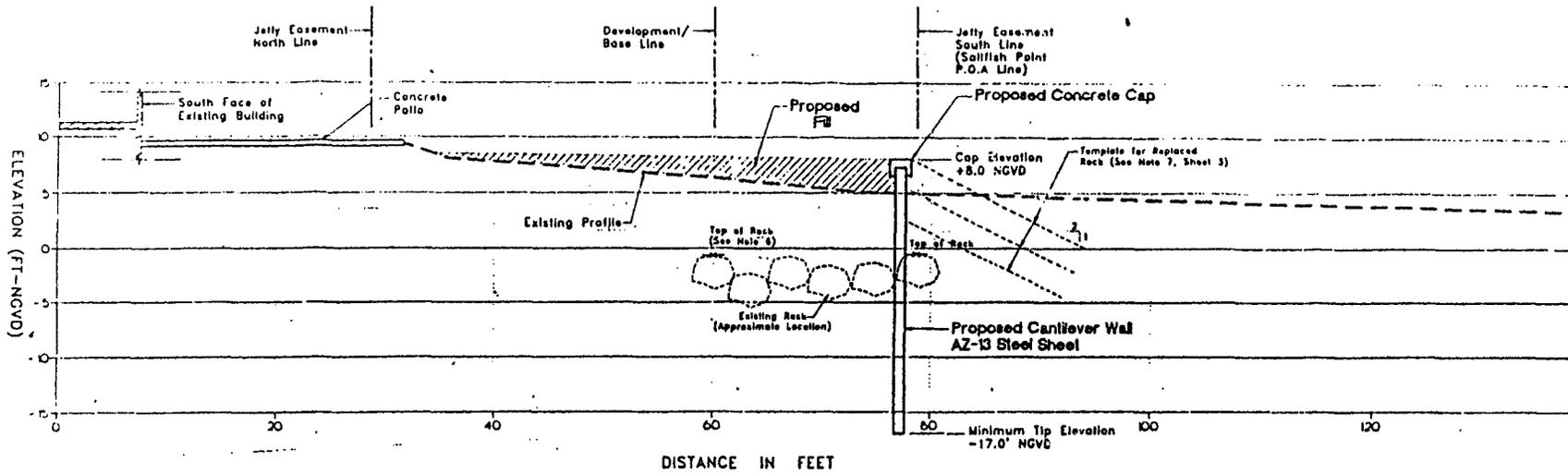
NOTES

1. FOR STEEL SHEET PILE CONCRETE CAP DETAILS AND PILING SPECIFICATIONS SEE SHEET 3.
2. ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM (NGVD).
3. PROFILES TAKEN FROM SURVEY BY RICHARD W. BUSSELL, INC., CIVIL ENGINEER, 1946.
4. WALL ELEVATIONS FROM "PREDICTED OPEN COAST TIDAL DATUMS FOR FLORIDA'S EAST COAST" (1987).
5. SURVEY DATA BELOW ELEVATION +4.0 WAS EXTRAPOLATED ON SECTION B-B (SEE SHEET 4).
6. APPROXIMATE LOCATIONS OF EXISTING ROCK BASED ON PROFILES INDICATED AS "R". EXISTING ROCK SHALL BE REMOVED AND REPLACED AS NECESSARY FOR CONSTRUCTION OF WALL AND REVELMENT. ANY ROCK REMOVED SHALL BE PLACED WATERWARD OF THE WALL.
7. FROM WEST RETURN WALL TO APPROXIMATE STATION 15+48, ANY ROCK REMOVED FOR WALL CONSTRUCTION SHALL BE PLACED IN TWO LAYERS BEGINNING IMMEDIATELY SEAWARD OF THE WALL AND PLACED WITHIN THE TEMPLATE AS SHOWN IN SECTIONS A-A, B-B, AND C-C.

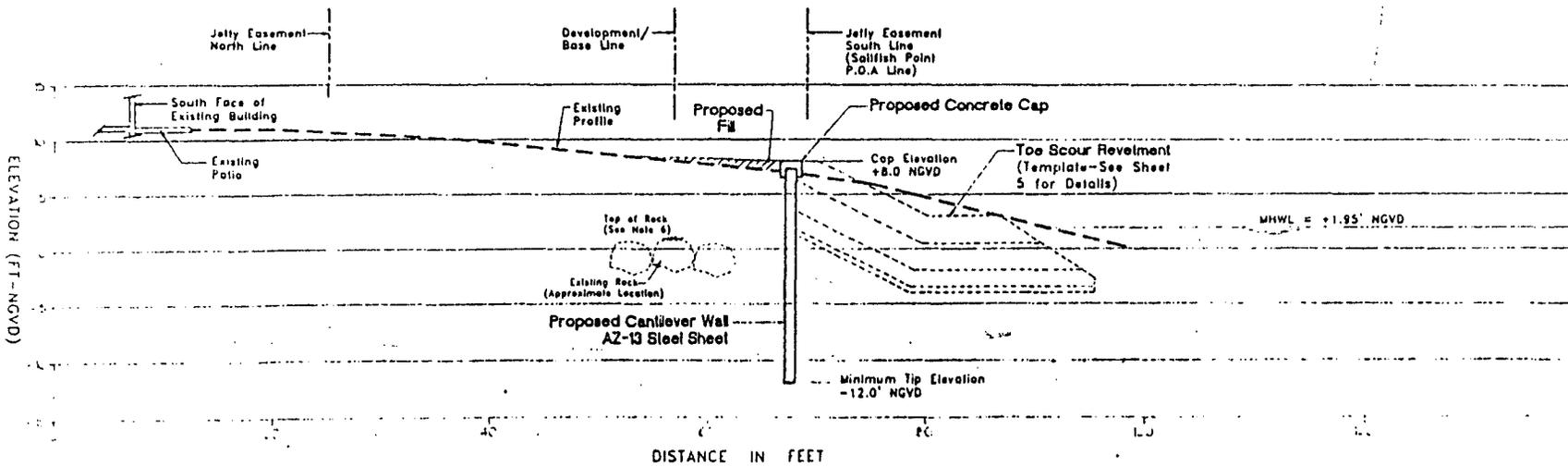
JAN 07 2007

COASTAL TECH
COASTAL ENGINEERING, P.A. ENGINEERING AND PLANNING
3425 SOUTH STREET, WOODBRIDGE, VA 22191

St Lucie Inlet - Shoreline Stabilization
 Saltfish Point
 CROSS-SECTIONS

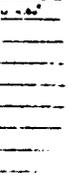


Section C-C



Section D-D

SEE SHEETS 3 AND 5 FOR NOTES

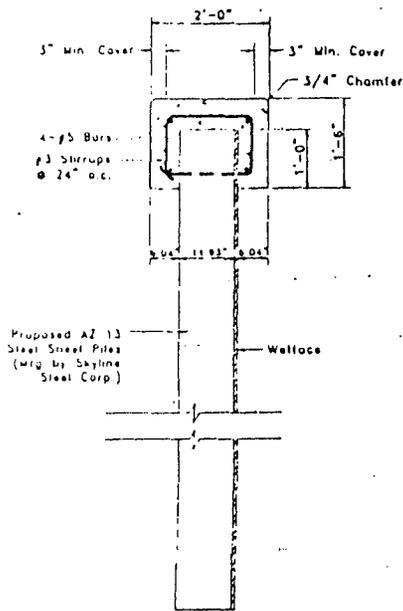


COASTAL TECH

St Lucie Inlet - Shoreline Stabilization
Salifish Point

CROSS-SECTION

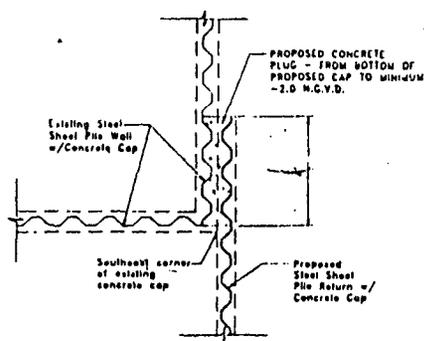
DATE	BY
11/11/10	...
11/11/10	...
11/11/10	...
11/11/10	...



Concrete Cap Detail

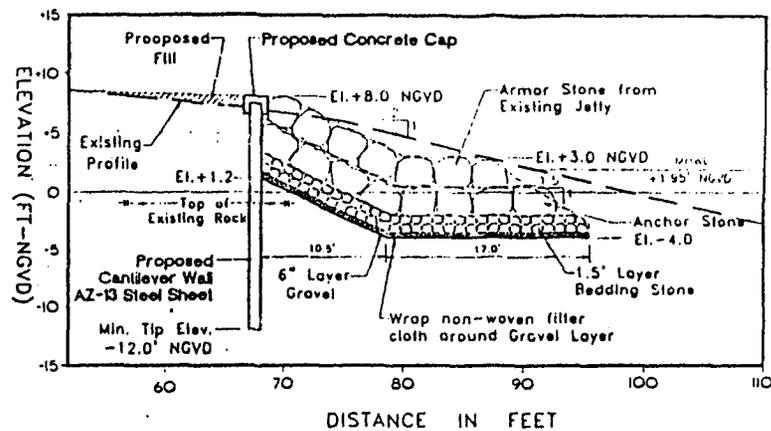
(For AZ-13 Steel Piles)

SCALE: 1" = 1'



Concrete Plug Detail

N.T.S.



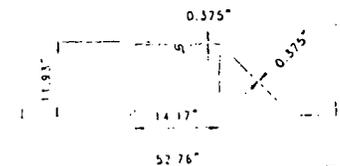
Toe Scour Revetment Detail

Construction Notes

- Elevations refer to National Geodetic Vertical Datum (N.G.V.D.)
- Any fill brought onto the site for backfilling the wall shall be clean sand free of silt, organics and debris. All fill shall be obtained from a source landward of the Coastal Construction Control Line.
- Location of the wall shall be staked by the Contractor and approved by the Engineer. The wellface of the cap shall be located no less than 0.5 feet north of the south line of the jetty easement and no less than 0.5 feet landward of the Coastal Construction Control Line.
- Sheet piles shall be AZ-13 steel sheet piles as distributed by Skyline Steel Corporation or equal as approved by the Engineer. The AZ 13 steel piles shall be a minimum grade 36 (36 ksi) steel.
- Steel sheet piles shall be driven to the minimum tip elevation as shown on the plans (see sheet 3) unless otherwise approved by the Engineer.
- Corner piles shall be AZ Corner Sections or fabricated piles as recommended Skyline by Steel Corporation and as approved by the Engineer.
- The wellface of the piles shall be cleaned and sandblasted to a commercial grey condition and then coated with two coats of coal tar epoxy (yielding a total maximum coating thickness of 16 mils-Koppers 300M or equal as approved by the Engineer) from the bottom of the cap to elevation -2.0. Sandblasted surfaces shall be coated on the same day.
- Concrete for the cap shall have a minimum compressive strength of 4500 psi in 28 days and shall have a maximum water/cement ratio of 0.45 lbs/lb and a maximum cement factor of 658 lbs/cy of concrete. A minimum cover of three (3) inches of concrete shall be maintained over all reinforcement in the cap.
- All reinforcing steel shall be grade 36 (36 ksi) steel, have a minimum cover of 3" and be placed according to ACI and Southern Standard Building Codes.
- Up to 50% of the steel reinforcement in the cap may be lapped; laps of #5 reinforcing bars shall be a minimum of 32". Any other laps shall be subject to approval by the Engineer.
- The Contractor shall make whatever provisions that are necessary to protect the existing structures from damage during construction. Any damage to the structures which may occur due to the Contractor's activities shall be repaired by the Contractor at no cost to the Owner.

Toe Scour Revetment Notes

- Existing beach material excavated for construction of the toe scour revetment shall be stockpiled by the Contractor on the site seaward of the revetment and upland of the high water line. This material shall be placed by the Contractor over the completed revetment with additional fill as necessary to meet the finished grades as shown on these plans.
- Filter cloth shall be placed along the bottom of the rock toe scour revetment. Filter cloth shall be "TerraTex" non-woven filter cloth manufactured by Wabtec, Inc., Charlotte, N.C., or equal as approved by the Engineer. All seams shall be field sewn or as otherwise approved by the Engineer.
- Toe scour revetment armor stone shall be existing jetty rock to be excavated by the Contractor and placed within the revetment armor layer as shown. Head sized stone for bedding layer shall be 9" to 12" coquina or granite angular rock or as otherwise approved by the Engineer. Filter bed gravel shall be 3/4" washed rock or as otherwise approved by the Engineer.
- All stone shall be placed by clamshell bucket-stone grab or by some other method approved by the Engineer. The stones shall be placed in such a manner that they will be properly interlocked with the underlying or adjacent stone to resist displacement by wave action and form a uniform and compact section. Each stone shall be firmly set and well supported by underlying and adjacent stone. Within 5 feet of the wall, head sized rock and "chink" rock shall be placed within the interstices of armor stones; no head sized or "smaller" stones may be free on the surface of the toe scour revetment.
- Any fill material brought onto the site for placement over the toe scour revetment and upland of the sheet piles shall be compatible with existing on-site beach material in both grain size and color. If, such fill material shall be obtained from a source landward of the Coastal Construction Control Line and shall be free of silt, clay, organics and debris. Fill placed landward of the bulkhead shall be placed in 1 foot lifts and compacted to 98 percent capacity.



AZ 13 Steel Sheet Pile Detail

N.T.S.

COASTAL TECH

ST Lucie Inlet Jetty Stabilization
Settling Point

DATE: 1/27/21
BY: J.P. [unclear]
CHECKED: [unclear]
SCALE: AS SHOWN
SHEET NO: 50 OF 51

019 Ric M.

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

PETER L. CHENEY - COUNTY ADMINISTRATOR

PHONE (407) 288-5400

COUNTY OF MARTIN**STATE OF FLORIDA**

ce971.003

October 10, 1996

Mr. Richard Bonner, P.E.
Deputy District Engineer for Project Management
US Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: St. Lucie Inlet Management Plan
Implementation of Sand Transfer Element

Dear Mr. Bonner:

Martin County has submitted to the Department of Environmental Protection (DEP) a *"Joint Application for Joint Coastal Permit/Authorization To Use Sovereign Submerged Lands/Federal Dredge and Fill Permit"* for sand transfer from St. Lucie Inlet to the beached of Jupiter Island. Attached for your review, is a copy of the permit application.

As prescribed by the St. Lucie Inlet Management Plan, the proposed project entails transfer of beach compatible sand over the next 25 years by Martin County from the following borrow areas: (1) the flood shoal; (2) the sedimentation basin; and, (3) the navigation channel. Sand will be transferred to fill placement areas in Jupiter Island between the Inlet's South Jetty and the south limits of the Town of Jupiter Island beach nourishment project (about 220" north of R-117). Sand will be transferred by Martin County and, in cooperation with maintenance dredging activities by the U.S. Army Corps of Engineers in Florida Inland Navigation District.

The initial project entails transfer of 400,000 cubic yards of sand from the flood shoal - with fill placement from DNR monument R-65A to one thousand feet north of R-76. This area is between the currently proposed fill areas for the FIND M-5 project and OWW project. Future projects may include dredging within the Federal project in the event circumstances arise that make it more advantageous for the County to perform the work.

Please review the enclosed information and contact me to coordinate a meeting between the County and the USACOE regarding sand transfer activities. If you have any questions, please contact me or Michael Walther, P.E. at (561) 562-8580.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Don G. Donaldson', with a long horizontal line extending to the right.

Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm

cc: Rick Mc Millen, USACOE
Michael Walther, Project Manager - Coastal Tech
Peter L. Cheney, County Administrator

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

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PETER L. CHENEY – COUNTY ADMINISTRATOR

PHONE (407) 288-5400

COUNTY OF MARTIN
ce96l.018



STATE OF FLORIDA

August 20, 1996

Mr. Richard Bonner, P.E.
Deputy District Engineer for Project Management
Department of the Army
U.S. Army Engineer District, Jacksonville
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: St. Lucie Inlet General Re-evaluation Report

Dear Mr. Bonner:

The Martin County St. Lucie Inlet Technical Advisory Committee has been meeting regularly to discuss projects related to the St. Lucie Inlet. Of particular interest is the U.S. Army Corps of Engineers General Re-evaluation Report, which is to study possible modifications to the Inlet to improve navigation and maintenance.

