
MAY 2001

MAINTENANCE DREDGING

**INTRACOASTAL WATERWAY-MATANZAS INLET
VICINITY
ST. JOHNS COUNTY, FLORIDA**

ENVIRONMENTAL ASSESSMENT



**U.S. Army Corps
of Engineers**
Jacksonville District
South Atlantic Division

**ENVIRONMENTAL ASSESSMENT
ON
MAINTENANCE DREDGING
INTRACOASTAL WATERWAY-MATANZAS INLET VICINITY
ST. JOHNS COUNTY, FLORIDA**

TABLE OF CONTENTS

TABLE OF CONTENTS	1
1 PROJECT PURPOSE AND NEED	1
1.1 INTRODUCTION.....	1
1.2 PROJECT NEED	1
1.3 PROJECT AUTHORITY	1
1.4 DECISION TO BE MADE	2
1.5 RELEVANT ISSUES	2
1.5 NEPA DOCUMENTATION.....	2
1.6 PERMITS REQUIRED	2
1.7 METHODOLOGY.....	2
2 ALTERNATIVES	5
2.1 INTRODUCTION	5
2.2 DESCRIPTION OF ALTERNATIVES	5
2.2.1 NO-ACTION ALTERNATIVE.....	5
2.2.2 DREDGING ALTERNATIVE	5
2.2.2.1 DISPOSAL SITE.....	5
2.3 PREFERRED ALTERNATIVE	5
2.4 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS	5
2.5 COMPARISON OF ALTERNATIVES.....	7
3 AFFECTED ENVIRONMENT	8
3.1 INTRODUCTION	8

3.2	GENERAL ENVIRONMENTAL SETTING	8
3.2.1	AREA TO BE DREDGED	8
3.2.2	DISPOSAL AREA SJ-MB	8
3.3	WATER QUALITY	8
3.3.1	WATER USE CLASSIFICATION	8
3.3.2	SEDIMENT ANALYSIS	9
3.4	SHORELINE STABILIZATION	9
3.5	THREATENED AND ENDANGERED SPECIES	9
3.5.1	SEA TURTLES	9
3.5.2	MANATEES	9
3.6	MIGRATORY BIRDS	9
3.7	WETLANDS AND MUDFLATS	9
3.8	ESSENTIAL FISH HABITAT	10
3.9	BENTHOS	10
3.9.1	AREA TO BE DREDGED	10
3.9.2	DISPOSAL AREA	10
3.10	CULTURAL RESOURCES	10
3.11	NAVIGATION	10
3.12	SOCIO-ECONOMICS	10
3.13	RECREATION	11
3.14	AESTHETICS	11
4	ENVIRONMENTAL EFFECTS	11
4.1	INTRODUCTION	11
4.2	WATER QUALITY	11
4.2.1	NO-ACTION ALTERNATIVE	11
4.2.2	DREDGING ALTERNATIVE	11
4.3	SHORELINE STABILIZATION	11
4.3.1	NO-ACTION ALTERNATIVE	11
4.3.2	DREDGING ALTERNATIVE	12
4.4	THREATENED AND ENDANGERED SPECIES	12
4.4.1	NO-ACTION ALTERNATIVE	12
4.4.2	DREDGING ALTERNATIVE	12
4.4.2.1	Manatees	12
4.4.2.2	Sea Turtles	13
4.5	MIGRATORY BIRDS	13
4.5.1	NO-ACTION ALTERNATIVE	13
4.5.2	DREDGING ALTERNATIVE	13

4.6 WETLANDS AND MUDFLATS	14
4.6.1 NO-ACTION ALTERNATIVE.....	14
4.6.2 DREDGING ALTERNATIVE.....	14
4.7 ESSENTIAL FISH HABITAT	14
4.7.1 NO-ACTION ALTERNATIVE.....	14
4.7.2 DREDGING ALTERNATIVE.....	14
4.8 BENTHOS	14
4.8.1 NO-ACTION ALTERNATIVE.....	14
4.8.2 DREDGING ALTERNATIVE.....	14
4.8.2.1 AREA TO BE DREDGED.....	14
4.8.2.2 DISPOSAL SITE.....	14
4.9 CULTURAL RESOURCES	15
4.9.1 NO-ACTION ALTERNATIVE.....	15
4.9.2 DREDGING ALTERNATIVE.....	15
4.10 NAVIGATION	15
4.10.1 NO-ACTION ALTERNATIVE.....	15
4.10.2 DREDGING ALTERNATIVE.....	15
4.11 SOCIO-ECONOMICS	15
4.11.1 NO-ACTION ALTERNATIVE.....	15
4.11.2 DREDGING ALTERNATIVE.....	15
4.12 RECREATION	16
4.12.1 NO-ACTION ALTERNATIVE.....	16
4.12.2 DREDGING ALTERNATIVE.....	16
4.13 AESTHETICS	16
4.13.1 NO-ACTION ALTERNATIVE.....	16
4.13.2 DREDGING ALTERNATIVE.....	16
4.14 CUMULATIVE IMPACTS	16
4.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	17
4.15.1 IRREVERSIBLE.....	17
4.15.2 IRRETRIEVABLE.....	17
4.16 ENVIRONMENTAL COMMITMENTS	17
4.17 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS	18
4.18 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS	18
4.18.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969.....	18
4.18.2 ENDANGERED SPECIES ACT OF 1973.....	18
4.18.3 FISH AND WILDLIFE COORDINATION ACT OF 1958.....	19
4.18.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (as amended).....	19
4.18.5 CLEAN WATER ACT OF 1972.....	19
4.18.6 CLEAN AIR ACT OF 1972.....	19
4.18.7 COASTAL ZONE MANAGEMENT ACT OF 1972.....	19
4.18.8 FARMLAND PROTECTION POLICY ACT OF 1981.....	19
4.18.9 WILD AND SCENIC RIVER ACT OF 1968.....	19
4.18.10 MARINE MAMMAL PROTECTION ACT OF 1972.....	20
4.18.11 ESTUARY PROTECTION ACT OF 1968.....	20
4.18.12 FEDERAL WATER PROJECT RECREATION ACT.....	20
4.18.13 FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976.....	20
4.18.14 SUBMERGED LANDS ACT OF 1953.....	20
4.18.15 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990.....	20
4.18.16 RIVERS AND HARBORS ACT OF 1899.....	20

