FEBRUARY 2013

Environmental Assessment

MAINTENANCE DREDGING OF PONCE DE LEON INLET WITH BEACH AND NEARSHORE PLACEMENT

VOLUSIA COUNTY, FLORIDA

U.S. Army Corps
of Engineers
JACKSONVILLE DISTRICT

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

REPLY TO
ATTENTION OF

ENVIRONMENTAL ASSESSMENT

MAINTENANCE DREDGING OF PONCE DE LEON INLET WITH BEACH AND NEARSHORE PLACEMENT

VOLUSIA COUNTY, FLORIDA

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) for the proposed dredging of the federally authorized navigation project of Ponce de Leon Inlet by the US Army Corps of Engineers South Atlantic Division on 27 October 1965. Dredged material from the Inlet channel cuts would be placed either on the beach or in the nearshore placement areas. 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 agencies having jurisdiction by law and/or special expertise, I conclude that the emergency maintenance action had no significant impact on the quality of the human environment. Reasons for this conclusion are in summary:

a. The proposed action would be conducted in accordance with the Endangered Species Act, and specifically in compliance with the South Atlantic Regional Biological Opinion (SARBO) issued by the National Marine Fisheries Service (NMFS) and the Statewide Programmatic Biological Opinion (SPBO) and project specific Piping Plover Biological Opinion (BO) issued by the U.S. Fish and Wildlife Service (USFWS). The proposed action would not jeopardize the continued existence of any threatened or endangered species or adversely modify critical habitat.

b. Historic properties have been recorded by the Florida Master Site File within the proposed south beach placement project area. To avoid adverse impacts of construction to recorded historic properties, the U.S. Army Corps of Engineers (Corps) will establish a minimum of a 100-foot buffer around the recorded sites in conjunction with monitoring by a qualified archeological monitor during construction in the immediate vicinity of the recorded sites. As stated in Section 2.3 of the attached EA, additional cultural resource investigations will be required prior to dredging of the cuts and wideners and use of the north and south nearshore placement areas. If historic properties are identified, they will be protected with a minimum of a 100-foot buffer and no anchoring, spudding, or direct outfall will be permitted.

c. State water quality standards were met. A FDEP Joint Coastal Permit (JCP) was issued on 3 August 2012.

d. The Corps has determined that the emergency maintenance project is consistent with the Coastal Zone Management Act (CZMA). The final concurrence from the State of Florida was issued on 3 August 2012 along with the JCP.

e. Measures will be in place during construction to eliminate, reduce, or avoid adverse impacts below the threshold of significance to fish and wildlife resources including the following:

1. Maintenance dredging would occur within the footprint of the previously maintained Federal channel as would beach and nearshore placement occur within the template of previously permitted and authorized placement areas;
2. All water based activities would follow standard manatee, sea turtle and smalltooth sawfish protection measures and the conditions of the NMFS SARBO;
3. Dredged material placement would comply with the Operations and Maintenance dredging conditions of the USFWS SPBO and project specific piping plover BO, and
4. The Jacksonville District's Migratory Bird Protection Plan would be followed during the nesting season.

f. Public benefits will be provided with unobstructed channel navigation and beach recreation.

In consideration of the information summarized, I find that the Federal Navigation Project, maintenance dredging of the Ponce de Leon Inlet with beach and nearshore placement of dredged material, will not significantly affect the human environment and does not require an Environmental Impact Statement. This document will be available to the public on the U.S. Army Corps of Engineers Jacksonville District website at:

http://www.saj.usace.army.mil/Divisions/Planning/Branches/Environmental/DocsNotices_OnLine_LeeCo.htm

_____ _____

ALAN M. DODD Date
Colonel, Corps of Engineers
Commanding

DRAFT ENVIRONMENTAL ASSESSMENT

MAINTENANCE DREDGING
PONCE DE LEON INLET
WITH BEACH AND NEARSHORE PLACEMENT
VOLUSIA COUNTY, FLORIDA

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1 PROJECT PURPOSE AND NEED

1.1 INTRODUCTION

The U.S. Army Corps of Engineers (Corps), Jacksonville District, is proposing to conduct periodic maintenance dredging of the federally authorized Ponce de Leon Inlet channel (hereafter referred to as the Inlet), including the entrance, throat, and inner channels leading to the Atlantic Intracoastal Waterway (IWW) in Volusia County, FL. This includes Cuts 1A to 3A, 1S to 3S, and 3N to 13N, along with wideners where the channel converges with the IWW (see **Figure 1**, Project Map). The Inlet entrance channel across the ocean bar will be maintained to a depth of -15.0 feet mean lower low water (MLLW), the Inlet throat to a depth of -12.0 feet MLLW, the southward channel to the IWW to a depth of -12.0 feet MLLW, northward channel Cut-3N, Cut-4N and Cut-5N to a depth of -12.0 feet MLLW, and remaining north channel connector to the IWW to a depth of -7.0 feet MLLW. For each cut, an allowable 2-foot overdepth is authorized. Dredged material would be placed either on the beach north of the north jetty between Florida Department of Environmental Protection (FDEP) monuments R-140 to R-148, or on the beach south of the south jetty between R-158 and R-177. Placement could also occur at the nearshore area located 1 mile south of the south jetty some 1500 feet offshore, at depths between contours -8.0 feet and -18.0 feet MLLW, or at the north nearshore placement area, located north of the north jetty adjacent to the shoreline from R-140 to R-148 also at depths of -8.0 to 18.0 feet MLLW. The dredged material consists of fine grained sand with percent fines ranging from less than 1% to less than 20% passing through the #200 sieve.