COE staff has apprised the Committee that the Jacksonville District is considering to include modeling of the Inlet as part of the GRR Study. The stated approach is to use a combined physical and numerical model scheme that is similar to the COE study now being completed for Ponce Inlet. The Ponce Inlet Study has not been released to the SLITAC for review but, has been presented as providing valuable project design information.

The St. Lucie Inlet Technical Advisory Committee was first asked to consider the benefits of a model study at its meeting on May 15, 1996. At this meeting the Committee felt the benefits of a model may not warrant the time and expense for its completion. The GRR is currently scheduled to be completed in time to be included within the 1998 Water Resources Development Act (WRDA). If the 1998 WRDA is missed, the County will have to wait until the year 2000 to obtain funding for the GRR recommended project. Committee members did not make a decision regarding a model study at this meeting because it was felt a review of the Ponce Study and consideration of the potential benefits was necessary.

At the SLITAC meeting held on July 18, 1996, the Committee again discussed the benefits of conducting a model study. This time the Committee divided the debate regarding the benefits of physical and numerical modeling. In regard to a physical model study, the SLITAC voted unanimously to request the COE not perform any physical model studies. The time and expense to conduct a physical model study will not provide any significant benefits and will only serve to delay the GRR final report.

Page 2
ce96l.018
August 20, 1996

In regard to a numerical study, the Committee does consider there are potential benefits. However, the GRR should not be predicated on the successful completion of the model. The numerical model should be performed on a parallel track with the ongoing GRR and, if successful, could be added as an Appendix. Also, the numerical model should be designed so that it can be updated with a monitoring program so future maintenance procedures can be optimized.

Martin County, as the Local Sponsor, and the SLITAC feels a meeting at the District offices is necessary to further define a numerical model study. The purpose of the meeting is to determine the numerical modeling method and reporting procedures that will benefit the GRR and the management goals of the local sponsor. Martin County and the SLITAC are anxious to keep the GRR on schedule and are willing to meet with you and your staff at your earliest convenience.

In summary:

1. The USACOE is requested to not perform any physical model studies in connection with the St. Lucie Inlet GRR.
2. A meeting is requested to discuss the potential for a numerical model study in connection with the St. Lucie Inlet GRR.

Please contact this office with suitable dates for the meeting. If you have any questions or comments please give us a call.

Very truly yours,



Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm

cc: Randall H. Reid, Acting County Administrator
Martin County Board of County Commissioners
Russell Simpson, Mayor, Town of Jupiter Island
Jim Spurgeon, Town Manager, Town of Jupiter Island
St. Lucie Inlet Technical Advisory Committee

22 R. D. M

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

B

PETER L. CHENEY - COUNTY ADMINISTRATOR

PHONE (407) 288-5400

COUNTY OF MARTIN
ce96l.014



STATE OF FLORIDA

July 26, 1996

Mr. Richard Bonner, P.E.
Deputy District Engineer for Project Management
Department of the Army
U.S. Army Engineer District, Jacksonville
P.O. Box 4970
Jacksonville, FL 32232-0019

RE: St. Lucie Inlet - Sand Transfer

Dear Mr. Bonner:

This letter is to request a meeting with USACE and FIND staff in Jacksonville regarding sand transfer at St. Lucie Inlet and associated permitting activities. We request that this meeting occur next week or otherwise as soon as possible.

As you are aware, as the local sponsor of the St. Lucie Inlet navigation project, Martin County has developed the St. Lucie Inlet Management Plan. This plan has been adopted by the State of Florida and the 1996 State Legislature appropriated funds for initial implementation of the plan. Transfer of sand from the inlet flood shoal to Jupiter Island is the primary feature now being pursued by Martin County, this feature is currently a non-federal responsibility. In keeping with Congressional authorization of the federal navigation project, it is our understanding that the Jacksonville District is currently seeking State permits for beach and nearshore disposal of sand obtained from maintenance dredging activities.

We share a common interest for disposing of dredge spoil on beaches south of the Inlet in the most beneficial and cost efficient manner. To facilitate and optimize our collective efforts we propose the following agenda for our meeting:

1. Introduction and meeting objectives - Don Donaldson
2. USACE maintenance dredging, sand transfer and State permitting activities - USACE Staff
3. FIND maintenance dredging, sand transfer and State permitting activities - FIND Staff
4. Martin County sand transfer and State permitting activities - Don Donaldson
5. Discussion of potential collaborative efforts and future coordination - All
6. Survey, geotechnical, and environmental data sharing - Don Donaldson

Page 2
ce96l.014
July 26, 1996

By copies of this letter, we are herein requesting participation by FIND representatives. Based on our understanding of District activities, we request that Rick McMillen, Diane Bisher and Don Fore of the District attend the meeting with you.

Please contact my office to finalize the agenda and establish a date for our meeting. If you have any questions, please contact me at (561) 288-5429.

Very truly yours,

A handwritten signature in black ink, appearing to read "Don G. Donaldson", with a long horizontal flourish extending to the right.

Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm
cc: Randall H. Reid, Acting County Administrator
David Roach - FIND
Dr. Bruce Taylor, Taylor Engineering Inc.



COASTAL TECH

COASTAL TECHNOLOGY CORPORATION

COASTAL • ENVIRONMENTAL • CIVIL • ENGINEERING AND PLANNING

3625 20TH STREET, VERO BEACH, FLORIDA 32960 • (407) 562-8580

79900

July 11, 1996

Mr. Rick McMillen
U.S. ARMY CORPS OF ENGINEERS
Project Management Branch
P.O. Box 4970
Jacksonville, FL 32232-0019

**RE: ST. LUCIE INLET MANAGEMENT PLAN
SAND TRANSFER ELEMENT IMPLEMENTATION**

Dear Mr. McMillen:

The purpose of this letter is to submit a copy of the Conceptual Design Report for Implementation of the Sand Transfer element of the St. Lucie Inlet Management Plan (SLIMP) for your review. Coastal Tech is working for Martin County towards obtainment of permits for transfer of sand from the St. Lucie Inlet flood shoal. We are scheduled to present the conceptual design for sand transfer and an update of the flood shoal investigations at the St. Lucie Inlet Technical Advisory Committee Meeting planned for July 18. We look forward to any comments or suggestions that you may provide at that meeting.

If you have any questions, please contact me or Michael Walther.

Sincerely,

COASTAL TECH

Peter J. Elkan, M.S.

Project Engineer

Attachment

cc: Michael P. Walther, P.E.

Conceptual Design Report

**St Lucie Inlet Management Plan
Sand Transfer Element Implementation**

for

Martin County

by



COASTAL TECHNOLOGY CORPORATION

July 8, 1996

I. AUTHORIZATION

Preparation of this document is authorized by contract dated June 7, 1996 between Martin County and Coastal Technology Corporation (Coastal Tech). The authorized work generally encompasses surveys, geotechnical investigations, historical resource investigations, design, and obtainment of permits for transfer of sand from the St. Lucie Inlet flood shoal and from maintenance dredging of the inlet channel to the beaches of Jupiter Island.

II. INTRODUCTION

On August 7, 1995, the State of Florida Department of Environmental Protection (DEP) adopted the St. Lucie Inlet Management Plan (SLIMP). The Plan identifies improvements for efficient maintenance of the inlet and improvements for sand transfer to offset the impact of the inlet upon the adjacent beaches. Most improvements affect the St. Lucie Inlet Navigation Project - a Federal navigation project maintained by the U.S. Army Corps of Engineers (USACE). The USACE will evaluate the feasibility of improvements with Federal cost-sharing for implementation within the next five years. DEP permits are required for all improvements. State funding exists for implementation of the Plan. Martin County and the DEP are partners in Plan implementation. The USACE is currently performing a GRR study to evaluate the need for navigation improvements. This document presents a conceptual design for implementation of the sand transfer element of the SLIMP.

III. OBJECTIVE

The objective is to transfer sand to the beaches of Jupiter Island. The targeted sources of sand are: (1) approximately 2.5 million cubic yards of beach compatible sand within the interior flood shoal of the inlet and (2) beach compatible material from USACE maintenance dredging of the navigation channel and sedimentation basin. The sand in the flood shoal has been trapped at the inlet and deprived from downdrift beaches at Jupiter Island. The project approach is to develop an overall program of sand transfer and obtain a 25 year DEP/USACE permit to nourish the beaches at Jupiter Island with sand obtained from dredging of the interior flood shoal and channel. The permit is intended to allow for sand placement within the fill areas - where and when fill is needed - based on monitoring surveys. The program will supplement beach nourishment efforts by the Town of Jupiter Island.

IV. EXISTING SEDIMENT BUDGET

To determine the net deficit of sand attributable to the inlet, it is necessary to identify an existing sediment budget surrounding the inlet. The conceptual design presented herein is based on the conceptual sediment budget presented in the St. Lucie Inlet Management Plan (Applied Technology & Management, 1995); see Figure 1a. This sediment budget is based on conditions during the period of 1980 to 1990. The following describes the features of this sediment budget.

1) Net Longshore Transport at Inlet: Based on USACE drift estimates (the source is not clearly defined in the SLIMP), a net southerly longshore transport rate of 209,000 cy/yr exists at "Bathtub Beach" at the north end of Sailfish Point. Based on surveys during the period of 1980-1990, the SLIMP reports an estimated rate of shoreline erosion at Sailfish Point of 21,000 cy/yr. Olsen Associates, Inc.(1996) comparably report a shoreline erosion rate from 1982-93 to be 22,000 cy/yr. The net south longshore transport at the north side of the inlet is then estimated at 230,000 cy/yr.

2) Sailfish Point Channel: Of the 230,000 cy/yr of net southerly transport to the north side of the inlet, about 43,000 cy/yr are estimated to pass through the north jetty and deposit in the navigation channel to the Sailfish Point marina. Maintenance dredging is performed by local interests at Sailfish Point along the banks of the channel at the control structure, and along the channel to the marina. Based on dredging records from 1984 to 1991, the SLIMP reports that about 43,000 cy/yr of beach compatible material are obtained from maintenance dredging of the marina and channel at Sailfish Point. Olsen Associates, Inc.(1996) report a significantly lower volume of material - on the order of 15,000 cy/yr - is actually dredged from the Sailfish Point channel and marina.

3) Ebb Shoal: Of the 230,000 cy/yr of net southerly transport to the north side of the inlet, about 30,000 cy/yr deposit on the ebb shoal, but 18,000 cy/yr are removed by maintenance dredging of the USACE channel. The net sedimentation rate of the ebb shoal is estimated to be 12,000 cy/yr. Of this 12,000 cy, 2,000 cy are expected to migrate from the beach south of the inlet. The shoal calculations cited in the SLIMP are based on a limited ebb shoal area where historic bathymetric survey data is available - the entire ebb shoal was not evaluated. The surveys compared within the SLIMP are for 1967 and 1990. Navigation improvements - including the breakwater - were constructed from 1982 to 1984; it is likely that these improvements have altered the sedimentation rate of the ebb shoal.

4) Flood Shoal: Of the 230,000 cy/yr of net southerly transport to the north side of the inlet, about 39,000 cy/yr deposit on the flood shoal. Sedimentation rates of 7,000 cy/yr in the unvegetated and 32,000 cy/yr in the vegetated areas of the flood shoal are presented in the SLIMP. The sedimentation rate in the unvegetated area was estimated based upon a comparison of bathymetric surveys from 1967 to 1990 and does not reflect the changes due to navigation improvements constructed from 1982 to 1984. The sedimentation rate within the vegetated area is based on an assumed seagrass trapping efficiency and an estimate of annual growth rate determined from aerial photographs dated from 1986 to 1989.

7) USACE Navigation Channel and Sediment Trap Maintenance Dredging: Of the 230,000 cy/yr of net southerly transport to the north side of the inlet, about 92,000 cy/yr of sediment passes through and around the north jetty and deposits in the sediment trap and federal navigation channel. The USACE performs maintenance dredging of the channel and sedimentation basin.

The SLIMP reports that 829,300 cy from 1980 to 1989 were dredged by the USACE (equivalent to 92,000 cy/yr) and placed on the beach immediately south of the inlet. Of the

92,000 cy/yr USACE placed on the downdrift beaches: an estimated 79,000 cy/yr remained on the beach (based on 1982 to 1990 surveys from R-45 to R-53); 2,000 cy/yr is assumed to move through or around the south jetty and into the ebb shoal; the remaining 11,000 cy/yr is estimated to be eroded from the beach and transported to the beaches to the south.

The transport of 2,000 cy/yr from the dredge disposal area into the ebb shoal - as reported in the SLIMP - is based upon the shoaling rate of a limited portion of the ebb shoal. It is expected that a greater volume of material is transported to the inlet from the south. For the period from 1979 to 1996, the dredge records indicate an average USACE dredging rate of 88,000 cy/yr.

Table 1 presents historical dredging records. From 1965-79 the majority of maintenance dredging material was sidecast. The federal government authorized USACE beach disposal of compatible sand in 1974, resulting in placement of sand immediately south of the inlet from 1979 to 1989. Due to environmental and physical constraints, the most recent dredging projects have placed material in a nearshore disposal site at Jupiter Island (R-88 to R-99).

Table 1. USACE Dredging Records at the St. Lucie Inlet

Date	Quantity (cy)	Disposal
1965	83,000	adjacent beach
1966	23,032	sidecast
1967	26,750	sidecast
1968	86,641	78k cy adjacent beach
1969	18,456	sidecast
1971	18,829	sidecast
1972	30,864	sidecast
1973	53,298	sidecast
1974	104,309	sidecast
1975	40,201	sidecast
1976	77,802	sidecast
1977	55,414	sidecast
1978	233,707	sidecast
1979	57,246	sidecast
1979	590,140	adjacent beach
1984-85	460,809	adjacent beach
1988-89	368,499	adjacent beach
1992	148,361	adjacent beach*
1994	15,832	offshore*
1994	150,000	nearshore disposal
1996	171,000	nearshore disposal**

* The volume & location are not clearly identified in the USACE tabulated records.

****The total volume of material for this project will be verified upon project completion.**

8) Natural Bypassing: The quantity of natural bypassing was estimated from the assumed net longshore transport less the total of the rate of material bypassed mechanically by the USACE, sedimentation of the flood and ebb shoals and sailfish point channel. The natural bypassing (46,000 cy/yr) is directly dependent on the accuracy of all of the estimated sediment budget elements.

The sediment deficit to downdrift beaches is estimated by the SLIMP to be 173,000 cy/yr. It is recognized that the SLIMP sediment budget is an interim measure only, and will need to be redefined to better manage sand transfer. To update and refine the SLIMP sediment budget is important, but is not critical to the initiation of this project, and the need should not preclude sand transfer at the inlet. It is anticipated that the County, with assistance from the State, will improve data collection to refine the sediment budget and define the supplemental sand transfer requirements.

As cited in Section 161.142(2) of Florida Statutes:

“On an average annual basis, a quantity of sand should be placed on the downdrift beaches equal to the natural net annual longshore sediment transport.”

Martin County’s goal is to transfer a requisite volume of sand to the downdrift beaches while maintaining a safe navigation channel. The County and the State are currently working to initiate the transfer of the flood shoal to supplement current transfer operations.

V. SEDIMENT BUDGET WITH PROPOSED SAND TRANSFER

Mechanical sand transfer across the inlet is necessary to maintain the longshore transport of sand. The proposed sand bypassing should provide for transfer of the requisite volume of sand to the downdrift beaches at Jupiter Island. This can be achieved by: (a) the disposal of USACE maintenance dredging material on the downdrift beaches and (b) the transfer of additional beach compatible material from the flood shoal. Figure 2 illustrates the proposed sediment budget.

An equivalent annual net transport of 230,000 cy/yr to the downdrift beaches may be achieved by transferring the USACE maintenance dredging material (92,000 cy/yr) and an additional 92,000 cy/yr from the flood shoal to the downdrift beach. This mechanical sand transfer will supplement the estimated 46,000 cy/yr that are naturally bypassed.

It is anticipated that the initial cut in the flood shoal may act as a sediment trap, accumulating much of the material previously transported to the north reaches of the flood shoal. It is expected that sand will continue to accumulate within the north channel at Sailfish Point. Even if the flood shoal cut traps all the material now migrating to the flood shoal, there will be a deficit of 55,000 cy/yr due to continued sedimentation in the Sailfish Point channel and in the ebb shoal. The flood shoal will serve as the source of sand to mitigate for this deficit - eventually depleting the flood shoal “reserves” within about 30 years.