4.18.17	ANADROMOUS FISH CONSERVATION ACT	20
4.18.18	MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT	21
4.18.19	MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT	21
4.18.20	MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT	21
4.18.21	E.O. 11990, PROTECTION OF WETLANDS.....	21
4.18.22	E.O. 11988, FLOOD PLAIN MANAGEMENT	21
4.18.23	E.O. 12898, ENVIRONMENTAL JUSTICE	21
4.18.24	E.O. 13089, CORAL REEF PROTECTION	21
5	LIST OF PREPARERS	22
5.1	PREPARERS	22
5.2	REVIEWERS	22
6	PUBLIC INVOLVEMENT	22
6.1	SCOPING	22
6.2	COMMENTS RECEIVED AND RESPONSE	22
	REFERENCES	23
	APPENDIX A - SECTION 404(B) EVALUATION.....	25
	APPENDIX B - COASTAL ZONE MANAGEMENT CONSISTENCY	32
	APPENDIX C - PERTINENT CORRESPONDENCE	37

LIST OF FIGURES

Figure 1.	Location Map and Plan View	3
Figure 2.	Project Drawing	4
Figure 3.	Cross Section	6

LIST OF TABLES

Table 1.	Summary of Direct and Indirect Impacts of Alternatives Considered	7
----------	---	---



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

REPLY TO
ATTENTION OF

**MAINTENANCE DREDGING
INTRACOASTAL WATERWAY-MATANZAS INLET VICINITY
ST. JOHNS COUNTY, FLORIDA**

FINDING OF NO SIGNIFICANT IMPACT

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

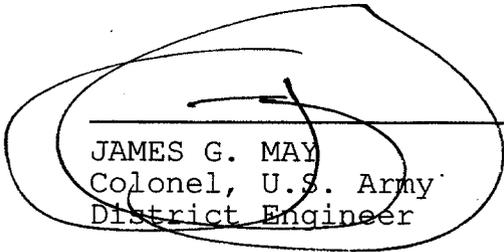
1. The work will be conducted in accordance with the Biological Opinion issued by the U.S. Fish and Wildlife Service for impacts to manatees and sea turtles, and the Regional Biological Opinion issued by the National Marine Fisheries Service. The proposed action will not jeopardize the continued existence of any threatened or endangered species or adversely impact any designated "critical habitat."
2. In coordination with the Florida State Historic Preservation Officer, it was determined that the proposed dredging and beach disposal will not impact any sites of cultural or historical significance.
3. The Florida Department of Environmental Protection has issued a Water Quality Certification (WQC) for this project. The conditions contained within the WQC will be addressed in the Plans and Specifications. Therefore, the state water quality standards will be met.
4. The proposed work has been determined to be consistent with the Florida Coastal Zone Management Program (CZMP).
5. Measures to eliminate, reduce, or avoid potential impacts to fish and wildlife resources will be implemented during project construction.
6. Benefits to the public will be maintenance of the navigation channel, continued local economic stimulus, increased recreational benefits and erosion protection from replacing lost beach area, and increased nesting habitat for sea turtles.

CESAJ-PD-EA

SUBJECT: Finding of No Significant Impact

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.

5/14/01
Date


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

**ENVIRONMENTAL ASSESSMENT
ON
MAINTENANCE DREDGING
INTRACOASTAL WATERWAY-MATANZAS INLET VICINITY
ST. JOHNS COUNTY, FLORIDA**

1 PROJECT PURPOSE AND NEED

1.1 INTRODUCTION

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is proposing to construct a widener or settling basin immediately adjacent to a portion of cut SJ-60 and the entire length of cut SJ-61 of the Intracoastal Waterway (IWW) near Matanzas Inlet, St. Johns County, Florida (see Figure 1, Plan View). Dimensions of the widener are approximately 3000-feet long by 250-feet wide with a depth of 12-feet plus 2-feet of allowable overdepth. However, the proposed widener will taper offshore from Station 17 + 00 to Station 12 + 00 of cut SJ-60 in order to stay at least 100-feet from the existing shoreline (see Figure 2). An estimated 175,000 cubic yards of shoal material consisting of sand, with less than 10% silt, would be dredged from this location and placed onto the beach just south of Summer Haven (between DNR monuments R-200 and R-208). Dredged material would also be placed in 5 blowouts within this area caused by hurricane "Floyd." Designated as SJ-MB, the beach south of Summer Haven has been nourished on multiple occasions in the past.