Figure 1. Project Location Map.

1.1.1 PROJECT AUTHORIZATION

The Ponce de Leon Inlet was authorized as a Federal navigation project under the Rivers and Harbors Act adopted on October 27, 1965, House Document 74, 89th Congress, 1st session. This provided for a channel of -12-foot minimum depth at MLLW stabilized by rock jetties. Work was completed in July 1972, and maintenance of the Inlet has occurred regularly since initial construction. The most recent maintenance effort occurred in the summer of 2012. The Ponce de Leon Inlet dredging is authorized to a maximum depth of -17.0 feet MLLW within the entrance channel; -14.0 feet MLLW within the inlet throat, southward channel to the IWW, and North channel Cut-3N, Cut-4N, and Cut-5N; and to -9.0 feet MLLW within the remaining north channel connecting to the IWW.

1.2 PROJECT LOCATION

1.2.1 MAINTENANCE DREDGE AREA

The project is to maintenance dredge the Inlet entrance channel, inlet throat, and inner channels leading to the Intracoastal Waterway (IWW). Approximately 200,000 cubic yards of shoal material are expected to be removed every 2 to 4 years to maintain authorized depths. The entrance channel across the ocean bar will be maintained to a depth of -15.0 feet MLLW, the inlet throat to a depth of -12.0 feet MLLW, the southward channel to the IWW to a depth of -7.0 feet MLLW, channel Cut-3N, Cut-4N and Cut-5N to a depth of -12.0 feet MLLW, and remaining north channel to the IWW to a depth of -7.0 feet MLLW. For each cut, an allowable overdepth of 2 feet is authorized (see **Figure 1**).

1.2.2 BEACH PLACEMENT AREA

For beach quality material, deposition of dredged material may occur within the beach placement area located south of the south jetty between R-158 through R-177, or within the north beach placement area located up to 7,500 feet north of the north jetty from R 140 to R 148.

1.2.3 NEARSHORE PLACEMENT AREA

For non-beach quality material, dredged material may be placed in one of two nearshore placement areas. One nearshore placement area begins 1 mile south of the south jetty adjacent to the south beach placement area, from FDEP monument R-158 through R-177, between contours -8.0 feet and -18.0 feet (MLLW), and extends approximately 1 mile south (1 mile long x 800-ft wide). The other nearshore placement area is located north of the north jetty between R-140 and R-148, between contours -8.0 feet and -18.0 feet MLLW, extending 1 mile in length to 800-foot in width; see **Figure 1**. Material in these two nearshore placement areas are to be placed below MHW with a varying berm width. Nearshore placement will occur when an insufficient quantity of material exists to justify the cost of beach placement, when the dredged material contains more than 10% fines, or if the necessary real estate easements for beach placement cannot be acquired.

1.3 PROJECT NEED OR OPPORTUNITY

The relatively high rate of shoal buildup within the Inlet Federal channel necessitates frequent maintenance dredging. Last dredged in August, 2012, the most recent examination survey documented a total in situ shoal volume of approximately 52,000 cubic yards within the authorized channel. Prior to this dredging event, minimum depths recorded from the project channel were less than -9.0 feet, causing navigation hazard for commercial and recreational vessels. Vessels are currently being forced outside the authorized channels in search of deeper water, waiting for high tides, or plowing through the channels with boat propellers. Removal of the shoal material would maintain the navigable capacity of the project channel. In addition, placement of dredged material on the beach or in the nearshore environment could partially attenuate erosional effects on this FDEP-designated critically eroded beach.

The Ponce de Leon Inlet channel is utilized most frequently by commercial sport fishing, sight-seeing excursions, and private recreational boaters including non-motorized recreational kayaks and canoes. The channel also provides access to the United States Coast Guard (USCS) for their mission operations.

ERDC, the research arm of the USACE, conducts the Radar Inlet Observing System (RIOS) program, which was designed to monitor shoals and currents around inlets. The system relies on reflection by X-band radar, and studies the reaction of rough waters, or breaking waves, to provide data on shoal morphology and wave orbital velocities. The program is able to monitor the morphodynamic evolution of a newly dredged channel in an inlet. The use of this technology at the Ponce de Leon Inlet will provide evidence of a nodal point, or the point at which a sediment-laden current direction diverges to deposit the material in opposing locations along the coastline. On-going study of recent maintenance activities are expected to reveal areas of beneficial material buildup on the shoreline from natural processes.

1.5 DECISION TO BE MADE

This Environmental Assessment (EA) will evaluate whether to conduct periodic maintenance dredging of Ponce de Leon Inlet, Volusia County, FL, and if so, recommend alternatives to accomplish that goal.