VI. USACE MAINTENANCE DREDGING AND BEACH DISPOSAL

Historically, the USACE has performed maintenance dredging of the channel and sedimentation basin (approximately 92,000 cy/yr). This material accounts for approximately half of the requisite volume of material to be transferred to Jupiter Island.

Federal authorization of the initial navigation improvements and maintenance of St. Lucie Inlet (1974) mandated the disposal of beach compatible material maintenance dredging at the downdrift beaches. After obtaining a Local Cost Share Agreement (LCA) with Martin County, the USACE disposed of beach compatible sand immediately south of the inlet from 1979 to 1989. In 1990, the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) decreed that nourishment may not occur during turtle nesting season (March 1 through October 31). During the winter months, severe weather conditions preclude dredging within the inlet. Due to these constraints, the most recent dredging projects have placed material in a nearshore disposal site at Jupiter Island (Table 1).

To provide for the transfer of beach compatible material to the downdrift beaches with Federal cost sharing, either: (a) approval must be obtained from the USFWS and NMFS to allow for nourishment during the summer months or (b) the maintenance dredging material must be stockpiled either upland or nearshore and subsequently transported to the beaches in the winter months. Due to the high density of marine turtle nesting at Jupiter Island, the USFWS taken the position that they will not grant a variance for the nourishment of beaches during turtle nesting season.

The only permitted site for temporarily stockpiling dredged material is located at the Florida Inlet Navigation District (FIND) M-5 site. This site is currently full, however disposal is planned for all of the stockpiled material in the winter of 1996-97. It should be noted that temporary nearshore or upland disposal will require "double handling" of the material and thus greatly increase the cost of transfer by \$2 to \$3/cy. Alternatives should be reviewed to determine the most cost effective means of transporting the material.

Current USACE maintenance dredging disposal operations are placing beach compatible material nearshore - within the 20 ft NGVD contour at Jupiter Island; further investigations may be desirable to determine the maximum depth of disposal to allow for the material to migrate to the beach. The USACE is currently performing a GRR study of St. Lucie Inlet to evaluate navigation improvements. A key element of the USACE study is to make the inlet safe for navigation, facilitating dredging and transport during the winter.

VII. IMMEDIATE NOURISHMENT NEEDS

To identify the immediate need for beach nourishment, the volumetric losses at Jupiter Island are examined over the following segments as shown in Figure 3:

Segment A- St. Lucie Inlet State Park (R-45 to R-58): During the period from 1971-90 the shoreline accreted by approximately 1.2M cy as a result of maintenance dredge disposal

from 1979 to 1989. The SLIMP reports that this segment of shoreline has remained relatively stable and mildly eroded at a rate of 13,000 cy/yr with only an estimated 11,000 cy/yr reaching downdrift beaches.

Segment B- Hobe Sound National Wildlife Refuge (HSNWR) (R-58 to R-77): This segment eroded at a rate of approximately 95,000 cy/yr during the period from 1971-90. At this time, FIND is planning a 240,000cy (+/-) nourishment project along a segment of shoreline within the refuge from R-60 to R-64; another segment is proposed to be nourished by FIND within the Town. The area at Peck Lake is **critically eroded** and may be subject to breaching during a significant storm event.

Segment C- Town of Jupiter Island (R-77 to R-115): The Town of Jupiter Island has performed several nourishment projects with placement of over 8M cy from 1971 to 1990. In spite of this nourishment, the data indicates a net gain of only 755,000 cy during this period (SLIMP,1995). The annual historical erosion rate is estimated at 381,000 cy/yr. Jupiter Island has placed approximately 2,619,000 cy of material on the beach subsequent to 1990. This includes a 2M cy nourishment project (R-77 to R-115) that was completed in March of 1996. Employing longshore transport models, Aubrey and Assoc. (1995) estimated that the erosion rate from a project of this magnitude is anticipated to be approximately 150,000 to 200,000 cy/yr. A 240,000cy (+/-) beach nourishment project is planned by FIND for the segment of shoreline from R-78 to R-82 for the winter of 1996-97. The USACE is currently disposing of an estimated 171,000 cy of maintenance dredging material in nearshore area (within the -20 ft NGVD contour) from R-88 to R-99.

Transfer of the beach compatible material located in the flood shoal will compliment the USACE maintenance dredging to provide for transfer of the requisite volume of sand. A geotechnical analysis is currently being performed to determine the volume of beach compatible material located in the flood shoal (estimated by SLIMP to be a minimum of 2.5 M cy). Several factors must be considered in formulating a plan for the phased removal of the flood shoal including: existing shoreline conditions at Jupiter Island, historical erosion trends, method of transfer, cost, and environmental considerations.

The need for beach nourishment is anticipated based on the historical erosion trends at the downdrift beaches. For conceptual planning over the next 25 years (neglecting planned nourishment of updrift beaches) it is assumed:

1. **Segment A-St. Lucie Inlet State Park**: is relatively stable and will not require nourishment;
2. **Segment B-HSNWR**: will erode at a rate of 95,000 cy/yr; and
3. **Segment C-Town of Jupiter Island**: will erode at a rate of 200,000 cy/yr.

Based on the review of the historical erosion rates and existing shoreline conditions, Segment B, fronting Peck Lake (see Figure 3), is currently the most critically eroded shoreline. Without taking into consideration the affects of the proposed nourishment to the north, it is anticipated that the 1996 nourishment project (2M cy) at the Town of Jupiter Island will require renourishment within the next six years. Nourishment at critically eroded "hot spots" may be required within the next two to three

years.

VIII. METHOD OF TRANSPORT

Several alternative means of transporting the material are available. Due to the marine turtle nesting during the summer, the timing of construction may have to occur during the period from November to March. The severe weather during the winter precludes the dredging operations of the navigation channel within the inlet by the USACE. It is uncertain if winter conditions would also preclude the winter transfer of sand from the interior flood shoal via the inlet. Three alternative means of transferring sand from the flood shoal are depicted in Figure 4:

- 1) The material will be mechanically dredged and barged out the inlet -to the site and hydraulically pumped onto the shoreline.
- 2) The material will be mechanically dredged and barged south via the Intracoastal Waterway(ICWW) to a transfer site either at Peck Lake or at the north limits of the Town of Jupiter Island. The material will be off loaded and hydraulically pumped or hauled to the nourishment areas.
- 3) Transfer will be accomplished by direct hydraulic transfer of material via pipeline to the beach.

The feasibility of these alternative means will be further addressed in the preliminary design and permitting process. The conceptual design proposes to allow the project construction - by any of the above means - subject to permit allowance.

IX. ESTIMATE OF COSTS

A. Maintenance Dredging

Under the existing Local Cooperation Agreement between Martin County and the USACE, the County participates in funding (16.5%) the maintenance dredging operations for the transfer of the material south to the beaches at Jupiter Island. Due to the constraints discussed previously, it may be necessary to double handle the material to place it on the beach. The contract should be for payment of material placed on the beach. Double handling the material would require two time mobilization of equipment and materials and is expected to increase the unit cost of transfer by \$2 to \$3/cy.

B. Transfer of Flood Shoal

The cost of maintenance dredging projects has varied \$4 to \$12/cy over the past 10 years. Bids for the most recent project - transfer of 171,000 cy to the nearshore disposal from R-88 to R-99 ranged from \$5 to \$14/cy for total project cost. The most recent project is being performed by mechanical dredging using a clamshell and transfer to the nearshore disposal site via scow.

To minimize the cost, sand transfer from the flood shoal shall be bid out as an option under USACE

maintenance dredging or timed to coincide with maintenance dredging projects. The USACE currently plans to perform maintenance dredging on a biannual basis, however the frequency will be directly dependent on appropriated funding. The transfer project may be bid out separately or if authorized by the USACE, it would be bid as an option to the maintenance dredging operation. Additional cost for mobilization/demobilization will still be incurred for the additional equipment necessary to perform the transfer.

Based on a review of historical project costs, the estimated cost to transfer material from the flood shoal to the segment of shoreline at HSNWR is estimated to be \$5 to \$7/cy, and for transport to the Town of Jupiter Island, approximately \$7 to \$9/cy.

X. PERMITTING

In order to provide for sand transfer, it is necessary to obtain a *Joint Sovereign Submerged Lands/Federal Dredge and Fill Permit*. The objective is to obtain a proposed 25 year DEP/USACE permit to dredge the interior flood shoal and nourish the beaches at Jupiter Island. The permit will allow for sand placement on the shoreline between R-45 and R-115 (Figure 5) - where and when fill is needed - based on monitoring surveys. There are currently two pending permit applications and one permit for the placement of material on the beaches at Jupiter Island as identified in Table 2.

Table 2. Existing and Pending Permits at Jupiter Island

Permittee	Project Scope	Placement Sites	Source	Comments
USACE	Maintenance dredging of the inlet channel and sediment trap	a. R-45-99 Beach b. R-88-99	Sediment Trap & Channel	Notice of intent to issue was released (4/8/96). The proposed depth of near disposal is <-16'NGVD.
Town of Jupiter Is.	Beach Renourishment	R-76-115 Beach	Offshore	Ten year permit expires 10/10/96.
FIND	Removal of material stockpiled at M-5	a. R-60-64 b. R-78-82 Beach	M-5 stockpile site	DEP is currently reviewing - projected issuance is winter 1997-98.

The approach is to obtain a modification of the pending USACE permit to allow for the placement of material within the fill template already permitted along the Town of Jupiter Island and within that proposed by the USACE north of the Town limits (Figure 6).

XI. PROPOSED CONCEPTUAL DESIGN

Initial Project

The initial volume of the material to be transferred will be directly dependent upon the funding appropriated for 1997-98. The DEP and Martin County have each approved \$1.2 M, setting the maximum cost of construction for the initial transfer project at \$2.4M. The initial transfer is proposed for the winter of 1997-98. The project will be timed to coincide with the planned USACE maintenance dredging. Based on an estimated total cost of \$5 to \$7/cy, the volume is estimated to be approximately 400,000 cy. This is in addition to the 180,000 cy expected to be transferred by the USACE (at a cost of 16.5% of the project cost). Segment B, fronting Peck Lake (Figure 3), will be the targeted disposal site for the project. Specifically, the material is proposed to be placed between R-64 and R-78, between the disposal sites proposed by FIND (refer to Figure 7).

Future Transfer

Three options for the phased transfer of sand from the flood shoal over the next 25 years are presented. Each option provides for transfer of the requisite volume of material to downdrift beaches. Transfer may be performed biannually to coincide with scheduled maintenance dredging by the USACE. Material should be alternately placed at segments of shoreline at HSNWR and the Town of Jupiter Island. Both reaches should be nourished every four years. Annual monitoring surveys of Jupiter Island beaches will serve as the basis for determining the location of each nourishment project. The following are possible options for future sand transfer from the flood shoal:

Option 1 - One time transfer of all the remaining beach compatible material within flood shoal (estimated at 2.5M cy) with subsequent transfer of material on a bi-annual (78k cy/2yrs) basis.

Option 2 - Two major nourishment projects (1.25M cy) with subsequent transfer of material on a bi-annual (78k cy/2yrs) basis.

Option 3 - Transfer every four years an amount equal to one-sixth the volume (417k cy) in the flood shoal plus the additional amount of material that accumulates annually (156k cy).

The SLIMP recommends placement of all material south of R-58 to ensure that the sand reaches areas further to the south on Jupiter Island. Until demonstrated to be otherwise desirable, this area of placement is recommended.

REFERENCES

Applied Technology and Management, Inc., 1993, revised 1995. St. Lucie Inlet Management Plan. Prepared for: Board of County Commissioners Martin County, Florida.

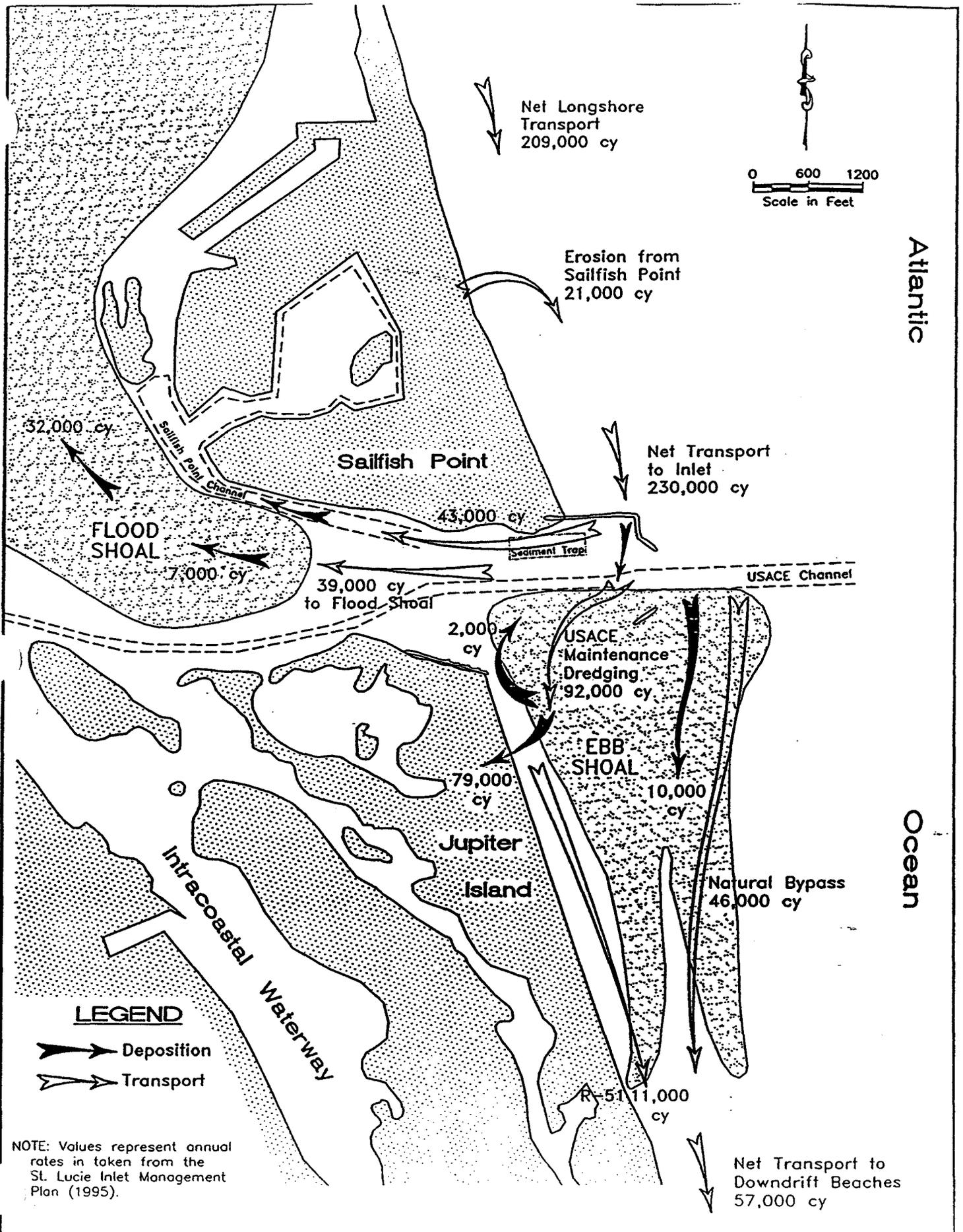
Aubrey Consulting, Inc., 1995. Analysis of Coastal Processes and Evaluation of Shore Protection Alternatives. Prepared for: Town of Jupiter Island, Florida.

Olsen Associates, Inc., 1995, revised January 1996. Sailfish Point Shoreline Stabilization Project, Analysis and Conceptual Design. Prepared for: Sailfish Point Property Owner's Assoc.

United States Army Corps of Engineers, Jacksonville District, 1977. Phase I General Design Memorandum on St. Lucie Inlet, Florida.

United States Army Corps of Engineers, Jacksonville District, 1974. Survey Review Report on St. Lucie Inlet, Florida.

Walton, Todd L., 1974. St. Lucie Inlet Glossary of Inlets Report #1. Florida Sea Grant Program.