1.2 PROJECT NEED

A natural channel has become established to the west of cuts SJ-60 and 61 of the IWW and is being used by local water traffic. Shoaling in the area has resulted in the formation of a large delta of sediment between the natural channel and the IWW creating a navigation hazard. The objective of this project, construction of the widener, is to remove the delta so that the two channels merge and thereby complement the natural channel tendencies. In 1994, the Corps dredged 214,000 cubic yards of sediment from this location and within 6 months the channel had completely shoaled in and traffic once again started using the very narrow, twisting natural channel to the west. Boat owners reported damage to their vessels due to grounding. In 1999, the Corps dredged approximately 212,000 cubic yards from this reach with the same results. The average annual dredging requirement for the two cuts is probably in excess of 150,000 cubic yards per year. Creation of the planned widener should decrease the frequency of future dredging within this reach of the IWW as well as provide a more stable channel for boat traffic.

1.3 PROJECT AUTHORITY

Spanning nearly the entire length of Florida from Jacksonville to Miami, an 8 ft deep x 75 ft wide channel was authorized January 21, 1927 by House document

586, 69th Congress, 2nd Session. The present configuration (12 ft deep x 125 ft wide) was authorized by House Document 740, 79th Congress, 2nd Session, 2 March 1945. Advanced maintenance authority for the proposed project was received from the South Atlantic Division, U.S. Army Corps of Engineers on 13 September 2000. The Florida Inland Navigation District (FIND) serves as the local sponsor and is responsible for providing dredged material disposal sites.

1.4 DECISION TO BE MADE

This Environmental Assessment will evaluate whether to conduct the advanced maintenance dredging and, if so, where the dredged material should be placed.

1.5 RELEVANT ISSUES

The following issues were identified as relevant to the proposed action and appropriate for detailed evaluation: (1) water quality degradation; (2) shoreline stabilization; (3) impacts to endangered and threatened species occurring within the project area (i.e. sea turtles and manatees); (4) disturbance of nesting migratory birds; (5) alteration of wetlands and mudflats (6) potential damage to Essential Fish Habitat which may cause a reduction in standing stocks of certain managed species; (7) destruction of benthic communities, especially oyster beds; (8) cultural resource denigration; (9) beneficial or adverse effects to navigation; (10) socio-economic impacts to individuals, families, and businesses harmed by or benefiting by the project; (11) recreational conflicts; and (12) modification of aesthetic quality.

1.5 NEPA DOCUMENTATION

Pursuant to the National Environmental Policy Act (NEPA), this Environmental Assessment was prepared by the Corps in order to address the proposed dredging of the widener adjacent to cuts SJ-60 and SJ-61 of the IWW near Matanzas Inlet. The routine maintenance dredging of cuts SJ-60 and SJ-61 has been previously discussed in a separate NEPA document (U.S. Army Corps of Engineers, 1998).

1.6 PERMITS REQUIRED

In accordance with Section 401 of the Clean Water Act of 1977, as amended, a Water Quality Certification was obtained from the Florida Department of Environmental Protection for the planned dredging activity (see Appendix C). In addition, the proposed action is subject to the Coastal Zone Management Act. Consultation with the State Historic Preservation Officer was also performed.

1.7 METHODOLOGY

An interdisciplinary team used a systematic approach to analyze the affected area, to estimate the probable environmental effects, and to prepare the Environmental Assessment. This included a literature search, coordination with agencies having expertise in certain areas, and on-site field investigations.