1.6 PROJECT HISTORY AND RELATED DOCUMENTS

1.6.1 PROJECT HISTORY

Ponce de Leon Inlet

The Federal Inlet channel has a shared dredging history (as illustrated in **Table 1**, pages 5- 6) due to its direct connection with the IWW. Rapid shoal build-up of the channels, particularly adjacent to the Ponce Inlet community, has required frequent attention. Routine maintenance has been conducted on both of these waterways through numerous events starting in 1973 until the most recent event of 2012. Dredged material has historically been placed either on the north or

south beach; in the swash zone adjacent to the north beach; or in nearshore adjacent to New Smyrna Beach.

Table 1. Ponce de Leon Inlet Federal Channel Maintenance History

Year of activity	Description of Action
1973	- Maintenance Dredging North Inner Channel - Award Date of 6/22/1973 - Contract No. 73-83 - Contractor: Trans-State Dredging Company - Amount: $346,110.00 - Dredge Quantity: Data Not Available
1974	- Maintenance Dredging of Entrance Channel & South Shoal, with breach closure & North Beach Placement. - Award Date of 3/27/1974 - Contract No. 74-37 - Contractor: Parkhill-Goodlock Co Inc. - Amount: $697,750.00 - Dredge Quantity: Data Not Available
1984	- Maintenance Dredging, South Inner Channel, 12 foot project - Award Date of 5/08/1984 - Contract No. 84-22 - Contractor: C-Way Construction Co. - Amount: $58,880.00 - Dredge Quantity: Data Not Available
1988	- Maintenance Dredging, 12-ft Channel Project - Award Date of 1/25/1989 - Contract No. 89-C-08 - Contractor: Prosperity Dredging Company, Inc. - Amount: $3,834,000.00 - Dredge Quantity: Data Not Available
1999	- Extension of the North Jetty - 800 feet extension westward - 1,540 feet of rock revetment placed westward into Lighthouse Point Park
2005	- 125009 Ponce De Leon Inlet - Award Date of 6/02/2005 - Contract No. W912EP-05-C-0027 - Contractor: Govcon, Inc. - Amount: $1,079,749.40 - Dredge Quantity: 115,339 CY.
2009	-125009 Ponce De Leon Inlet - Award Date of 07/15/2009 - Contract No. W912EP-09-C-0040 - Contractor: Govcon, Inc. - Amount: $1,506,263.40 - Dredge Quantity: 184,000 CY.
2011	- 125009 Ponce De Leon Inlet

	- Maintenance activity conducted by USACE CURRITUCK -Dredge Quantity: 30,125 CY
2012	- 125009 Ponce De Leon Inlet - Maintenance activity conducted by USACE CURRITUCK - Contract No. N/A - Contractor: N/A - Amount: N/A -Dredge Quantity: 52,000 CY

1.6.2 RELATED ENVIRONMENTAL DOCUMENTS

Numerous maintenance dredging projects have occurred within and adjacent to the Inlet. Most of the work was completed to the Federal Inlet channel, or in association with various IWW channel cuts, with placement at a Dredged Material Management Area (DMMA) within the immediate area of Ponce Inlet, or other nearshore, beach and upland locations. The discussion below includes both Ponce de Leon Inlet and associated IWW maintenance dredging projects. These descriptions included information such as Public Notices (PN) and Environmental Assessments (EA) found within the USACE records. Projects related to the IWW will include dredging of cuts that start with "V-" followed by a number (i.e. V-24), whereas projects specific to the Federal channel of the Ponce de Leon Inlet will be described as "entrance", "north" and/or "south" channels, or connection to the IWW. Later documents included numerical order of Inlet channels followed by a north or south designation (i.e. 3N, 1S, etc).

- 7 October 1992—Construction Operations Navigation (CO-ON) Statement of Findings (SOF) requested State of Florida Water Quality Certificate (WQC) #05-16-18-55-640957439 (IWW J-M), issued 09 September 1986, expired 09 September 1996. Proposed FY93 maintenance dredging of IWW Cuts V-23 to V-27. Disposal option was specific to Ponce de Leon Inlet. WQC #640516879, issued 22 June 1984, expired on 22 June 1994 referenced modification of beach placement for berm expansion on north beach, for beneficial use of sand.

- 18 March 1994—CO-ON SOF referenced Ponce de Leon Inlet hydrographic survey of January 1992 requested WQC Permit appropriation. Scope of Work included entrance channel through the Inlet, south to the Halifax River connecting to the IWW. Placement of dredged material was at the impoundment adjacent to the north jetty and on the channel side of the north jetty to prevent undermining. All material was beach quality for shoreline placement.

- 23 March 1994— CO-ON SOF requests maintenance dredging for Ponce de Leon Inlet projected for FY95; Scope of Work included dredging shoaled areas in the entrance and inner channels along with core borings in shoaled areas.

- 10 October 1995— CO-ON SOF addressed maintenance of the north jetty and scour apron installed in 1978 along the southside of the jetty in an area of potential breach.

Survey of July 1994 found the channel had migrated up against the north jetty, with depths >20 feet.