Existing Conceptual Sediment Budget

St. Lucie Inlet Sand Transfer

FIGURE 1a



COASTAL TECH
3025 20TH STREET, VERO BEACH, FL 32960

ENGR

PJE

REV

MPW

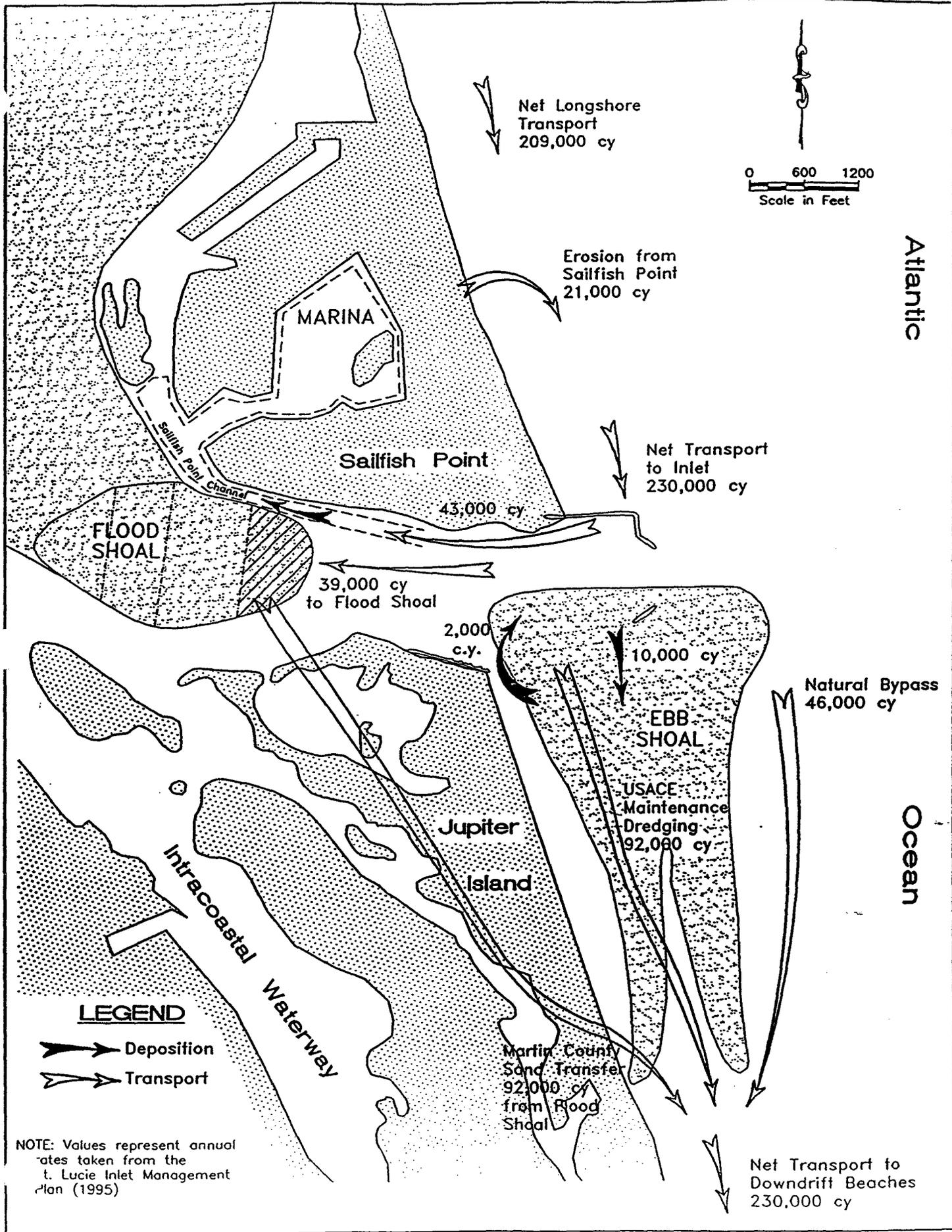
DATE

6/19/96

JOB NO

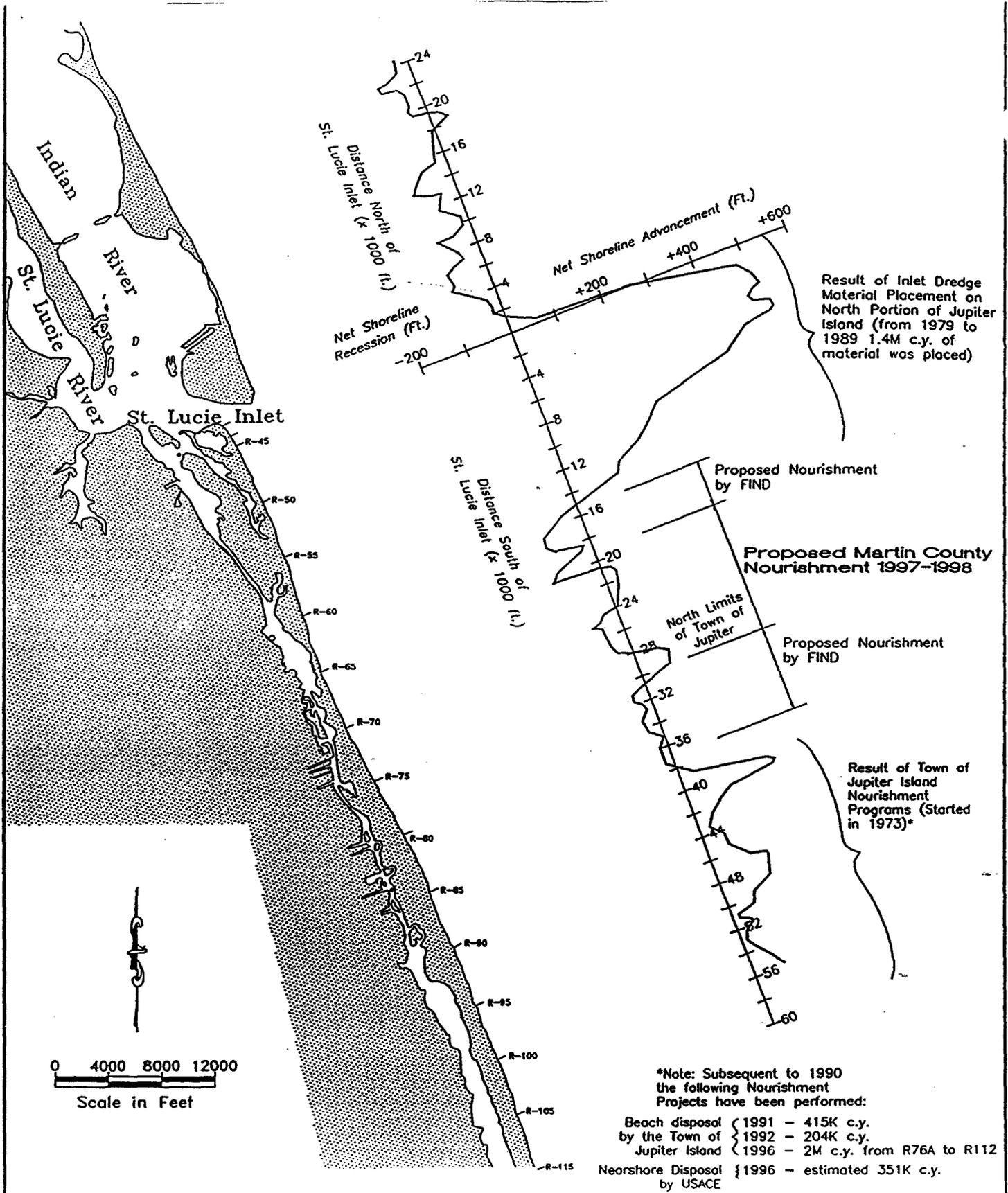
79,900

11-006a



81-0067

Proposed Conceptual Sediment Budget		St. Lucie Inlet Sand Transfer		FIGURE 2	
 COASTAL TECH 3625 20TH STREET, VERO BEACH, FL 32960	ENGR	REV	DATE	JOB NO	79,900
	PJE	MPW	6/20/96		



NOTE: Adapted from the St. Lucie Inlet Management Plan (1995)

Nourishment and Historical Trends (1971-1990)

St. Lucie Inlet Sand Transfer

FIGURE 3



COASTAL TECH

3025 20TH STREET, VERO BEACH, FL 32960

ENGR

PJE

REV

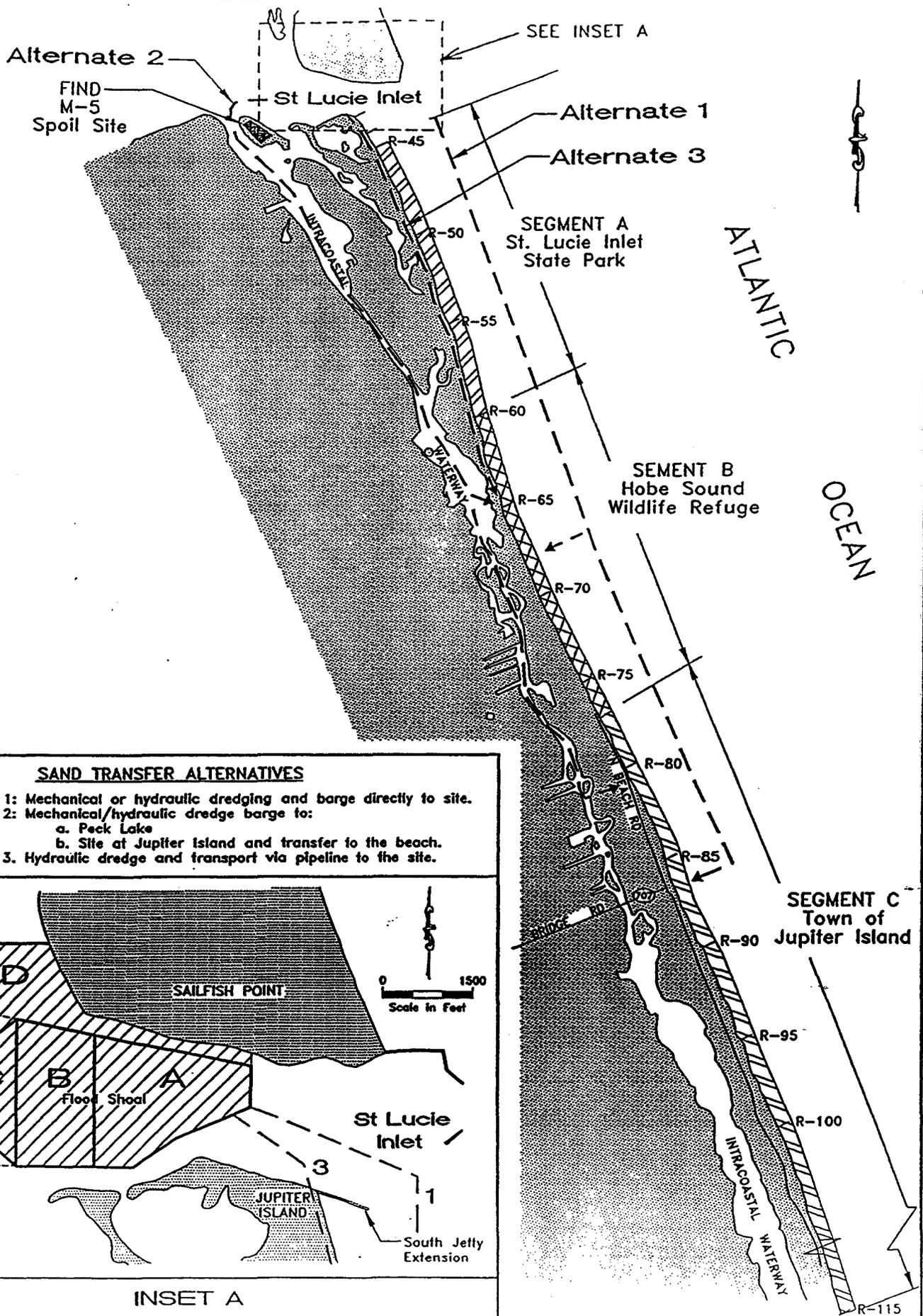
MPW

DATE

6/18/96

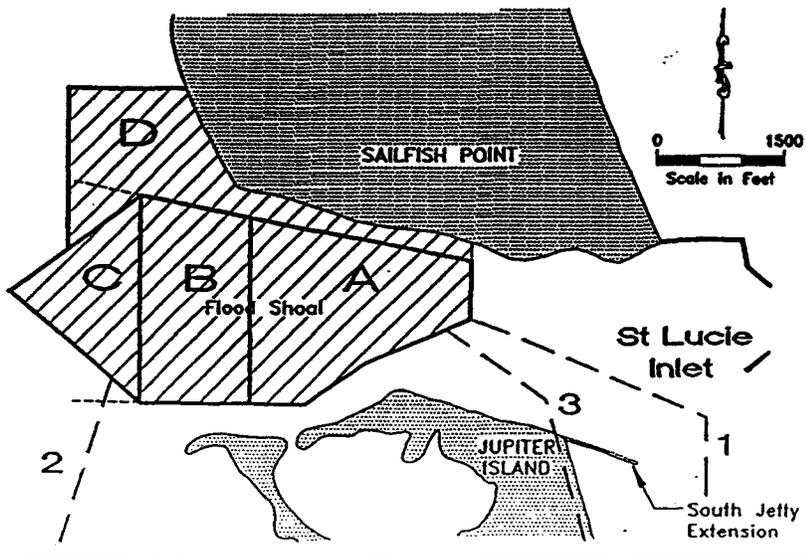
JOB NO

79,900



SAND TRANSFER ALTERNATIVES

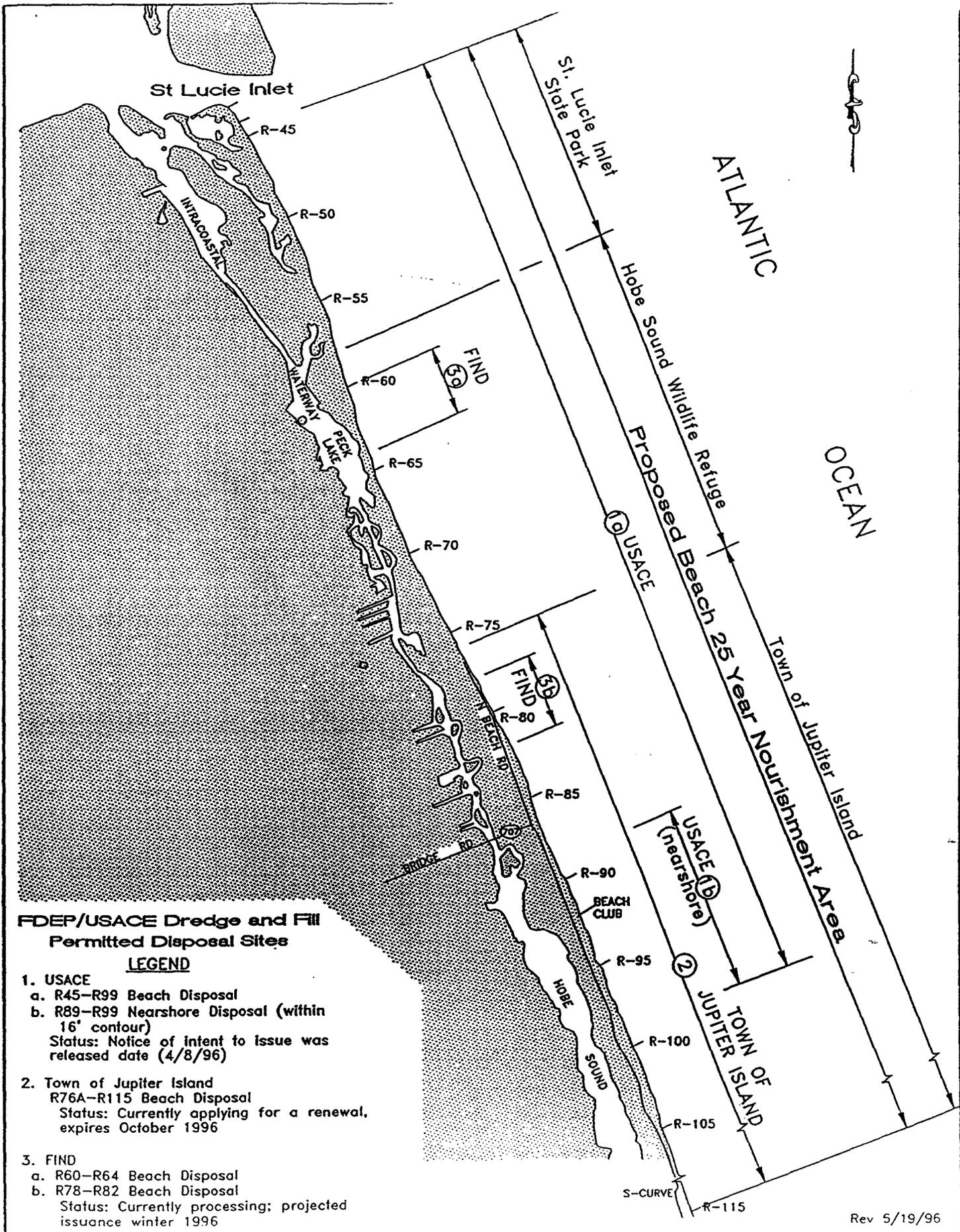
- ALTERNATE 1: Mechanical or hydraulic dredging and barge directly to site.
- ALTERNATE 2: Mechanical/hydraulic dredge barge to:
 - a. Peck Lake
 - b. Site at Jupiter Island and transfer to the beach.
- ALTERNATE 3: Hydraulic dredge and transport via pipeline to the site.