FIGURE 1: LOCATION MAP AND PLAN VIEW

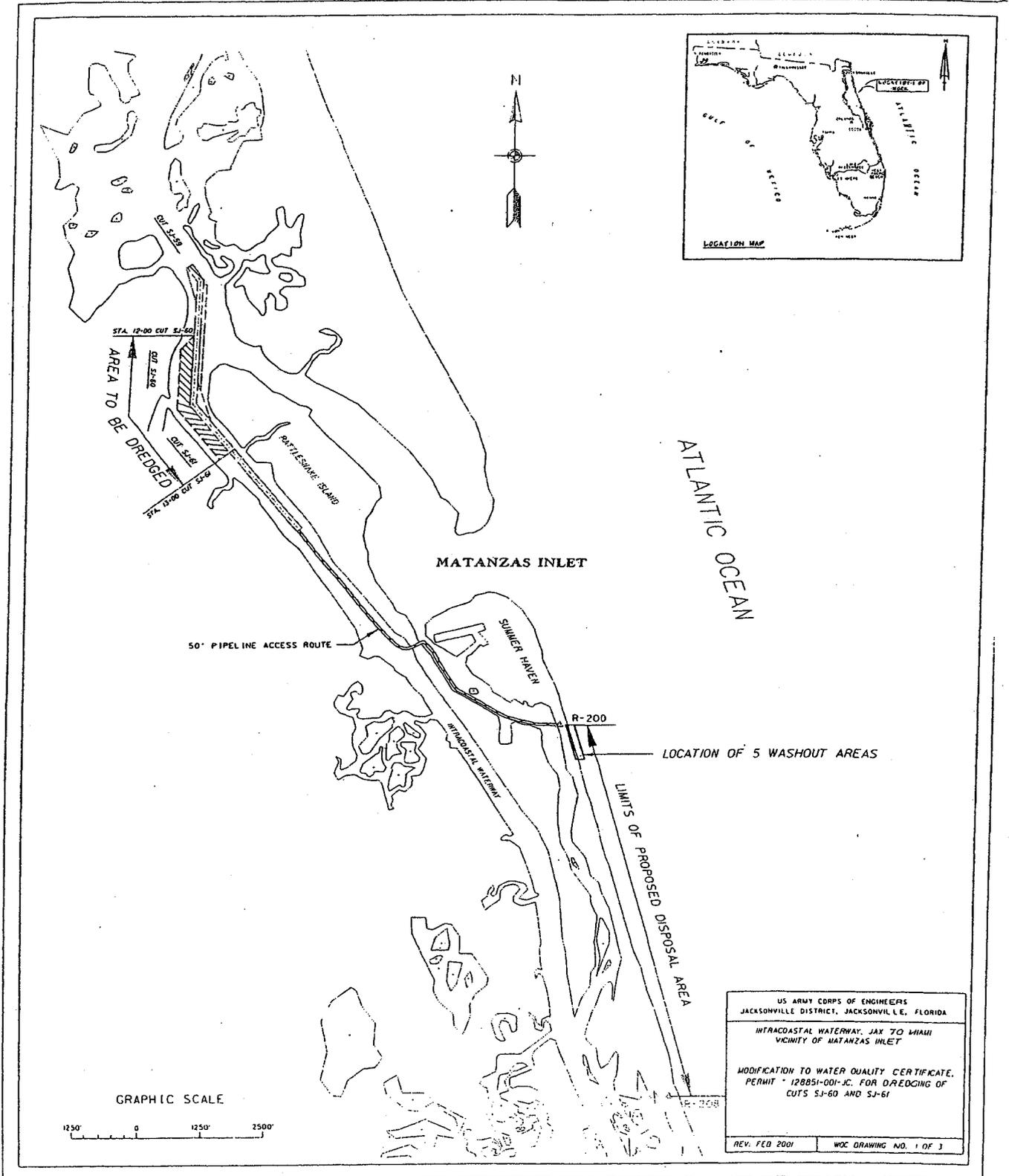
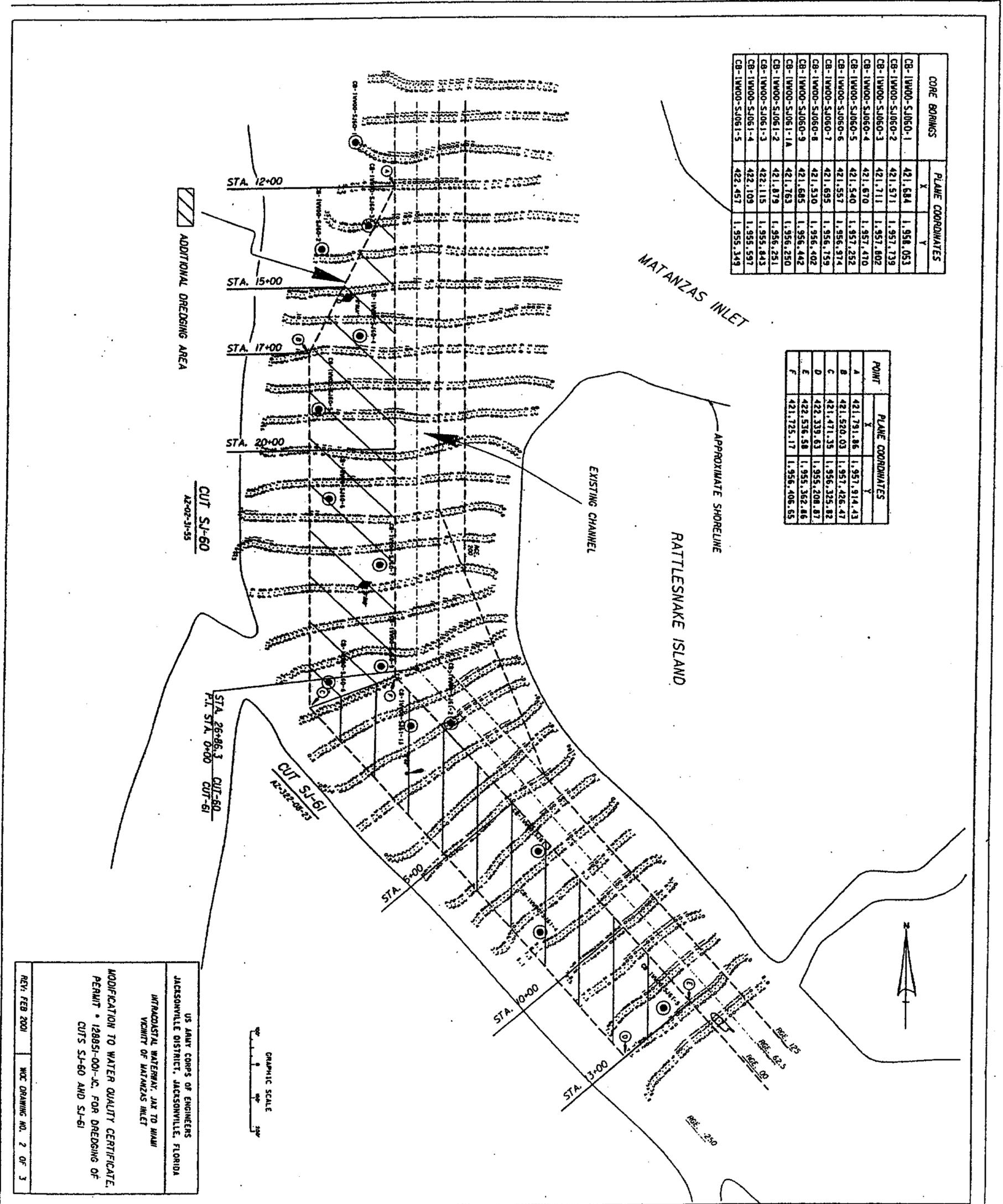