- August 1998—Environmental Assessment (EA) completed, with corresponding Finding of No Significant Impact (FONSI) signed 13 April 1999. Project description from the EA:

  > "The maintenance dredging includes the Inlet and portion of the north and south channels. The dredged material would be transported outside of the Inlet south of the south jetty, where the material would be deposited and transported to shore by wave action. The project would generate approximately 500,000 cubic yards of dredged material per event, with frequency estimated every four years. The two dredging areas included the southern end of the Halifax River channel starting near Live Oak Point and ending at the landward side of the Inlet; along with the northern extent of the Indian River from the Inlet south approximately 1.4 mile to the junction with the IWW. Finally, the dredging would include the entrance channel from the junction of the aforementioned dredge areas to a distance of approximately 0.7 mile offshore. The nearshore placement area, 1 mile long by 800 feet wide, is located approximately 1 mile south of the south jetty, positioned approximately 1500 feet east of land in -12.0 to -18.0 feet of water at MLW. An alternative placement consisted of pumping the material to the beach located north of the north jetty for beneficial renourishment. The beach placement area is described as "north of the north jetty extending from 2000 feet south and west of the north jetty, to a point 6000 feet north of the north jetty; the placement area being 300 feet wide with a 10-foot height at MLW" (USACE EA, 1998).

- August, 2004—An EA and FONSI, signed 10 December 2004, addressed maintenance dredging of IWW Cuts V-22 to V-40 and two new settling basins at V-23 and V-26, along with maintenance dredging of an existing basin feature at V-24. A total volume of 1.1 million cubic yards was authorized for removal with placement in the designated nearshore south of the Inlet, the DMMA 434/434C, and beneficial use along the shoreline south of the south jetty. This EA does not include the Ponce de Leon Inlet channels, or placement of dredged material north of the north jetty either on the beach or nearshore.

- 22 November 2006—PN-CO-IWW-281 included a project description for routine maintenance of the IWW navigational channel including dredging of Cuts V-22 to V-36 with upland (DMMA 434/434C) and beach placement of dredged material. The work was to be conducted in late 2006 and early 2007. The EA for the IWW maintenance dredging project was based on the EA/FONSI described below.

- February 2007—Revised EA, with FONSI signed 10 April 2007. Project description included maintenance dredging of the IWW in the vicinity of the Ponce de Leon Inlet at Cuts V-22 through the northern portion of V-36, two new settling basins at Cuts V-23 and V-26, and a third existing settling basin at V-24. Up to 672,000 cubic yards of material would be removed, with 108,000 cubic yards to be placed on the beach south of

the Inlet from FDEP monument R-158 to R-175, and an estimated 264,000 cubic yards to be placed in the DMMA 434/434C south.

1.7 PERMITS REQUIRED AND ENVIRONMENTAL COMPLIANCE

A chronology of the State permit history for the Ponce de Leon Inlet and associated IWW projects is presented below.

Ponce de Leon Inlet Operation and Maintenance Related Permits

- 22 November 1999—FDEP Permit #0129417-001-JC, issued for Ponce de Leon Inlet, expired 22 November 2009. The permit also included the Coastal Zone Management Act (CZMA) consistency certification with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341. The permit authorized dredging in the entrance and inlet channels leading to the IWW, and IWW Cut V-23 at the channel intersection. Up to 200,000 cubic yard of dredge material was expected for removal every four years with placement on the south beach between R-159 and R-161 and in the beach placement area located up to 6000 feet north of the north jetty for beach quality material. Nearshore placement would occur only in an emergency situation when an insufficient quantity of material exists to justify the cost of beach placement or when the dredged material contains more than 10% fine grained material.

- 14 July 2009—Modification of this permit was issued under FDEP Permit # 01294170-002 JN for a time extension of the original permit's expiration date. The modified permit extended the expiration date to 22 November 2011 in order to conduct urgent maintenance in the Inlet by the special purpose dredge USACE CURRITUCK; this work occurred from 26 July to 9 August 2011. According to Notice of Completion of 12 August 2011 from the USACE (SAJ-OD-NB) to FDEP Beach and Coastal Systems Office, a total volume of 30,000 cubic yards of dredged material was removed from Inlet cuts 3N, 4N, 5N, and southward Cut 1S. Placement of the material occurred north of the north jetty in the approved template between +10.0 feet to -10.0 feet MLLW contours. No endangered species and/or marine activity were encountered, and no turbidity exceedance measurements were recorded that could impact water quality. Copies of the FDEP Permit #0129417-001-JC (1999), FDEP Permit #0129417-002-PN (2009), and Notice (2011) are included in Appendix C.

- 3 August 2012— The current FDEP Permit modification, FDEP File no. 0308009-001 JC, was issued to USACE, with expiration date of 3 August 2022. The purpose of the permit modification is for maintenance dredging of the Ponce de Leon Inlet entrance channel, inlet throat and north and south channels leading to the IWW (a.k.a. Halifax River) for an estimated volume of 200,000 cubic yards of material, with events projected every four years. Placement would occur in the nearshore area one mile south of the south jetty, or on beaches both north and south of the Inlet. A permit modification may be sought to further explore placement options for all proposed beach and nearshore sites.

Intracoastal Waterway Related FDEP Permits

- 26 August 1993—State permit modification was issued to Permit #05-16-18-55-640957439, regarding maintenance of the IWW. The modifications included adding Cuts V-23 to V-29 with disposal of material on the north side of Ponce de Leon Inlet in site MSA (DMMA) 434. The permit modification excluded IWW Cuts V-23 and V-27 through V-29. Previous beach placement areas were authorized under Permit #6040516879. The permit modification added authorization of one new beach placement area for a one-time use: material from V-24 to V-29 to be placed as beach disposal.