INSET A

79900-14

Sand Transfer Alternatives		St. Lucie Inlet Sand Transfer		FIGURE 4	
 COASTAL TECH <small>3625 20TH STREET, VERO BEACH, FL 32960</small>		<small>ENGR</small> PJE	<small>REV</small> MPW	<small>DATE</small> 6/19/96	<small>JOB NO</small> 79,900



FDEP/USACE Dredge and Fill Permitted Disposal Sites

LEGEND

1. USACE
 - a. R45-R99 Beach Disposal
 - b. R89-R99 Nearshore Disposal (within 16' contour)
 Status: Notice of intent to issue was released date (4/8/96)
2. Town of Jupiter Island
 - R76A-R115 Beach Disposal
 Status: Currently applying for a renewal, expires October 1996
3. FIND
 - a. R60-R64 Beach Disposal
 - b. R78-R82 Beach Disposal
 Status: Currently processing; projected issuance winter 1996

Rev 5/19/96

Proposed 25 Year Beach Nourishment Areas

St. Lucie Inlet Sand Transfer

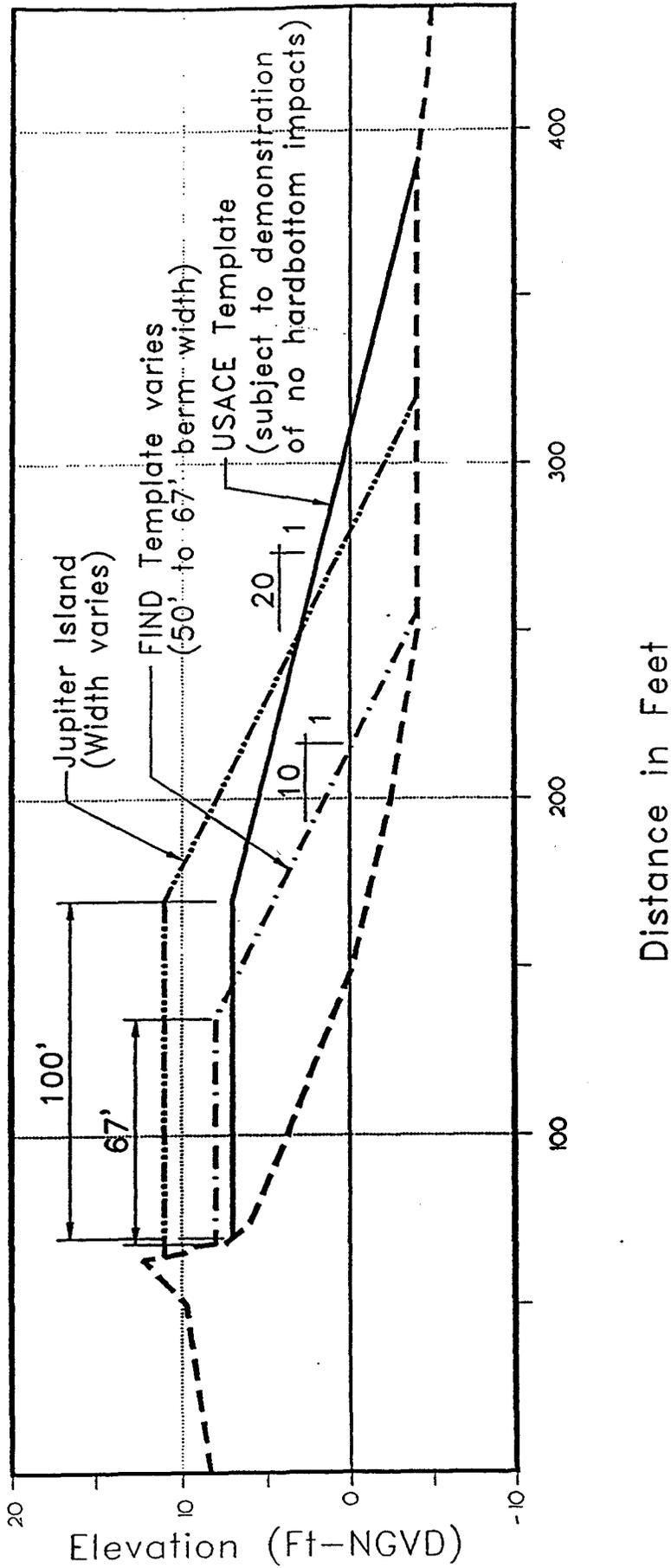
FIGURE 5



COASTAL TECH
3025 20TH STREET, VERO BEACH, FL 32960

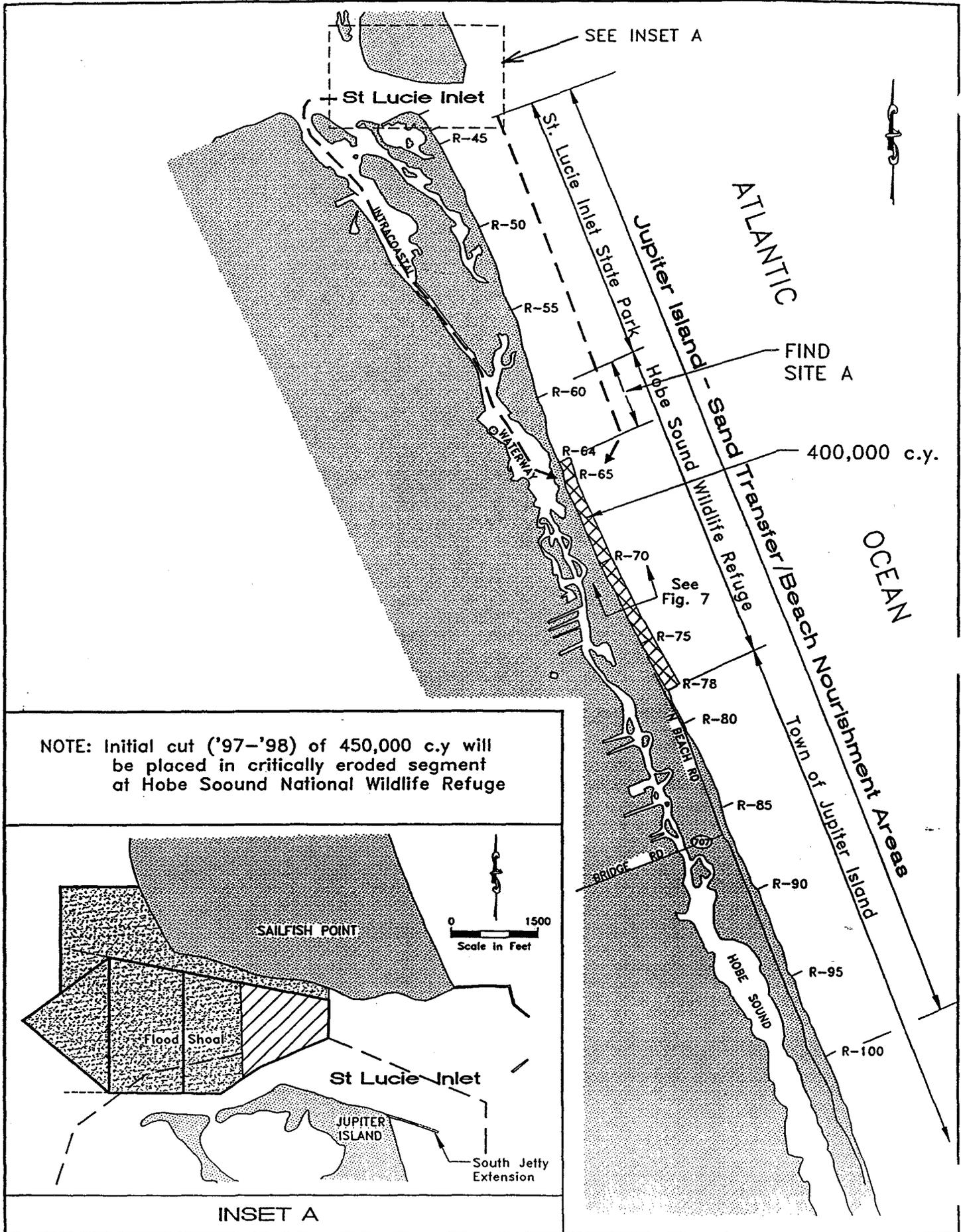
ENGR	REV	DATE	JOB NO
PJE	MPW	5/20/96	79,900

79900-10

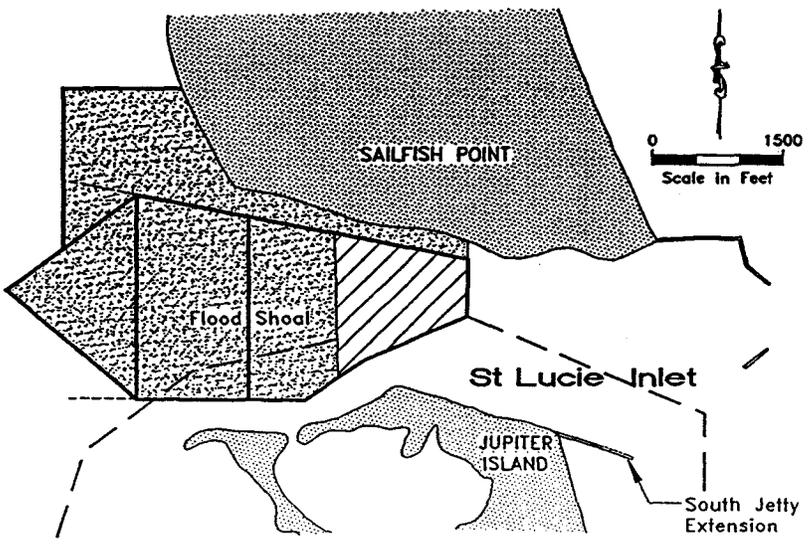


Typical Cross-Section
Fill Templates-Existing and Pending Permits

Cross-Section of Proposed Nourishment		St. Lucie Inlet Sand Transfer		FIGURE 6	
 COASTAL TECH <small>3625 20TH STREET, VERO BEACH FL 32900</small>	ENGR	REV	DATE	JOB NO	
	PJE	MPW	6/19/96	79,900	



NOTE: Initial cut ('97-'98) of 450,000 c.y will be placed in critically eroded segment at Hobe Sound National Wildlife Refuge



Proposed Initial Nourishment Project (1997-1998)

St. Lucie Inlet Sand Transfer

FIGURE 7



COASTAL TECH
3625 20TH STREET, VERO BEACH, FL 32960

ENGR	REV	DATE	JOB NO
PJE	MPW	6/19/96	79,900

JOB NO
79,900

CI-00566/

MARSHAL L. WILCOX
District 1

DENNIS H. ARMSTRONG

JANET K. GETTIG

ELMIRA R. GAINES

CHARLENE HOAG

du
Rick M ✓

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

PETER L. CHENEY - COUNTY ADMINISTRATOR

PHONE (407) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

May 3, 1996

Dear Technical Advisory Committee:

Attached, please find a copy of the Minutes of the TAC Meeting of March 21, 1996 and the Agenda for the May 16, 1996 Meeting to be held in Jacksonville.

I look forward to seeing you there on the 16th.

Very truly yours,

A handwritten signature in black ink, appearing to read "Don G. Donaldson", with a long horizontal flourish extending to the right.

Don G. Donaldson, P.E.
Coastal Engineer

DGD/lm
attachments

AGENDA

St. LUCIE INLET TECHNICAL ADVISORY COMMITTEE MEETING

MAY 16, 1996

1:00 P.M., Room 802, Jacksonville District Office Bldg

- A. Additions/Deletions to the Agenda**
- B. Approve Meeting Minutes of March 21, 1996**
- C. US Army Corps of Engineers Update**
 - **Inlet Maintenance Dredging**
 - **GRR Status**
- D. Martin County Update**
 - **DEP Grant Funding**
 - **Flood Shoal Investigation and Permitting**
- E. Action Items:**

None
- F. Discussion Items:**
 - 1. Alternatives for Study (Continuation)**
 - 2. Wave Gauge Installation**
 - 3. Numerical Modeling of the Inlet**
- G. Schedule Next Meeting & Site Visit**
- H. Adjourn**

Minutes of Meeting

St. Lucie Inlet Technical Advisory Committee

March 21, 1996

The second meeting of the St. Lucie Inlet Technical Advisory Committee (TAC) was held on Thursday, March 21, 1996 at the Martin County Administration Building in Stuart, Florida.

The following were in attendance:

Rick McMillen	USACOE	904-232-1231
Cherie Pellitier	USACOE	904-232-1101
Ed Hodgens	USACOE	904-232-2477
Don Donaldson	Martin County	407-288-5429
John Ramsey	Aubrey Consulting, Inc.	508-563-5030
Clay Bryant	Gahagan & Bryant	813-831-4408
Phil Flood	DEP-Beaches-Coastal Sys.	904-487-1262
David K Roach	FIND	407-627-3386
Kevin R. Bodge	Olsen Assoc., Inc.	904-387-6114
Laura Merker	Secretary	407-288-5430

A. Additions/Deletions to the Agenda

None

B. Approve Meeting Minutes of March 21, 1996

Minutes of the previous meeting were accepted with the following change. Rick McMillen, of the USACOE, stated that Federal Law prohibits the USACOE from acting as a participant or voting on issues, but the Corps can attend the meetings and act as non member participant. Therefore, the USACOE will attend meetings in an advisory capacity only.

Also, the USACOE can evaluate alternatives in the St. Lucie Inlet Management Plan (SLIMP) as a part of the General Reevaluation Report, but is not going to design the project based upon the SLIMP. The GRR will focus only on the Federal Project, anything outside the Federal Project can be included in the GRR as the locally preferred plan.

C. Update on Current Status of USACOE GRR

Rick McMillen presented an update on the USACOE GRR status.

- The Corps is currently collecting geotechnical data in the Inlet (i.e., core borings and probes).

Martin County presently is not planning to modify or improve any portion of the Inlet that is within the Federal Project. This includes sand tightening the north jetty. The TAC shall assist the USACOE in the preparation of the GRR by providing technical comments, sharing data, and assisting in work products, if necessary. In addition, the TAC shall be responsible to ensure the GRR does not conflict with any of the Inlet's non-federal projects.

Dave Roach provided a status of the FIND M5 project. FIND has submitted for permits with the Florida Department of Environmental Protection to dispose of the M5 sand on the beaches within the Hobe Sound Wildlife Refuge. The sand is to be pumped from the Inlet via a pipeline to Pecks Lake and across the barrier island to the beach. FIND is currently working with the US. Fish & Wildlife for permission to use its property and permit approval.

Kevin Bodge said Olsen and Associates, Inc. has been given the authority to proceed with permitting the Sailfish Point preferred beach restoration plan. The plan includes a groin field commencement with north jetty sand tightening to be pre-filled with approximately 200,000 CY of beach compatible sand. The groin field alone will require approximately 100,000 CY. Sailfish Point would like to use a portion of the flood shoal to pre-fill the proposed groin field.