FIGURE 2: PROJECT DRAWING



US ARMY CORPS OF ENGINEERS
 JACKSONVILLE DISTRICT, JACKSONVILLE, FLORIDA
 INTRACASTAL WATERWAY, JAX TO MIAMI
 VICINITY OF MATANZAS INLET

MODIFICATION TO WATER QUALITY CERTIFICATE,
 PERMIT # 128851-001-JC, FOR DREDGING OF
 CUTS SJ-60 AND SJ-61

REV. FEB 2001 WQC DRAWING NO. 2 OF 3

2 ALTERNATIVES

2.1 INTRODUCTION

The Alternatives Section is perhaps the most important component of this Environmental Assessment. It describes the no-action alternative, the proposed dredging alternative, as well as the dredged material disposal options. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice to the decisionmaker and the public. A preferred alternative was selected based on the information and analysis presented in the sections on the Affected Environment and Probable Impacts.

2.2 DESCRIPTION OF ALTERNATIVES

2.2.1 NO-ACTION ALTERNATIVE

The proposed widener adjacent to cuts SJ-60 and SJ-61 of the IWW would not be constructed. Dredging frequency for these cuts would remain the same.

2.2.2 DREDGING ALTERNATIVE

The proposed widener adjacent to a portion of cut SJ-60 and along the entire length of cut SJ-61 would be constructed. Specifically, the delta of sediment within the footprint of the proposed widener would be removed (see Figure 3, Cross Section). A cutter suction pipeline dredge would probably be used to perform the work.

2.2.2.1 DISPOSAL SITE

As previously stated, an estimated 175,000 cubic yards of shoal material consisting of sand, with less than 10% silt, would be dredged from the project location and placed onto the beach just south of Summer Haven (between DNR monuments R-200 and R-208). Dredged material would also be placed in 5 blowouts within this area caused by hurricane "Floyd." Designated as SJ-MB, the beach south of Summer Haven has been renourished on multiple occasions in the past.

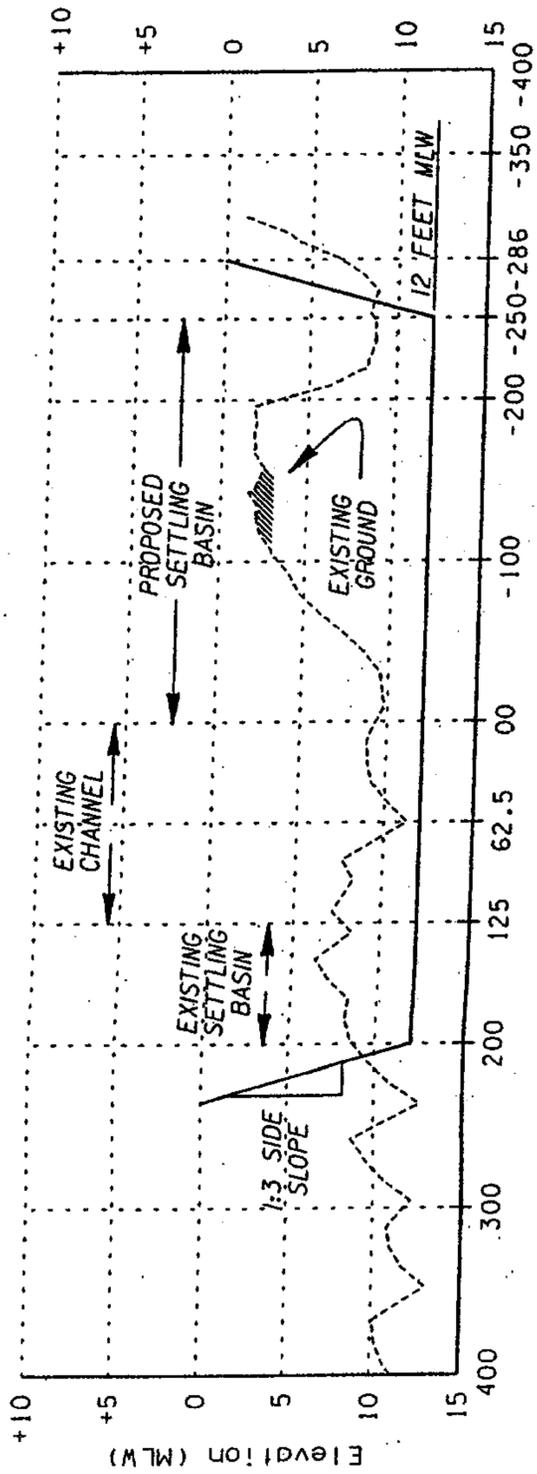
2.3 PREFERRED ALTERNATIVE

The preferred alternative is to construct the widener adjacent to cuts SJ-60 and SJ-61 of the IWW. Creation of the planned widener should decrease the frequency of future dredging near the inlet as well as provide a more stable channel for boat traffic.