- 1 July 2005—FDEP Permit Modification #0177220-004 JC, pertained to the DMMA 434/434C off-loading of dredged material for the proposed construction of a dune system within the permitted beach placement area of FDEP monument R-161 to R-175. FDEP Permit Modification #0177220-008 JC extended the dune template southward to R-189. The two modification requests were subsequently combined into one permit, FDEP Permit Modification #0177220-007 JC. A variance was issued by the FDEP on 5 August 2005 under Permit Modification #0177220-008 EV that extended the expiration date to 3 October 2008. No other modifications to project specifications or conditions were authorized.

- 27 July 2009—FDEP Permit Modification #0183817-006-BN and Permit # 0183817-001 JC were issued for IWW maintenance dredging to extend the original permit expiration date from 18 January 2010 to 18 January 2015. Briefly, FDEP Permit #0183817-001 JC was issued 18 January 2005 for the removal of 400,000 to 800,000 cubic yards every two to three years. Proposed channels for maintenance dredging included IWW Cuts V-22 north of Ponce de Leon Inlet to V-40 south of Mosquito Lagoon Aquatic Preserve, three wideners in Cuts V-23, V-24, and V-26 settling basins. Placement of dredged material included the upland disposal site adjacent to V-26, as authorized by the St. Johns River Water Management Permit 4-127-65055-1, or in the nearshore under FDEP Permit 0177220-001 JC.

1.8 SCOPING AND ISSUES

1.8.1 ISSUES EVALUATED IN DETAIL

The following issues were identified to be relevant to the proposed action and appropriate for detailed evaluation:

a. Water Quality
b. Sediment Compatibility
c. Fish and Wildlife, including Endangered Species and Critical Habitat
d. Essential Fish Habitat (EFH)
e. Cultural Resources
f. Aesthetics
g. Navigation
h. Economics
i. Recreation
j. Noise

2 ALTERNATIVES

The alternatives section is perhaps the most important component of this EA. It describes the no-action alternative, the proposed action, and other reasonable alternatives that were evaluated. The beneficial and adverse environmental effects of the alternatives are presented in comparative form, providing a clear basis for choice to the decision maker and the public. A preferred alternative was selected based on the information and analysis presented in the section on the Environment Effects, (see Section 4, page 43).

2.1 DESCRIPTION OF ALTERNATIVES.

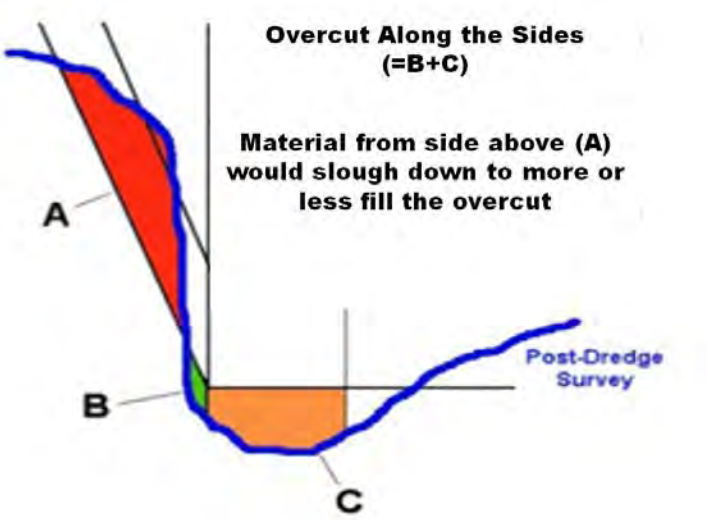
2.1.1 NO ACTION ALTERNATIVE

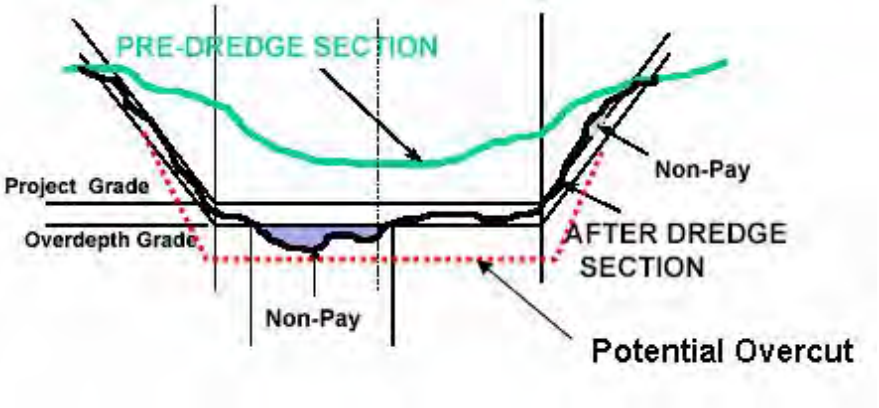
The project channels would not be maintenance dredged. This would result in increased shoal buildup and unsafe navigation conditions for vessels. In addition, the down-drift, critically eroded beaches would not receive the benefit of Inlet-bypassed sediments.