Sailfish Point is interested in any site investigations that will cover the flood shoal or its project area. Sailfish Point requests an open dialogue, regarding proposed projects and investigations, be maintained between the Committee members so that a conflict in interests can be avoided. There were some discussions regarding what sediment sources may or may not be appropriate for the Sailfish Point project.

E. Action Items:

1. USACOE Data Collection Requirements

Included within Item A discussions.

2. Formal List of TAC Members

Ed Hodgens phone extension was corrected and the USACOE is identified as a non-member participant.

F. Discussions

1. Alternatives for Study

As follow up to the previous meeting, the Committee had proposed 15 alternatives for study within the GRR. The final number of alternatives must be complete within 6 to 9 months. The only alternative that is not likely to be included is interior shoal dredging (Alternative No. 12).

Ed Hodgens suggested we separate the various alternates by project features (e.g., impoundment, north jetty, south jetty, breakwater, navigation channel, sand transfer facility, etc.). Features discussed were as follows:

Features:

Fixed Sand Transfer Plant - There was some discussion regarding what type of plant, if any, should be looked at. This will be discussed in future meetings.

Navigation Channel - Is the channel location and dimensions a feature to be investigated? The USACOE suggested this feature should not be investigated unless the economic study, and jet probes indicate a need.

Breakwater - The primary reason for its construction was to provide protection of the impoundment basin during SE wave conditions and to provide some protection to the navigation channel. Its interference with sand bypassing is unknown. A historic review of the breakwater impact is necessary before modifications can be considered.

South Jetty - Is sand tightening or lengthening the south jetty a feature to be investigated? The Committee agreed that a site visit is necessary and this feature should be discussed further. The south jetty appears to be sand tight and filled to capacity. The Inlet Management Plan approach is to place material a sufficient distant south so that it does not return to the north and into the Inlet. The USACOE does not consider this feature is in critical need of re-evaluation.

Impoundment Basin - The USACOE said the accreted upland property within the impoundment basin is being claimed by the adjacent property owners. To date the USACOE has been unable to find an easement that covers the newly accreted property. This issue influences the USACOE's ability to dredge or modify the entire impoundment basin.

The impoundment basin and the north jetty are considered key features in the GRR study. Kevin Bodge suggested the USACOE look at historical data from maintenance dredging and plot the distributions of the shoaling patterns. This data may help determine where nature wants to put the impoundment basin.

North Jetty - This feature is interrelated with the impoundment basin. Sand tightening and or raising the jetty will be considered. This feature will be studied in terms of optimizing sand transfer into the impoundment basin.

Sand Disposal Options - Beach disposal of Inlet sediments is the most important disposal option. Near shore disposal will only be considered when beach disposal is unavailable due to environmental constraints. FIND offered the use of the M5 disposal site for summer dredge disposal so that it could be transferred to the beaches during the winter. The USACOE may not be able to mobilize twice for the same activity therefore, temporary use of M5 is probably not a viable option.

Interrelation with Adjacent Projects - Can the GRR consider Inlet modifications effects upon the ICWW or the OWW? The USACOE will look into this.

There was some discussion regarding the numerical modeling techniques that could be used to investigate the Inlet. The TAC will discuss models at future meetings.

G. Schedule Next Meeting

~~Next meeting 9:00 AM, Thursday, May 23, 1996 at Martin County Administration Building 4th floor Workshop Room.~~ **This meeting has been changed at the request of the USACOE. The new date is 1:00 PM, Thursday, May 16, 1996 at the USACOE Jacksonville District Headquarters.**

The Committee would like to schedule a site visit of the Inlet and the south Jetty. Don Donaldson is responsible for setting this up. Due to the change in meeting location, the site visit will be conducted during the following TAC meeting.

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

0-50
Rick Mc
we can participate
as now justly need
& believe
D.

PETER L. CHENEY - COUNTY ADMINISTRATOR

PHONE (407) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

February 2, 1996

eci961.231

Mr. Rick McMillen
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Mr. McMillen:

Re: St. Lucie Inlet Technical Advisory Committee Meeting Minutes

Enclosed you will find minutes from the St. Lucie Inlet Technical Advisory Committee meeting conducted on January 18, 1996, and a complete list of TAC members including mailing addresses, fax numbers and E-mail addresses (where available).

A recent conversation with representatives from the Army Corps of Engineers (ACOE) revealed that ACOE membership within the TAC is not advisable by their Legal Council. The TAC will, therefore, need to address this information at the next meeting.

It should also be noted that Mr. Don Donaldson will begin his employment at Martin County as Coastal Engineer beginning February 15, 1996. All future correspondence and meeting schedules will be coordinated through his office.

Should you have any questions, please call me at 407/288-5927.

Sincerely,

Donald E. Holloman, P.E.
County Engineer

DEH:KR:bb
/data/eng/corresp/eci/eci961.231

cc: Peter Cheney, County Administrator
Randall Reid, Assistant County Administrator

Minutes of Meeting
 St. Lucie Inlet Technical Advisory Committee
 January 18, 1996

The first meeting of the St Lucie Inlet Technical Advisory Committee (TAC) was held on Thursday, January 18, 1996 at the Army Corps offices in Jacksonville Florida.

This committee was formed by Martin County and representatives of agencies within the County that have a vested interest in the management of the Inlet. The purpose of forming the committee was to ensure that the varied interests in the County are met to the extent feasible by the final design of the Inlet Management Plan and the various elements thereof.

The TAC is comprised of membership from the following entities:

<u>Agency</u>	<u>Representative</u>	<u>Telephone</u>	<u>Fax</u>
Martin County	Donald Holloman	407-288-5927	407-288-5955
Sailfish Point	Kevin Bodge	904-387-6114	904-384-7368
	Al Browder	" " "	" " "
Jupiter Island	John Ramsey	508-563-5030	508-563-2229
	Dave Aubrey	" " "	" " "
	Clay Bryant	813-831-4408	813-831-4216
Marine Industries As- soc.	Mike Keefer	407-562-7981	407-562-9689
F.I.N.D.	David Roach	407-627-3386	407-624-6480
F.D.E.P.	Phil Flood	904-487-1262	904-488-5257
ACOE	Rick McMillen	904-232-1231	904-232-1213
	Cherie Pelletier	904-232-1101	904-232-3442
	Ed Hodgens	" " "	" " "

Agencies that were represented at this initial meeting included the following:

- Martin County
- Sailfish Point
- Jupiter Island
- Army Corps

A- Organization of the Technical Advisory Committee

The first item of business undertaken was to select a chairman for the TAC. It was determined that the Chair should be the local sponsor of the Inlet. Consequently, Martin Counties representative should serve as the chair of the TAC with the Army Corps serving as the Vice-Chair.

B- Functions of the Technical Advisory Committee

The TAC discussed its function and determined that it should serve primarily as a review agency giving guidance to the process of selecting the most appropriate alternatives for implementation of the Inlet Management Plan. It should further serve as a guiding influence during the entire process. The TAC should attempt to provide a basis for building a consensus of opinion regarding the final Inlet Management Plan.

C- Responsibility of the Technical Advisory Committee

The TAC discussed the responsibility of the Committee as well as the individual members that make up the Committee. The following responsibilities were decided upon:

1. Individual representatives should promptly report to their sponsor.
2. The Chairman or Vice-Chair is responsible for the minutes.
3. Prompt response to issues raised.
4. Maintain the schedule.
5. Develop a successful product.
6. Maintain both vision and focus.
7. Be flexible.
8. Be creative.

D- Problem Identification

A list of problems were identified that the TAC members felt needed to be addressed by the final management plan. Each problem was subsequently assigned to a general category of inlet concerns. These are outlined below:

<u>Category</u>	<u>Description</u>
A	Sediment Management
B	Environmental
C	Navigation
D	Physical Elements of the Project

There were many problems that the TAC members felt needed to be addressed by the Inlet Management Plan. These problems are identified in the table below along with the appropriate category of concern.

<u>Problem</u>	<u>Category</u>
Inlet Shoaling	A&C
Sand Bypassing	A
Shoreline Erosion	A
Dredging Conditions during Winter	B&C
Long Term Sand Loss	A
Navigation	C&D
Ownership of adjacent submerged lands	D
Disposal of Material	B
Turtles	B

Seagrasses	B
Nearshore Rock	B
Jetty Functions	A&C&D
Jetty Settlement	A&C&D
Rock in Impoundment Basin	D
Sand Sources	A
Sand Compatability	A
Correlation with the IWW and OWW	C&D
Water Quality	B

E- Objectives of the Inlet Management Plan

Given the stated problems that are felt to be important in the planning of activities relating to the inlet, several objectives were defined that the Inlet Management Plan should encompass. These are listed below:

1. Safe dredging conditions.
2. Bypass sand- Sediment Management
3. Safe navigation
4. Shoreline stabilization.
5. Reduction of maintenance effort.
6. Permittable (environmental)
7. Definite monitoring plan.

F- Alternatives for Study

At this point, a discussion was held relating to the various alternatives that should be included in the analysis process. These alternatives are listed below:

1. Complete the authorized Federal Project.
2. Sand tighten the North Jetty.
3. Sand tighten, or lengthen the South Jetty.
4. Raise the North Jetty.
5. Breakwater alterations.
6. Impoundment Basin modifications.
7. Widen the Navigation Channel.
8. Revise the Channel orientation.
9. Bypass sand further south.
10. Nearshore vs beach disposal of material.

11. Connect the Impoundment Basin with the Navigation channel.
12. Interior shoal dredging.
13. Extend South Jetty.
14. Fixed sand transfer plant.
15. Monitoring program.

G- Data Needs

After agreeing on the alternatives to be included in the analysis phase of the project, a discussion was held relating to the potential data needs of the study team. It was determined that many of the local agencies having an interest in the inlet have a significant amount of data. This data should be shared by all concerned with the project. Beyond this, the following data elements were determined to be required for the process to begin:

Hydrographic Data

Shoreline surveys
 Bathymetry
 Structures
 Scope for nearshore disposal

Environmental Data

Hardbottom Maps- Nearshore Rocks, Jetty area
 Seagrass Beds- Interior
 Magnetometer Survey of the Inlet and interior
 Sea Turtle
 Water Quality

Photographic Data

Controlled Aerials, N & S and interior

Geotechnical Data

1-Cores
 Along N Shoreline
 End of Breakwater
 Impoundment Basin
 South Jetty
 Interior Shoal
 2-Probes
 North Jetty
 Impoundment Basin
 X-Section of Inlet at two locations

Wind and Wave Data

To be discussed later

H- Schedule

A short discussion was held relating to the schedule for the development of the General Reevaluation Report (GRR). The draft GRR is needed to be approved by all parties by October 31, 1997 in order to have Congressional approval by April of 1998. The April date is firm and significant in that the request for funds must be in the appropriate hands by June of 1998. It is anticipated that the receipt of funds would then be available in October 1999 (FY2000).

I- Work Efforts during Next Month

Rick McMillen is to have his study team look at the elements of data and develop a scope of services for the collection of the needed data. A preliminary scopy will be made available through the Chairman of

the TAC prior to the next scheduled meeting on February 5, 1996 so that members may consider if any additions or changes should be made.

J- Future Meeting Schedule

Future meetings were decided to be held on an as needed basis with the actual date of the next meeting to be established at the meeting. Meetings would be held no less than every other month. The Chairman could call for special meetings as materials or data from the ACOE study team becomes available and is pertinent to the process of developing a consensus of opinion.

The next meeting date was set for February 5, 1996 at 1:00 pm in the ACOE offices in Jacksonville, either in room 930 or 802. Rick McMillen will advise as to the exact location.

K- Miscellaneous items

The Chairman is to develop a complete list of members of the TAC including Fax numbers and E-mail addresses where available.

The meeting was adjourned.

Dr. Kevin Bodge
Olsen Associates, Inc.
438 Herschel Street
Jacksonville, FL 32210

Dr. David Aubrey
Aubrey Consulting, Inc.
1140 Rte. 28A
Cataumet, MA 02534

Mr. John Ramsey
Aubrey Consulting, Inc.
1140 Rte. 28A
Cataumet, MA 02534

Mr. Clay Bryant
Gahagan & Bryant Associates
3802 W. Bay to Bay, Suite B-22
Tampa, FL 33629

Mr. Albert Browder
Olsen Associates, Inc.
4438 Herschel Street
Jacksonville, FL 32210

Mr. Doug Rosen
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Mr. Rick McMillen
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, FL 32232-0019

Mr. Phil Flood
Florida Department of Environmental Protec-
tion
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

Mr. Mike Kiefer
Kimley-Horn
601 21st St., Suite 400
Vero Beach, FL 32960

**Dr. Kevin Bodge
Olsen Assoc., Inc.
BODGEKEVIN@aol.com**

**Dr. David Aubrey
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CallACI@aol.com**

**Mr. John Ramsey
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CallACI@aol.com**

**Mr. Albert Browder
Olsen Assoc., Inc.
Albrowder@aol.com**

**Mr. Doug Rosen
U.S. Army Corps of Engineers
Douglas.S.Rosen@USACE.ARMY.MIL**



REPLY TO
ATTENTION OF

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

May 2, 1995



Programs and Project Management Division
Project Management Branch

Don Holloman, P.E., County Engineer
Martin County Board of County Commissioners
2401 SE. Monterey Road
Stuart, Florida 34996

Dear Mr. ^{Don}Holloman:

This is in response to your letter dated April 11, 1995, regarding the St. Lucie Inlet Management Plan (IMP). The Jacksonville District Corps of Engineers has reviewed the State of Florida, Department of Environmental Protection's (FDEP) draft memorandum for the intent to adopt the IMP, and generally concur with the recommendations. However, the consistency determination statements relating to the statutory intent of the plan should not limit the alternatives that may need to be considered.

It should be noted that the Jacksonville District is currently conducting an economic reevaluation study for the Federal navigation project for St. Lucie Inlet. This study will evaluate the economic justification for the navigation project. Completion of this study is scheduled for September 1995. Following favorable results of the study, the District will initiate preparation of a general reevaluation report (GRR). The GRR will evaluate a number of alternatives to improving the performance of the project in detail. We will include the recommendations adopted by FDEP as alternatives in the GRR study. We are also considering raising and sand tightening the landward portion of the north jetty for north shore stabilization while allowing the seaward section to continue to provide a route for material into the impoundment basin.

I do hope this information is sufficient for your needs. Should you have any further questions or need any additional information, please contact the project manager, Mr. Rick McMillen, at 904-232-1231.

Sincerely,

Richard E. Bonner, P.E.
Deputy District Engineer
for Project Management

bcf:
CESAJ-EN
CESAJ-EN-HC
CESAJ-PD
CESAJ-PD-PN
CESAJ-PD-PC
CESAJ-CO

BOARD OF COUNTY COMMISSIONERS
2401 S.E. Monterey Road • Stuart, Florida 34996

022
Rick ML

PETER L. CHENEY - COUNTY ADMINISTRATOR

PHONE (407) 288-5400

COUNTY OF MARTIN



STATE OF FLORIDA

April 11, 1995

ENG-CI-95-319L

Mr. Rick McMillan
U.S. Army Corps of Engineers
400 West Bay Street
Jacksonville, Florida 32232-0019

Re: St. Lucie Inlet Management Plan Adoption
Martin County Project #90E-CP-016

Dear Mr. McMillan:

Martin County has recently received notice of the FDEP's intent to adopt the St. Lucie Inlet Management Plan in May, 1995. Attached for information you will find a copy of the draft FDEP memorandum to Secretary Wetherell regarding the final report and recommended implementation plan.

We would request your review of the attached documents, with comments submitted in writing to this office by April 17, 1995. To expedite the process, our direct fax number is 407/288-5955.

Please contact Lee Weberman, Civil Engineer III, at 407/288-5927 with any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "DE Holloman".