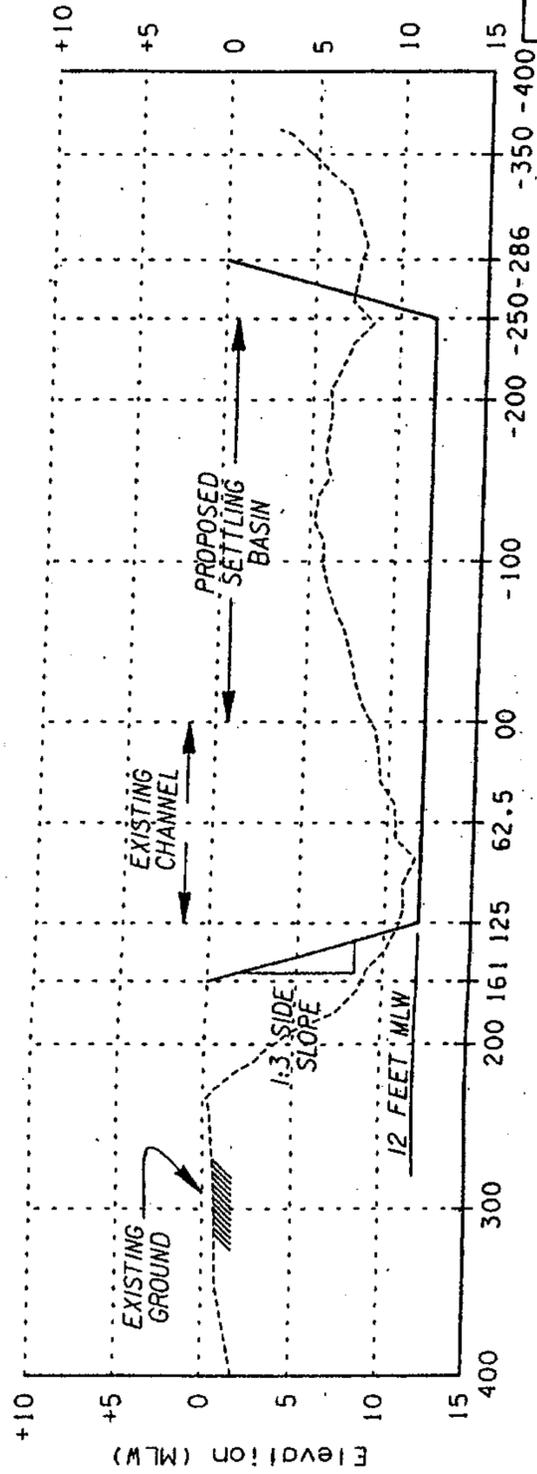
2.4 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

Survey data indicates that the substrate to be dredged contains less than 10% silt making it desirable for beach nourishment purposes. Therefore, upland as well as ocean disposal sites were not considered practical or cost effective options.

FIGURE 3: CROSS SECTION



STA. 15+00 CUT SJ-60



STA. 5+00 CUT SJ-61

US ARMY CORPS OF ENGINEERS
 JACKSONVILLE DISTRICT, JACKSONVILLE, FLORIDA
 INTRACOASTAL WATERWAY, JAX TO MIAMI
 VICINITY OF MATANZAS INLET

MODIFICATION TO WATER QUALITY CERTIFICATE.
 PERMIT # 128851-001-JC. FOR DREDGING OF
 CUTS SJ-60 AND SJ-61

REV: FEB 2001 WCC DRAWING NO. 3 OF 3

2.5 COMPARISON OF ALTERNATIVES

Table 1 lists alternatives considered and summarizes the major features and consequences of the proposed action and alternatives. See Section 4.0, Environmental Effects, for a more detailed discussion of impacts of alternatives.

Table 1: Summary of Direct and Indirect Impacts

ALTERNATIVE	NO-ACTION ALTERNATIVE	DREDGING WITH BEACH PLACEMENT
ENVIRONMENTAL FACTOR		
WATER QUALITY	No impact.	Short-term localized increase in turbidity at the dredge site and the surf zone along the beach placement area.
SHORELINE STABILIZATION	No impact.	No adverse impacts are anticipated.
SEA TURTLES	Minor reduction in the overall nesting habitat in the area.	Minor short-term adverse impact on turtle nesting from placing the sand on the beach may occur. Minor increase in the overall available nesting habitat.
MANATEES	No impact.	No impact with implementation of standard protection measures.
MIGRATORY BIRDS	No impact.	Possible short-term disturbance to nesting birds.
WETLANDS AND MUDFLATS	No impact.	No adverse impacts are anticipated.
ESSENTIAL FISH HABITAT	No impact.	No significant adverse impacts are anticipated.
BENTHOS	No impact.	Minor short-term disturbance at the dredge and disposal sites. No impact to oyster beds.
CULTURAL RESOURCES	No impact.	No adverse impacts are anticipated with avoidance of historic property.
NAVIGATION	Probable adverse impacts to commercial shipping interests and recreational boating from loss of navigable capacity of the channel.	Probable benefits to commercial shipping interests and recreational boating from maintaining the channel. Short-term congestion caused by construction.
SOCIO-ECONOMICS	Probable adverse impacts to commercial shipping interests and services that support recreational boating.	Probable benefits to commercial shipping interests and services that support recreational boating.
RECREATION	Minor reduction in available beach area for recreation.	Minor increase in available beach area. Construction would temporarily disrupt recreation.
AESTHETICS	No impact.	Minor short-term impact due to construction activities.

3 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The Affected Environment Section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that would affect or that would be affected by the alternatives if they were implemented, not the entire existing environment. This section and the description of the "no-action" alternative provides the basic information for determining the environmental impacts of the proposed action and reasonable alternatives.