2.1.2 MAINTENANCE DREDGING ALTERNATIVE

The proposed periodic maintenance dredging of the project channel would occur as planned (refer to Section 1.1 for more detail). The Corps does not normally specify the type of dredging equipment to be used. This is generally left to the dredging industry to offer the most appropriate and competitive equipment available at the time. Nevertheless, certain types of dredging equipment are normally considered more appropriate depending on the type of material, the depth of the channel, the depth of access to the disposal or placement site, the amount of material, the distance to the disposal or placement site, or the wave-energy environment, etc. A more detailed description of types of dredging equipment and their characteristics can be found in Engineer Manual, EM 1110-2-5025, *Engineering and Design - Dredging and Dredged Material Disposal*. This Engineer Manual is available on the internet at http://www.usace.army.mil/publications/eng-manuals/em1110-2-5025/toc.htm.

The plans and specifications normally require dredging beyond the project depth or width. The purpose of the "required" additional dredging is to account for shoaling between dredging cycles (reduce the frequency of dredging required to maintain the project depth for navigation). In addition, the dredging contractor is allowed to go beyond the required depth. This "allowable" specification accounts for the inherent variability and inaccuracy of the dredging equipment (normally ±2 feet).





Overdepth = required + allowable

In addition, the dredge operator may practice over-cutting. An "over-cut" along the sides of the channel may be employed in anticipation of movement of material down the sides of the channel. Over-cut throughout the channel bottom may be the result of furrowing or pitting by the dredging equipment (the suction dredge's cutterhead, the hopper dredge's drag arms, or the clam-shell dredge's bucket). As a result, some mixing and churning of material below the channel bottom may occur (especially with a large cutterhead). Generally, the larger the equipment, the greater the potential for over-cut and mixing of material below the "allowable" channel bottom. Some of this material may become mixed-in with the dredged material. If the characteristics of the material in the overcut and mixing profile differ from that above it, the character of the dredged material may be altered. The quantity and/or quality of material for disposal or placement may be substantially changed depending on the extent of over-depth and over-cut.

Frequent maintenance dredging operations in the project channel have taken place since they were originally constructed to the authorized project depths. The most recent maintenance event in 2012 removed approximately 52,000 cubic yards of material from the project channel and placed this material in the south nearshore placement area. Dredging of the project channels has been typically performed with a hydraulic cutterhead pipeline dredge although a clamshell or small hopper dredge could also perform the work.

Since dredging equipment does not typically result in a perfectly smooth and even channel bottom (see discussion above); a drag bar, chain, or other item may be dragged along the channel bottom to smooth down high spots and fill in low spots. This finishing technique also reduces the need for additional dredging to remove any high spots that may have been missed by the dredging equipment. It may be more cost effective to use a drag bar or other leveling device.

2.1.3 DREDGED MATERIAL PLACEMENT OPTIONS

2.1.3.1 BEACH PLACEMENT

Beach placement — placing dredged material compatible with the native beach sands on the beach — is an approach to dredged material management that the State of Florida encourages. In fact, the FDEP Bureau of Beaches and Coastal Systems (BBCS) Strategic Beach Management Plan for the Central Atlantic Coast Region (FDEP BBCS website, 2012) recommends the continued placement of beach quality dredged material from the maintenance of the project channel on the shoreline along Volusia County, including Ponce Inlet (hereafter referred to as north beach placement) and New Smyrna Beach (hereafter referred to as south beach placement) (FDEP May, 2008). The Corps also includes this approach as an essential part of dredged material management for channel reaches which, based on historic data, are likely to contain beach quality sediments. These conditions are most typically encountered immediately adjacent to tidal inlets where waterway shoals are formed primarily by sand driven through the inlet by waves and tides. The material historically dredged here has been beach quality in compliance with the Florida State "Sand Rule" (62B-41.005(15), Florida Administrative Code (F.A.C.) and the north and south placement areas are designated by FDEP as critically eroded (FDEP May, 2008). Thus dredged material from the project channels has been routinely placed on the beach south and north of the inlet.

The two beach placement areas are described as follows:

- North beach placement: Shoreline at 300-ft wide berm from +10 feet to -10 feet MLLW up to 7,500 feet north of the north jetty from FDEP monuments R-140 through R-148.

- South beach placement: Shoreline starting approximately 7430 feet south of the south jetty between FDEP monuments R-158 through R-177.

2.1.3.2 NEARSHORE PLACEMENT

Material that does not qualify for beach placement would be placed adjacent to the beach area in one of two proposed nearshore placement areas. The two placement areas are described as follows and are depicted on **Figure 1**:

- North nearshore placement area: Located immediately north of the north jetty between FDEP monuments R-140 and R-148, between contours -8.0 feet and -18.0 feet MLLW. The dimensions are roughly 1 mile long by 800 feet wide.

- South nearshore placement area: Located one mile south of the south jetty ending at R-161; the dimensions are 1 mile long by 800 feet wide, between contours -8.0 feet to -18.0 feet at MLLW.

Pursuant to the Florida State "Sand Rule" (Chapter 62B-41.0072J), sandy sediment derived from the maintenance of coastal navigation channels shall be deemed suitable for beach placement with up to 10 percent fine material passing the #230 sieve. If this material contains between 10 percent and 20 percent fine material passing the #230 sieve by weight, and it meets all other sediment and water quality standards, it shall be considered suitable for placement in the nearshore portion of the beach. Therefore, this placement alternative would be used if the dredged material were deemed incompatible for beach placement but in compliance with the sand rule for nearshore placement. The nearshore placement option would also be used if one of the Corps special purpose dredges (CURRITUCK or MURDEN) performs the dredging because these vessels have only bottom-dump capability.