Donald E. Holloman, P.E.
County Engineer

DEH:LAW:bb
s:\cip\95let\ci319l.law

cc: Martin County Board of County Commissioners
Peter Cheney, County Administrator
Ron McLemore, Assistant County Administrator
Randall Reid, Assistant County Administrator
Alfred B. Devereaux, Jr., Department of Environmental Protection
Jim Spurgeon, Town of Jupiter Island



REPLY TO
ATTENTION OF

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

March 30, 1995



Programs and Project Management Division
Project Management Branch

Honorable Tom Foley
Representative in Congress
County Annex Building
250 N.W. Country Club Drive
Port St. Lucie, Florida 34986

Dear Mr. Foley:

This is in response to your letter of March 6, 1995,
regarding the Federal navigation project for St. Lucie Inlet.
Per your request, enclosed you will find a copy of the Local
Cooperation Agreement for the navigation project.

I hope this information is sufficient for your needs. If you
have any additional questions or need additional information,
please call me or have your staff contact Mr. Joseph Burns,
Congressional Liaison, at 904-232-2243.

Sincerely,

Terry L. Rice
Colonel, U.S. Army
District Engineer

Enclosure

Copies Furnished:

Commander, U.S. Army Corps of Engineers (CECW-L)
Commander, South Atlantic Division (CESAD-PM)



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



March 20, 1995

REPLY TO
ATTENTION OF

Programs and Project Management Division
Project Management Branch

Mr. Nathaniel P. Reed
Post Office Box 375
Hobe Sound, Florida 33475

Dear Mr. Reed:

This is in response to your letter of January 19, 1995, regarding the Federal navigation project for St. Lucie Inlet. I first want to apologize for not responding to your letter in a more timely manner. We have been working diligently with Congressional interest and our higher headquarters in an attempt to fund expedited maintenance of the inlet.

The Jacksonville District has reviewed and commented on the St. Lucie Inlet Management Plan (IMP). In general, we found the IMP to be a good planning document. Several, if not all, of the alternatives proposed in the IMP would certainly compliment the Federal navigation project by reducing operation and maintenance responsibilities. The Corps' continued involvement in the St. Lucie Inlet navigation channel, however, is not dependent upon DEP's approval of the IMP. In a January 23, 1995, meeting, we discussed this with the State of Florida Department of Environmental Protection (DEP).

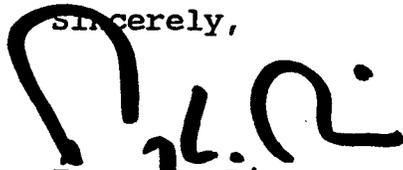
At the current time, the Jacksonville District has requested and is awaiting additional funds to conduct maintenance dredging of the channel. In accordance with the DEP permit, dredged material will be deposited in the nearshore zone directly offshore of the Town of Jupiter, Florida. Our success in performing this dredging is dependent upon the availability of funds. Also, the District is conducting an economic reevaluation study of the navigation project. Our office will initiate preparation of a General Reevaluation Report (GRR) if a favorable economic update is first obtained. In this GRR, the District will attempt to incorporate some of the alternatives proposed in the Inlet Management Plan in our efforts to improve the inlet's navigation and sand by-pass features.

I agree that the turtle nesting restrictions imposed by DEP and the U.S. Fish and Wildlife Service (USFWS) allowing only winter dredging and beach placement cause safety concerns to the dredging contractor and can be more expensive to the taxpayer. However, we want to protect the turtles and are required to abide

by the reasonable and prudent measures developed by the USFWS. We have debated with DEP, USFWS as well as the National Marine Fisheries Service over these very issues on several occasions. Our discussions continue with the State, NMFS and USFWS concerning reasonable and prudent measures for Federal permit actions and Federal projects. Enclosed is a copy of the Code of Federal Regulations concerning this matter. You may desire to present your concerns to the USFWS for reconsideration to see if an exception can be granted for your project.

I appreciate your concerns and hope this information is sufficient for your needs. If any additional information is needed, please call me at 904-232-2241 or the Deputy District Engineer for Project Management, Mr. Richard Bonner, at 904-232-2586.

Sincerely,



Terry L. Rice
Colonel, U.S. Army
District Engineer

Enclosure

NAT - KNOW YOU HAVE SPOKEN TO
CRAIG JOHNSON REF THE TURTLE
DILEMMA - MEET TOO. AM CONFIDENT
THAT, WORKING TOGETHER, WE CAN
REACH A MORE BALANCED AND
OPERATIONAL. ESSENTIALS! 

that "[i]f the draft biological opinion is not returned to the Service within a reasonable period of time, the Service will issue a final biological opinion," the Service agrees that the meaning of "a reasonable period of time" requires clarification. Therefore, to accommodate these comments, the Service now requires the Federal agency to secure the applicant's written consent to an extension for a specified time period if the 45-day deadline is to be suspended while the draft opinion is under review. If no extension is agreed to, the biological opinion will be issued within 45 days of the conclusion of formal consultation.

Another commenter suggested that the Service be required to deliver its biological opinion within the Federal agency's NEPA timeframe so that the biological opinion can be included without delaying the release of the agency's NEPA document. The Service will attempt to coordinate all environmental reviews with the consultation. However, special timing problems under other Federal statutes, or failure to enter into the consultation process early in the planning stage of an action, is not a justification for altering the required timeframe established under the Act. If a particular Federal agency needs special procedures to handle its consultation responsibilities, the Service urges the development of counterpart regulations under § 402.04.

Paragraph (g) has also been modified to reflect that the Service, in formulating its biological opinion, any reasonable and prudent alternatives, and any reasonable and prudent measures, will use the best scientific and commercial data available and will give appropriate consideration to any beneficial actions taken by the Federal agency or applicant including any actions taken prior to the initiation of consultation.

Paragraph (h) of § 402.14, which deals with the contents of a biological opinion, is adopted with minor, technical corrections from proposed § 402.15 (g)-(h). The final rule distinguishes that information or material which will be included in a biological opinion from that which will be provided with a biological opinion.

The biological opinion will include: (1) a summary of the information on which the opinion is based; (2) a detailed discussion of the effects of the action on listed species or critical habitat; and (3) the Service's opinion as to whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The biological opinion will conclude that either: (1) the action is not likely to

jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat (a "no jeopardy" biological opinion), or (2) the action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat (a "jeopardy" biological opinion).

If a "jeopardy" biological opinion is issued, the Service must identify and include reasonable and prudent alternatives, if any, that will avoid jeopardy and that the Federal agency or applicant can implement. If the Service is unable to develop reasonable and prudent alternatives, it will indicate that, to the best of its knowledge, there are no such alternatives that would satisfy the standard of section 7(a)(2).

Paragraph (i) of § 402.14, which governs incidental taking under section 7(b)(4) of the Act, is adopted essentially as proposed in § 402.19. This paragraph is included in the formal consultation section of the final rule because of the direct relationship between final biological opinions and incidental take statements.

The 1982 Amendments changed section 7(b) to include provisions concerning incidental taking of species. The new provisions included in sections 7(b)(4) and 7(o)(2) of the Act are designed to resolve the situation where a Federal agency or an applicant has been advised, through a biological opinion, that the proposed action or the adoption of the reasonable and prudent alternative(s), will not violate section 7(a)(2) of the Act, but the proposed action (or adopted alternative) will result in taking individuals of a listed species incidental to the action. The new provision states that, if the action complies with specified terms and conditions, the resulting incidental take will not be a violation of any "taking" prohibitions established by section 4(d) or 9(a)(1) of the Act.

As noted in the public comments, the availability of an "incidental" taking exemption through the section 7 consultation process is a welcome clarification made by the 1982 Amendments. However, many commenters requested additional guidance on this subject, and several felt that the proposed rule was cumbersome and burdensome. The Service believes that the following discussion will clarify the incidental take provision and explain the incentives for compliance with sections 7(a)(2) and 7(b)(4) of the Act.

If an agency action receives a "no jeopardy" biological opinion, or if the Federal agency adopts any reasonable

and prudent alternative provided in a "jeopardy" biological opinion, then the action may proceed in compliance with section 7. An incidental take statement will be provided with the biological opinion when the activity may incidentally take individuals of a listed species but not so many as to jeopardize their continued existence. If the action proceeds in compliance with the terms and conditions of the incidental take statement, then any resulting incidental takings are exempt from the prohibitions of section 4(d) or 9 of the Act. No permit is required of the Federal agency or any applicant in carrying out the action, as one commenter contended. The biological opinion, plus the incidental take statement, operate as an exemption under section 7(o)(2) of the Act. However, this exemption is limited to actions taken by the Federal agency or applicant that comply with the terms and conditions specified in the incidental take statement. Compliance with these terms and conditions is mandatory to qualify for the exemption from section 4(d) or 9 of the Act.

"Actions that are not in compliance with the specified measures . . . remain subject to the prohibition against takings that is contained in section 9." S. Rep. No. 418, 97th Cong., 2d Sess. 21 (1982). Therefore, the Service cannot make these terms discretionary, as urged by one commenter.

Paragraph (i)(1) states that, where incidental takings may occur, the Service will provide with the biological opinion to the Federal agency and applicant a written statement that: (i) specifies the impact, *i.e.*, amount or extent, of such anticipated incidental take of the species that does not violate section 7(a)(2), (ii) specifies those reasonable and prudent measures necessary or appropriate to minimize such impact, (iii) sets forth the terms and conditions, including, but not limited to, reporting requirements, that must be complied with by the Federal agency or any applicant in order to implement the reasonable and prudent measures specified under (ii) above, and (iv) specifies the procedures to be used to handle or dispose of any individuals of a species actually taken. Several comments were received on these elements of the incidental take statement.

Because, in some cases, exact numerical limits on the amount of permissible incidental taking will be difficult to determine, the Service may, in accordance with (i)(1)(i), specify the extent of anticipated take that will not violate section 7(a)(2) of the Act. The impact of a particular action may only

using the best scientific and commercial data available.

(g) *Service responsibilities.* Service responsibilities during formal consultation are as follows:

(1) Review all relevant information provided by the Federal agency or otherwise available. Such review may include an on-site inspection of the action area with representatives of the Federal agency and the applicant.

(2) Evaluate the current status of the listed species or critical habitat.

(3) Evaluate the effects of the action and cumulative effects on the listed species or critical habitat.

(4) Formulate its biological opinion as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

(5) Discuss with the Federal agency and any applicant the Service's review and evaluation conducted under paragraphs (g)(1)-(3) of this section, the basis for any finding in the biological opinion, and the availability of reasonable and prudent alternatives (if a jeopardy opinion is to be issued) that the agency and the applicant can take to avoid violation of section 7(a)(2). The Service will utilize the expertise of the Federal agency and any applicant in identifying these alternatives. If requested, the Service shall make available to the Federal agency the draft biological opinion for the purpose of analyzing the reasonable and prudent alternatives. The 45-day period in which the biological opinion must be delivered will not be suspended unless the Federal agency secures the written consent of the applicant to an extension to a specific date. The applicant may request a copy of the draft opinion from the Federal agency. All comments on the draft biological opinion must be submitted to the Service through the Federal agency, although the applicant may send a copy of its comments directly to the Service. The Service will not issue its biological opinion prior to the 45-day or extended deadline while the draft is under review by the Federal agency. However, if the Federal agency submits comments to the Service regarding the draft biological opinion within 10 days of the deadline for issuing the opinion, the Service is entitled to an automatic 10-day extension on the deadline.

(6) Formulate discretionary conservation recommendations, if any, which will assist the Federal agency in reducing or eliminating the impacts that its proposed action may have on listed species or critical habitat.

(7) Formulate a statement concerning incidental take, if such take may occur.

(8) In formulating its biological opinion, any reasonable and prudent alternatives, and any reasonable and prudent measures, the Service will use the best scientific and commercial data available and will give appropriate consideration to any beneficial actions taken by the Federal agency or applicant, including any actions taken prior to the initiation of consultation.

(h) *Biological opinions.* The biological opinion shall include:

(1) A summary of the information on which the opinion is based;

(2) A detailed discussion of the effects of the action on listed species or critical habitat; and

(3) The Service's opinion on whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a "jeopardy biological opinion"); or, the action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a "no jeopardy" biological opinion). A "jeopardy" biological opinion shall include reasonable and prudent alternatives, if any. If the Service is unable to develop such alternatives, it will indicate that to the best of its knowledge there are no reasonable and prudent alternatives.

(i) *Incidental take.* (1) In those cases where the Service concludes that an action (or the implementation of any reasonable and prudent alternatives) and the resultant incidental take of listed species will not violate section 7(a)(2), the Service will provide with the biological opinion a statement concerning incidental take that:

(i) Specifies the impact, i.e., the amount or extent, of such incidental taking of the species;

(ii) Specifies those reasonable and prudent measures that the Director considers necessary or appropriate to minimize such impact;

(iii) Sets forth the terms and conditions (including, but not limited to, reporting requirements) that must be complied with by the Federal agency or any applicant to implement the measures specified under (ii) above; and

(iv) Specifies the procedures to be used to handle or dispose of any individuals of a species actually taken.

(2) Reasonable and prudent measures, along with the terms and conditions that implement them, cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes.

(3) In order to monitor the impacts of incidental take, the Federal agency or any applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. The reporting requirements will be established in accordance with 50 CFR 13.45(FWS) and 222.23(d)(NMFS).

(4) If during the course of the action the amount or extent of incidental taking, as specified under paragraph (i)(1)(i) of this Section, is exceeded, the Federal agency must reinstate consultation immediately.

(j) *Conservation recommendations.* The Service may provide with the biological opinion a statement containing discretionary conservation recommendations. Conservation recommendations are advisory and are not intended to carry any binding legal force.

(k) *Incremental steps.* When the action is authorized by a statute that allows the agency to take incremental steps toward the completion of the action, the Service shall, if requested by the Federal agency, issue a biological opinion on the incremental step being considered, including its views on the entire action. Upon the issuance of such a biological opinion, the Federal agency may proceed with or authorize the incremental steps of the action if:

(1) The biological opinion does not conclude that the incremental step would violate section 7(a)(2);

(2) The Federal agency continues consultation with respect to the entire action and obtains biological opinions, as required, for each incremental step;

(3) The Federal agency fulfills its continuing obligation to obtain sufficient data upon which to base the final biological opinion on the entire action;

(4) The incremental step does not violate section 7(d) of the Act concerning irreversible or irretrievable commitment of resources; and

(5) There is a reasonable likelihood that the entire action will not violate section 7(a)(2) of the Act.

(l) *Termination of consultation.* (1) Formal consultation is terminated with the issuance of the biological opinion.

(2) If during any stage of consultation a Federal agency determines that its proposed action is not likely to occur, the consultation may be terminated by written notice to the Service.

(3) If during any stage of consultation a Federal agency determines, with the concurrence of the Director, that its proposed action is not likely to adversely affect any listed species or critical habitat, the consultation is terminated.

NATHANIEL PRYOR REED
POST OFFICE BOX 375
HOBE SOUND, FLORIDA 33475

TELEPHONE
(407) 546-2666

TELEFAX
(407) 546-5019

January 19, 1995

ALWAYS
Colonel Terrence L. Rice, District Engineer
U.S. Army Corps of Engineers
PO Box 4770
Jacksonville, FL 32232

Dear Colonel Rice,

I am absolutely perturbed at the State's Department of Environmental Protection over two issues that directly concern the Corps. The first is to agree on the St. Lucie Inlet plan so that the Corps can provide adequate and safe passage in and out of the inlet and deliver the sand clogged in the inlet to Jupiter Island's eroding beaches.

The second issue is over the restrictions imposed by the state and backed by the U.S. Fish and Wildlife Service which effectively prevents summer renourishment projects. The additional expense and the inherent danger to the dredging crews is of serious concern to all of us who live on barrier islands and survive by frequent, expensive renourishment projects. Being downstream of the worst beach sand guzzler in the state -- the St. Lucie Inlet -- we desperately need your assistance.

The first step is for the Department of Environmental Protection to publish emergency rules allowing summer dredging where seawalls are in imminent danger of collapse or have collapsed. If we are successful in changing the state's attitude toward beach nourishment, then we need to turn to the Corps and have you or the Assistant Secretary overrule the Fish and Wildlife Service's objections to all summer renourishment programs.

My FAX to Virginia Wetherell on the subject is enclosed. Frankly, forcing municipalities and counties to dredge in the winter or spring is simply illogical. The experiment was tried and it failed. If the Service and the state really want to help the turtles, let the projects be completed during the calm summer months. The arguments that moving 1,000 nests or 5,000 nests is going to have any impact on the number or sex of the baby turtles is scientifically unsound.