3.2 GENERAL ENVIRONMENTAL SETTING

3.2.1 AREA TO BE DREDGED

Cuts SJ-60 and 61 form the outside bend of the IWW between Rattlesnake Island and the mainland (refer to Figure 1). Channel morphology and tidal influences make this area an extremely dynamic estuarine environment. A significant bedload of sediment regularly moves through this location which results in shoaling and creates channel instability. Many years ago, a widener or settling basin was constructed along the eastern side of the two cuts in order to reduce dredging frequency and provide for a more stable channel. The new widener would lie immediately west of the cuts and would further trap or settle migrating sediment. Dredged material from the proposed work would be routed through a pipeline along the IWW channel going south, cross a narrow point of Rattlesnake Island, and continue south along the bottom of Rattlesnake Creek re-emerging onto the beach at Summer Haven. The pipeline has already been installed in order to facilitate the off-loading of Dredged Material Management Area SJ-1. Overland crossings traverse disturbed areas vegetated with sparse coppice.

3.2.2 DISPOSAL AREA SJ-MB

Dredged material from the proposed widener would be placed on the beach south of Summer Haven between DNR monuments R-200 and R-208. The beach is comprised primarily of coarse sand, shell, and a few large Coquina rocks. Significant Coquina outcroppings occur just south of SJ-MB. Large escarpments caused by wave erosion were recently observed at SJ-MB prior to off-loading of SJ-1. Storm surge, caused by hurricane "Floyd", over-topped the adjacent dunes resulting in 5 different blowouts.

3.3 WATER QUALITY

3.3.1 WATER USE CLASSIFICATION

Waters within the proposed dredging area have been designated by the state of Florida as Class III quality, suitable for recreation as well as propagation and

maintenance of a healthy and well-balanced population of fish and wildlife.

3.3.2 SEDIMENT ANALYSIS

During February 2000, the Corps sampled the bottom substrate at 14 different stations within the project channel using a vibracore tube. Examination of the sediment indicated that the composition is comprised primarily of sand, fine quartz, shell fragments and a trace of silt. Using a 200 micron sieve, all of the samples contained less than 10% fines making the substrate suitable for beach renourishment.

3.4 SHORELINE STABILIZATION

Recent inspections indicate that the shoreline in the vicinity of cuts SJ-60 and 61 appears to be relatively stable. The banks next to SJ-1 have been sloped and are covered with oyster shell. Wave action caused by recreational craft as well as commercial vessels in combination with alterations of the shoreline can create erosion at this location.

3.5 THREATENED AND ENDANGERED SPECIES

3.5.1 SEA TURTLES

The loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) sea turtles can occur within the proposed dredging area. All of these species are federally endangered except the loggerhead, which is classified as threatened. The loggerhead is also the only sea turtle that is known to regularly nest within the project area (USFWS 1997).

3.5.2 MANATEES

The federally endangered West Indian manatee (*Trichechus manatus*) uses the IWW near Matanzas Inlet as a travel corridor. From January 1974 through December 1999, no manatee mortalities were recorded within this reach of the IWW according to the Florida Marine Research Institute.

3.6 MIGRATORY BIRDS

Beach nesting species such as Wilson's plover (*Charadrius wilsonia*) may occur in the project area (Kale et al. 1990). Beach placement activities are scheduled to take place through habitat that this species might utilize for nesting purposes.

3.7 WETLANDS AND MUDFLATS

Salt marsh, dominated by cord grass (*Spartina alterniflora*) and needle rush (*Juncus roemerianus*), occurs in the Matanzas Inlet area. However, recent site inspections indicate that salt marsh is absent within the project footprint. Mudflats fringe the IWW and inlet area during times of low tide.

3.8 ESSENTIAL FISH HABITAT

Managed species within the project area of specific interest include juvenile penaeid shrimp (*Penaeus sp.*), red drum (*Sciaenops ocellatus*), snappers (family Lutjanidae), as well as other species. Matanzas Inlet and local salt marsh are considered Essential Fish Habitat of particular concern (South Atlantic Fishery Management Council 1998).

3.9 BENTHOS

3.9.1 AREA TO BE DREDGED

Sub-tidal oysterbeds do not occur within the project channel (Berrigan, 2001, personal communication). Macroinvertebrates commonly found in soft-bottom estuarine habitat of the IWW in northern Florida include annelids, mollusks, arthropods, sponges and polyps (Hoffman and Olsen 1982).

3.9.2 DISPOSAL AREA

Upper beach zones in Florida typically support Talitrid amphipods, *Ocypode*, haustoriid amphipods and isopods. The swash zone may be inhabited by coquina clams (*Donax*), mole crabs (*Emerita talpoida*) and several polychaete species. A diverse community of haustoriid and other amphipod groups, *Donax*, *Tellina*, gastropods, polychaetes, burrowing callianassid shrimps, as well as a variety of fishes can be found in the shallow sublittoral zone (Spring 1981; Gorzelany 1983; Peters and Nelson 1987; Nelson and Collins 1987).

3.10 CULTURAL RESOURCES

In accordance with the recommendations of the State Historic Preservation Officer, the proposed dredging area was surveyed for historical structures using a magnetometer. Survey results indicated one unknown target within the project footprint. A diver confirmed that the target was comprised of cables and not of historical significance. Also in the area, Fort Matanzas is located on Rattlesnake Island and is managed by the National Park Service.

3.11 NAVIGATION

In 1998, a total of 694,000 short tons of commercial freight were transported between Jacksonville and Miami via the IWW. Commodities included petroleum products, food and farm products, crude materials, and manufactured goods (Waterborne Commerce of the United States 1998). The IWW-Matanzas Inlet vicinity continues to be frequently used by recreational boaters.