2.2 HISTORY OF ALTERNATIVE FORMULATION

Maintenance dredging of the Federal navigation channel within the Inlet has been required frequently between 1973 to the most recent event of 2012. Beneficial use of the beach quality dredged material has been the preferred and most cost effective dredged material placement alternative. Previous events have also used the nearshore placement area that is present some 1500-feet offshore of the south beach placement area. Given the available dredged material placement options and the Federal mandate to maintain free and obstructed access to the nation's navigational waters, as well as the high cost of ocean dredged material disposal sites (ODMDS), other dredging and placement alternatives were not considered practicable.

2.3 ALTERNATIVES COMPARISON

The effects of alternatives considered for this project are compared and summarized in **Table 2**. This comparison lists the major features and consequences of the emergency action and alternatives. See Environmental Effects Section 4.0, starting on page 43, for a more detailed discussion of the potential impacts of each alternative.

Table 2. Alternative Comparison Chart.

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION STATUS QUO	ALTERNATIVE 2: DREDGING WITH BEACH PLACEMENT (BOTH NORTH AND SOUTH)	ALTERNATIVE 3: DREDGING WITH NEARSHORE PLACEMENT (BOTH NORTH AND SOUTH)
WATER QUALITY	No Impact	Short-term localized increase in turbidity at the dredge site and in surf zone along the beach placement area. Turbidity impacts are expected to be minimal since the source of material would contain less than 10% fines.	Short-term localized increase in turbidity at the dredge site and in surf zone along the nearshore placement area. Turbidity impacts are expected to be minimal since the source of material contains less than 20% fines.
WEST INDIAN MANATEE	Manatees could become injured through collision or trapped by vessels passing overhead from inadequate clearance between the channel bottom and vessel.	Dredging and beach placement not likely to adversely affect manatees with implementation of standard protection conditions. Increased boat traffic from restored navigability but reduced travel time and distance in shallow inland waters.	Dredging and nearshore placement is unlikely to adversely affect manatees with implementation of standard protection conditions. Increased boat traffic from restored navigability but reduced travel time and distance in shallow inland waters.
SEA TURTLES	No dredging means no O&M material to place on the critically eroded nesting beach.	Short-term impacts to sea turtle nesting during beach placement through relocation of nests from the project area; Gain of sea turtle nesting habitat from beach placement on critically eroded beach.	Short-term impacts to nesting sea turtles during nearshore placement; Benefit to sea turtle nesting habitat from shoreward migration of the dredged material.
NORTH ATLANTIC RIGHT WHALE	No effect.	No adverse effects are anticipated for in-water work during dredging and beach placement.	No adverse effects are anticipated for in-water work during dredging and beach placement.
ESSENTIAL FISH HABITAT	Continued accretion in channel and water column displaces EFH.	No substantial adverse impacts to sandy channel bottom, water column, or ocean high salinity surf zone habitat anticipated during dredging and beach placement.	No substantial adverse impacts to sandy channel bottom, water column and ocean high salinity surf zone habitat with unconsolidated substrate during dredging and nearshore placement.
PIPING PLOVER	Monitoring of intertidal and beach areas within project area has shown no long-term net loss of habitat from dredging activities. No dredging of channel should have negligible effect.	No net loss of critical habitat is anticipated due to dredging based on continued maintenance of the channel within the critical habitat unit FL-34; beach placement should augment critical habitat through littoral drift (see section 4.7.2.3). Monitoring of intertidal zone adjacent to the channel found that dredging has not impaired use of shoreline (disappearing islands).	Alteration, but no net loss, of critical habitat is anticipated due to dredging based on long-term shoreline monitoring; nearshore placement should augment critical habitat through littoral drift.
MIGRATORY BIRDS	Monitoring of intertidal and beach areas within project area has shown no long-term net loss of habitat from dredging activities. No dredging of channel should have negligible effect. (see section 4.6).	If dredging and beach placement occur during the nesting season (approximately April 1 – August 31) a migratory bird protection plan would be implemented to insure protection of nests.	If dredging occurs during the nesting season (approximately April 1 – August 31) a migratory bird protection plan would be implemented to insure protection of nests.