Common sense seems to be in short supply and we need to face the realities of erosion with a clean slate of ideas.

Sincerely,

Nathaniel P. Reed

Nathaniel P. Reed

/j
enc.

cc: Mayor Russell Simpson
Town Commissioners
County Commissioners

DP —
Richman - Res Poush
PLS - No more than
1 page. A

**DESIGN MEMORANDUM
AND FINAL ENVIRONMENTAL ASSESSMENT
ST. LUCIE INLET, MARTIN COUNTY, FLORIDA**

**APPENDIX E
PROJECT COOPERATION AGREEMENT**

**U.S. ARMY ENGINEER DISTRICT
JACKSONVILLE, FL**

MAY 2000

AGREEMENT BETWEEN
THE UNITED STATES OF AMERICA
AND
MARTIN COUNTY, FLORIDA
FOR LOCAL COOPERATION AT
ST. LUCIE INLET

Ratification of Resolution No. 78-6.11 and Agreement No. DACW17-78-A-1001.

1. On 21 March 1978 Martin County entered into Agreement No. DACW17-78-A-1001 with the United States.

2. Paragraph 1(g) has been redrawn and revised from:

g. Provide and maintain without cost to the United States necessary mooring facilities and utilities, including a public landing with suitable supply facilities open to all on equal terms;

to the following new and revised language:

g. Provide and maintain without cost to the United States a marina with necessary mooring facilities and utilities, including a public landing with suitable supply facilities open to all on equal terms;

3. On 27 June 1978 the Board of County Commissioners, Martin County, Florida, by Resolution No. 78-6.11 approved the change in paragraph 1(g).

4. The Government accepts and approves Resolution No. 78-6.11.

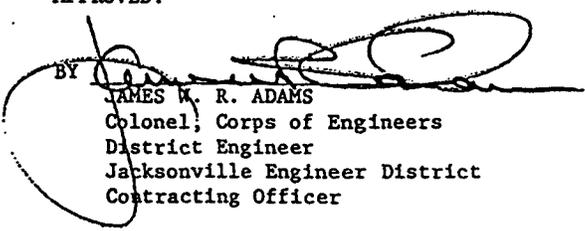
The agreement is affirmed by the Government as amended.

IN WITNESS WHEREOF, the undersigned has executed this document on behalf of the United States of America.

THE UNITED STATES OF AMERICA

APPROVED:

BY


JAMES M. R. ADAMS
Colonel, Corps of Engineers
District Engineer
Jacksonville Engineer District
Contracting Officer

FOR THE SECRETARY OF THE ARMY

DATE: 24 August 1978

BEFORE THE BOARD OF COUNTY COMMISSIONERS
MARTIN COUNTY, FLORIDA

RESOLUTION NUMBER 78-6.11

[REGARDING APPROVING CHANGE IN CONTRACT BETWEEN U.S.A. AND
MARTIN COUNTY FOR LOCAL COOPERATION IN ST. LUCIE INLET]

WHEREAS, this Board has made the following deter-
minations of fact:

1. On March 21, 1978, Martin County entered into an Agreement with the United States of America for local cooperation at the St. Lucie Inlet; and,
2. Paragraph 1(g) of said Agreement has been re-drawn and revised; and,
3. This Board deems it necessary and proper to approve the change and affirm the Agreement in its present form;

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MARTIN COUNTY, FLORIDA, THAT:

This Board hereby approves the change in Paragraph 1(g) of the Agreement between the United States of America and Martin County for local cooperation at the St. Lucie Inlet, a copy of which is attached hereto and incorporated herein as Exhibit "A", and affirms the Agreement in its present form.

DULY PASSED AND ADOPTED THIS 27TH DAY OF JUNE, 1978.

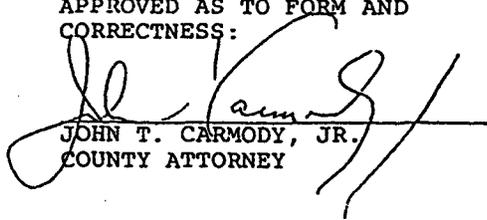
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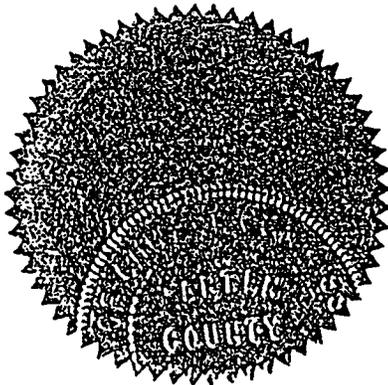
BOARD OF COUNTY COMMISSIONERS
MARTIN COUNTY, FLORIDA


LOUISE V. ISAACS, CLERK

BY: 
FRANK A. WACHA,
VICE CHAIRMAN

APPROVED AS TO FORM AND
CORRECTNESS:


JOHN T. CARMODY, JR.
COUNTY ATTORNEY



AGREEMENT BETWEEN
THE UNITED STATES OF AMERICA
AND
MARTIN COUNTY, FLORIDA
FOR LOCAL COOPERATION AT
ST. LUCIE INLET

THIS AGREEMENT entered into this 21 day of March 1976, by and between the UNITED STATES OF AMERICA (hereinafter called the "Government"), represented by the Contracting Officer executing this agreement, and MARTIN COUNTY (hereinafter called the "Sponsor"), WITNESSETH THAT:

WHEREAS, modification to the existing project was authorized by House Resolution, dated 9 May 1974, and Senate Resolution, dated 31 May 1974, under Section 201 of the Flood Control Act of 1965 as follows: St. Lucie Inlet, Florida - (HD 294/93/1) and as stated in the Board of Engineers for Rivers and Harbors report, dated 29 August 1973, and as revised in Phase I, General Design Memorandum on St. Lucie Inlet, Florida, dated March 1977, prepared by the Jacksonville District Corps of Engineers, consisting of:

As it now exists, the north jetty is functioning as a jetty-weir. No change from the current condition is recommended;

Construction of a north jetty extension about 350 feet in a south-southeasterly direction then about 300 feet in a southeasterly direction. The first 350 feet of the extension will lie on an existing reef while the remaining 300 feet will cross over the reef into deeper water;

Excavation of a sand impoundment basin adjacent to the existing jetty with dimensions of 2,500 feet long parallel to the jetty, 450 feet wide, and 11 feet deep. The east end of the basin will be located at the seaward point of passage of littoral drift material;

Construction of a south jetty extending 1,200 feet seaward from the tip of Jupiter Island along an east-southeasterly alignment. An additional 400 feet of jetty-stone will be placed upland to the vegetation line joining a bulkhead constructed of rock excavated from the project;

Excavation of a channel between the existing bar-cut and the Intra-coastal Waterway, 300 feet wide and 16 feet deep through the bar-cut tapering to a width of 150 feet and depth of 10 feet through the inlet, and becoming 100 feet wide and 7 feet deep in the channel to the Intra-coastal Waterway; and

Construction of a 400 foot detached breakwater located immediately south of the entrance channel alined in a northeast direction;

all generally in accordance with the plan of the District Engineer and with such modifications thereof as in the discretion of the Chief of Engineers may be advisable at an estimated first cost to the United States of \$4,689,500, which was formerly \$3,725,000 for construction, and an annual Federal cost of \$344,500 for operation and maintenance, which was formerly \$239,700, both exclusive of navigation aids, with Federal cost sharing to be in accordance with the policy established by existing law.

WHEREAS, the Sponsor hereby represents that it has the authority and capability to furnish the non-Federal cooperation required by the Federal legislation authorizing the project and by other applicable law.

NOW THEREFORE, the parties agree as follows:

1. The Sponsor agrees that, if the Government shall commence construction of modification of the existing Federal project at St. Lucie Inlet, Florida, substantially in accordance with Federal legislation authorizing such Project, approved 27 October 1965, Public Law 89-298, and as revised in Phase I - General Design Memorandum on St. Lucie Inlet, Florida, dated March 1977, prepared by the Jacksonville District Corps of Engineers, the Sponsor shall, in consideration of the Government commencing construction of such project, fulfill the requirements of non-Federal cooperation specified in such legislation, to wit:

a. Develop the State park on Jupiter Island as necessary for the realization of the potential public benefits estimated to result from the recommended Federal project, including continued public ownership and administration of the shore upon which the amount of Federal participation is based;

b. Contribute in cash the following percentages of the construction cost, including supervision and administration, and engineering and design, of all items of work to be provided by the Corps of Engineers: 27.1 percent allocated to navigation, 23.2 percent allocated to beach erosion control, and 50.0 percent allocated to the jetty fishing walkway, these amounts presently estimated at \$1,084,800, \$515,900 and \$63,500, respectively, to be paid in a lump sum prior to start of construction or in installments prior to start of pertinent work items in accordance with construction schedules as required by the Chief of Engineers; all such cost sharing to be based on actual conditions of costs, benefits, and final allocations of cost which will be made after actual construction costs have been determined;

c. Provide a cash contribution for adequate maintenance and beach nourishment of the modified project in accordance with regulations prescribed by the Chief of Engineers, in amounts estimated at 23.2 percent of the annual costs for maintenance dredging allocated to beach erosion control for periodic beach nourishment, and 100 percent of the annual jetty maintenance costs allocated to beach erosion control, these amounts presently estimated at \$58,300 and \$29,700, respectively;

d. Maintain the jetty fishing walkway at an estimated cost of \$8,600 annually;

e. Provide without cost to the United States all lands, easements, and rights-of-way required for construction of the project and for aids to navigation upon the request of the Chief of Engineers, including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of dredged material, and necessary retaining dikes, bulkheads, and embankments therefor or the costs of such retaining works;

f. Hold and save the United States free from any damages that may be attributed to construction and maintenance of the project, except damages due to the fault or negligence of the United States or its contractors;

g. Provide and maintain without cost to the United States a marina with necessary mooring facilities and utilities, including a public landing with suitable supply facilities open to all on equal terms;

h. Provide and maintain without cost to the United States depths in the berthing area and local access and feeder channels commensurate with the depths provided in the project; and

1. Accomplish without cost to the United States such alterations as required in sewer, water supply, drainage, and other utility facilities as required for construction and subsequent maintenance of the project;

2. In the event the Sponsor desires to proceed with construction of useful portions of the project prior to the availability of Federal funds, the Sponsor may be authorized to proceed with such work contingent upon satisfactory execution of Supplemental Agreement hereto. Such supplement shall, inter alia, provide that the Sponsor will be reimbursed or credited for the Federal share of the work performed by the sponsor on the project. This reimbursement or credit for local expenditures, upon Federal funds becoming available, shall be contingent upon prior approval of the work by the Chief of Engineers as being in accordance with the authorized project. The amount of reimbursement or credit will be based on a determination of the reduction in cost of the Federal project resulting from the Sponsor's work, such determination to be at the time of Federal construction. Payment shall be based on the lesser of either the unit cost under the Federal contract or actual cost.

3. The Sponsor agrees that all acquisitions required to comply with conditions of this contract shall be accomplished in accordance with the provisions of Public Law 91-646, Uniform Relocation Assistance and Real Property Acquisition Act of 1970.

4. The Sponsor hereby gives the Government a right to enter upon, at reasonable times and in a reasonable manner, lands which the Sponsor owns or controls, for access to the Project for the purpose of inspection, and for the purpose of completing, operating, repairing and maintaining the Project, if such inspection shows that the Sponsor for any reason is failing to complete, repair and maintain the Project in accordance with the assurances hereunder and has persisted in such failure after a reasonable notice in writing by the Government delivered to the Sponsor. No completion, operation, repair and maintenance by the Government in such event shall operate to relieve the Sponsor of responsibility to meet its obligations as set forth in paragraph 1 of this Agreement, or to preclude the Government from pursuing any other remedy at law or equity.

5. The Sponsor agrees to sign and comply with the conditions set forth in the attached EXHIBIT A as assurance of compliance with the Department of Defense directive under Title VI of the Civil Rights Act of 1964, which by reference is made a part of this contract as if it were fully set forth herein.

6. The Sponsor is hereby informed that by the signing of this Agreement, the Government is not committed to the construction of the Project.

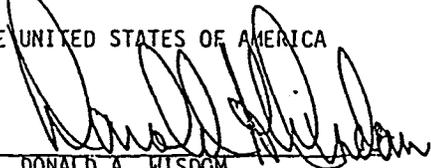
7. This Agreement is subject to the approval of the Secretary of the Army or his authorized representative.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the day and year first above written.

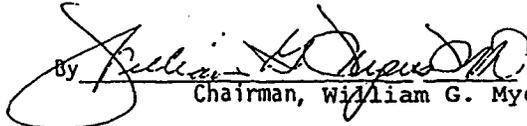
THE UNITED STATES OF AMERICA

MARTIN COUNTY, FLORIDA, by its
BOARD OF COUNTY COMMISSIONERS

By


DONALD A. WISDOM
Colonel, Corps of Engineers
District Engineer
Jacksonville Engineer District
Contracting Officer

By

 (Seal)
Chairman, William G. Myers

DATE:

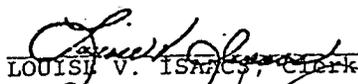
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DATE: March 21, 1978

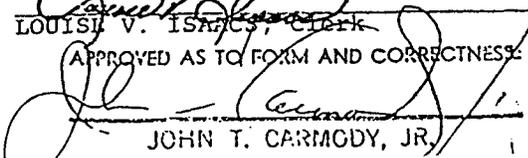
APPROVED:

ATTEST:

For the Secretary of the Army
or his authorized representative


LOUISE V. ISAACS, Clerk

APPROVED AS TO FORM AND CORRECTNESS


JOHN T. CARMODY, JR.

CERTIFICATE OF AUTHORITY

I, John T. Carmody, Jr., do hereby certify that I am the Chief Legal Officer of Martin County, that Martin County is a legally constituted public body with full authority and capability to perform the terms of the agreement between the United States of America and Martin County in connection with Local Cooperation at St. Lucie Inlet, and to pay damages, if necessary, in the event of the failure to perform in accordance with Section 221 of Public Law 91-611 and that the person(s) who have executed the contract on behalf of Martin County have acted within their statutory authority.

In Witness Whereof, I have made and executed this Certificate this
21st day of March, 1978

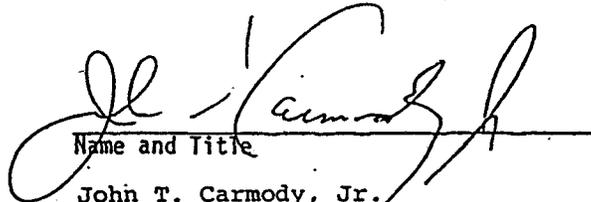

Name and Title
John T. Carmody, Jr.
County Attorney

EXHIBIT A

ASSURANCE OF COMPLIANCE WITH THE DEPARTMENT OF DEFENSE
DIRECTIVE UNDER TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

THE SPONSOR HEREBY AGREES THAT it will comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352) and all requirements imposed by or pursuant to the Directive of the Department of Defense (32 CFR. Part 300, issued as Department of Defense Directive 5500.11, Change 3, dated 11 April 1966) issued pursuant to that title, to the end that, in accordance with Title VI of the Act and the Directive, no person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Sponsor receives Federal financial assistance from the Department of the Army and HEREBY GIVES ASSURANCE THAT it will immediately take any measure necessary to effectuate this agreement.

If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Sponsor by the Department of the Army, assurance shall obligate the Sponsor, or in the case of any transfer of such property, any transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance shall obligate the Sponsor for the period during which the Federal financial assistance is extended to it by the Department of the Army.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts or other Federal financial assistance which were approved before such date. The Sponsor recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Sponsor, its successors, transferees, and assignees, and the person or persons whose signatures appear below are authorized to sign this assurance on behalf of the Sponsor.

Date: March 21, 1978

BOARD OF COUNTY COMMISSIONERS
MARTIN COUNTY, FLORIDA

BY: William G. Myers MD
WILLIAM G. MYERS,
CHAIRMAN

STATE OF FLORIDA
Martin County

I hereby certify that the foregoing
is a true and correct copy of said
Resolution No. 78-6.11 as
recorded in Clark's File #
31-359 of the public records
in

By Charlotte Burkley D.C.
I ass my hand and seal of
office this 31st day of July 1978
WYSE Y. ISAACS, Clerk