3.12 SOCIO-ECONOMICS

Recreational boating and commercial shipping on the IWW provides a stimulus for local and regional economies.

3.13 RECREATION

Besides recreational boating, the inlet area and Summer Haven beach support a wide variety of recreational activities such as surf fishing, swimming, walking, and sun bathing.

3.14 AESTHETICS

Matanzas Inlet and the beach at Summer Haven are enjoyed by many local residents and visitors year around. The area's appeal may be attributed in part to the picturesque waterways and beaches found here. Storms have eroded the beach at Summer Haven causing the formation of large escarpments.

4 ENVIRONMENTAL EFFECTS

4.1 INTRODUCTION

This section describes how the implementation of each alternative would affect the environmental resources listed in Section 1.4. A summary of these impacts can be found in Table 1 of Section 2.0. The following anticipated changes to the existing environment include direct, indirect, and cumulative effects.

4.2 WATER QUALITY

4.2.1 NO-ACTION ALTERNATIVE

There would be no impact to water quality if the proposed widener were not constructed.

4.2.2 DREDGING ALTERNATIVE

The primary anticipated change in water quality at the proposed dredge site and SJ-MB would be a temporary increase in turbidity. According to the state of Florida's water quality standards, turbidity levels during dredging are not to exceed 29 nephelometric turbidity units (NTUs) above background levels at the edge of a 150-meter mixing zone. In order to comply with this standard, turbidity will be monitored according to state protocols during the proposed dredge work. If at any time the turbidity standard were exceeded, those activities causing the violation would cease.

4.3 SHORELINE STABILIZATION

4.3.1 NO-ACTION ALTERNATIVE

There would be no impact to shoreline stabilization if the proposed widener were not constructed.

4.3.2 DREDGING ALTERNATIVE

The proposed widener will taper offshore from Station 17 + 00 to Station 12 + 00 of cut SJ-60 in order to stay at least 100-feet from the existing shoreline. Creation of the proposed widener should reduce flow velocity through this reach of the IWW. Adverse impacts caused by the proposed project to shoreline stabilization are not anticipated.

4.4 THREATENED AND ENDANGERED SPECIES

4.4.1 NO-ACTION ALTERNATIVE

There would be no impact to threatened and endangered species if the widener was not constructed.

4.4.2 DREDGING ALTERNATIVE

In accordance with the Endangered Species Act, coordination with the U.S. Fish and Wildlife Service (USFWS) was conducted regarding possible impacts to the manatee and sea turtles caused by the proposed widener (see Appendix C). The USFWS stated that the project is not likely to adversely affect the manatee if the standard precautions listed below are implemented. Precautions regarding nesting sea turtles, as listed in the biological opinion of the USFWS specifically issued for SJ-MB, will also be implemented. Coordination with the National Marine Fisheries Service (NMFS) regarding sea turtles within the proposed dredge area was conducted during the Public Notice period.

4.4.2.1 Manatees

Protective measures would be taken during dredging and disposal activities to ensure the safety of manatees. To make the contractor and his personnel aware of the potential presence of this species in the project area, their endangered status, and the need for precautionary measures, the contract specifications would include the following standard manatee protection clauses. The contractor would instruct all personnel associated with construction activities about the potential presence of manatees in the area and the need to avoid collisions with them. If a manatee is sighted within 100 yards of the project area, all appropriate precautions would be implemented by the contractor to ensure protection of the manatee. These precautions would include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment would be shut down and all construction activities would cease to ensure protection of the manatee. Construction activities would not resume until the manatee has departed the project area. A designated observer would monitor for the presence of manatees if a clamshell dredge were used. If manatees were present, the observer would document all activities with the use of a video camera with the capabilities of video taping at night. The video tape would have a date/time signature and record all manatee movements in the construction

area and note any reactions to turbidity, sound and light. Copies of the videos would be forwarded to the Corps as stated in the plans and specifications. All vessels associated with the project would operate at 'no wake' speeds at all times while in shallow waters or channels where the draft of the boat provides less than three feet clearance from the bottom. Mooring bumpers would be placed on all large vessels wherever and whenever there is a potential for manatees to be crushed between two moored vessels. The bumpers would provide a minimum stand-off distance of four feet. Boats used to transport personnel would be shallow draft vessels, preferably of the light-displacement category, where navigational safety permits. Vessels transporting personnel between the landing and any work boat would follow routes of deep water to the greatest possible extent. Shore crews or personnel assigned to the disposal site for the work shift would use upland road access if available. All personnel would be advised that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Endangered Species Act and the Marine Mammal Protection Act. The contractor would be held responsible for any manatee harmed, harassed, or killed as a result of the construction of the project.

4.4.2.2 Sea Turtles

As previously stated, placement of dredged material at SJ-MB will be conducted in compliance with the USFWS biological opinion for this site. Turtle nest surveys will be initiated 65 days prior to construction and continue until construction is complete. The beach will be tilled to a depth of 36 inches immediately following completion of disposal activities if measured sand compaction is greater than 500 cone penetrometer units. Since a cutter suction pipeline dredge will most likely be used, adverse impacts or "takings" of sea turtles within the footprint of the proposed widener are not anticipated.

4.5 MIGRATORY BIRDS

4.5.1 NO-ACTION ALTERNATIVE

There would be no impact to migratory birds if the proposed widener were not constructed.

4.5.2 DREDGING ALTERNATIVE

Bird nesting activity at SJ-MB will be monitored according to the Corps' standard migratory bird protection plan. Areas where nesting occurs, by species such as Wilson's plover, will be avoided.