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION STATUS QUO	ALTERNATIVE 2: DREDGING WITH BEACH PLACEMENT (BOTH NORTH AND SOUTH)	ALTERNATIVE 3: DREDGING WITH NEARSHORE PLACEMENT (BOTH NORTH AND SOUTH)
VEGETATION	No effect.	Potential temporary impact during dredging from material placement could occur to existing beach vegetation. Vegetation is expected to naturally recruit at affected area within the growing season post event.	Nearshore placement would have no impact to beach vegetation.
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)	No effect.	No effect anticipated; channel has been dredged frequently since 1973 and material placed on the beach with no impact to or from HTRW.	No effect anticipated; channel has been dredged frequently since 1973 and material placed on the beach with no impact to or from HTRW.
NAVIGATION	Continued shoaling in the Federal channel would have a significant adverse impact on navigational safety. Efficiency of USCG emergency rescue operations could be affected by obstruction in navigable channel.	Dredge barge and pipelines could temporarily alter navigation patterns during construction; However, authorized channel depths would be restored which is a lasting beneficial impact. North beach placement could increase long term maintenance costs due to more frequent events resulting from longshore drift into the Inlet.	Dredge barge and pipelines could temporarily alter navigation patterns during construction; However, authorized channel depths would be restored which is a lasting beneficial impact. North nearshore placement could increase long term maintenance costs due to material drifting back in the Inlet channel.
ECONOMICS	Continued shoaling in the channel would have a significant adverse impact on recreational and commercial vessel traffic which would have a substantial impact on the local economy.	Restored authorized channel depths would benefit the local economy; beach placement could also benefit the local economy through increased beach tourism revenues. North beach placement could increase long term maintenance costs due to more frequent events resulting from longshore drift into the Inlet.	Restored authorized channel depths would benefit the local economy; nearshore placement could also benefit the local economy through increased beach tourism revenues as the material is transported through littoral drift to augment the dry beach. North nearshore placement could increase maintenance dredging event frequency of events resulting from longshore drift into the Inlet.
CULTURAL RESOURCES	No effect.	Potential to adversely affect historic properties.	Potential to adversely affect historic properties.
RECREATION	Continued shoaling in the channel would have a significant adverse impact on recreational activities.	Temporary disturbance due to project dredge and beach placement activities; However, authorized channel depths would be restored and recreational beach increased through placement which are lasting beneficial impacts.	Temporary disturbance due to project dredge and nearshore placement activities; However, authorized channel depths would be restored and critically eroded recreational beach augmented through nearshore placement which are lasting beneficial impacts.
AESTHETICS	Shoal buildup in channel and eroded beach may negatively impact local aesthetic resources.	Dredging equipment would have a temporary impact on local aesthetics. However, restored navigation channel and beach should be beneficial to local aesthetics.	Dredging equipment would have a temporary impact on local aesthetics. However, restored navigation channel and nearshore berm could be beneficial to the local aesthetic resources.

ENVIRONMENTAL FACTOR	ALTERNATIVE 1: NO ACTION STATUS QUO	ALTERNATIVE 2: DREDGING WITH BEACH PLACEMENT (BOTH NORTH AND SOUTH)	ALTERNATIVE 3: DREDGING WITH NEARSHORE PLACEMENT (BOTH NORTH AND SOUTH)
NOISE	Grounded vessels and the rescue equipment required to free them could generate increased local noise levels as the channel shoal buildup accumulates and becomes impassable.	Dredging and placement equipment operations would temporarily increase the local noise levels; However, levels should return to normal at conclusion of project construction.	Dredging and placement equipment operations would temporarily increase the local noise levels. However, levels should return to normal at conclusion of project construction.

2.4 PREFERRED ALTERNATIVE

The preferred alternative is to perform the proposed maintenance dredging of the project channel with beach and nearshore placement of dredged material. Beach placement is the preferred alternative due to the need for beach quality material to nourish critically eroded nearby beaches. Nearshore placement is the preferred alternative for disposal of lesser quality (fines >10% of total sediment) dredged material, or when dredging equipment methodology requires >10 feet of open water for discharge of dredged material.

3 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

This section describes the existing environmental resources of the areas that would be affected if either of the alternatives is implemented. It describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those resources that could be affected by the alternatives if they were implemented. This section, in conjunction with the description of the "No Action" alternative, forms the baseline conditions for determining the environmental impacts of the Preferred Alternative.

3.2 GENERAL ENVIRONMENTAL SETTING

Prior to 1968, the Ponce de Leon Inlet (formerly known as the Mosquito Inlet in Colonial time) had functioned as a natural passage through barrier islands that separated the Atlantic Ocean from the Halifax and Indian Rivers. Build up of ebb shoal created obstacles to safe navigation which led to the construction of two rubble-mound jetties along with channel dredging. This work occurred from 1968 to 1972 (ERDC/CL CHETN-IV-54, 2002).

The Ponce de Leon Inlet Federal navigation channel included within the project area is immediately adjacent to Lighthouse Point Park, a public facility located north of the Inlet, and New Smyrna Beach State Park, located south of the Inlet. Due to recent storm activity, accreted material has created shoal obstruction within the authorized Federal channel, see **Figure 2**. The entrance channel begins some 0.7 mile waterward from the shoreline in the Atlantic Ocean. It is flanked on both sides by jetties. The north jetty extends approximately 4000 feet to its terminus. The south jetty is significantly shorter; less than 1000 feet of rubble is exposed from its start on the shoreline to its terminus. The throat of the channel splits at the intersection with the Halifax River; one channel is located to the north along the backside of Ponce Inlet, and the other channel is located south along the backside of New Smyrna Beach. Both of these channels connect to the Atlantic IWW.

The shoreline consists of a gradually sloping beach that extends from an upland dune to the intertidal swash zone. Areas of shoal build-up, often referred to as "disappearing islands" are

exposed at low tide and are dynamic in their creation and migration by wave action or storm influence. Exposed fine sand and silt of the shoal extend into the designated Federal channel at MLLW, but "disappear" at high tide. This area supports moderate to high potential piping plover suitable habitat; see Section 3.3.8.3 for further discussion.

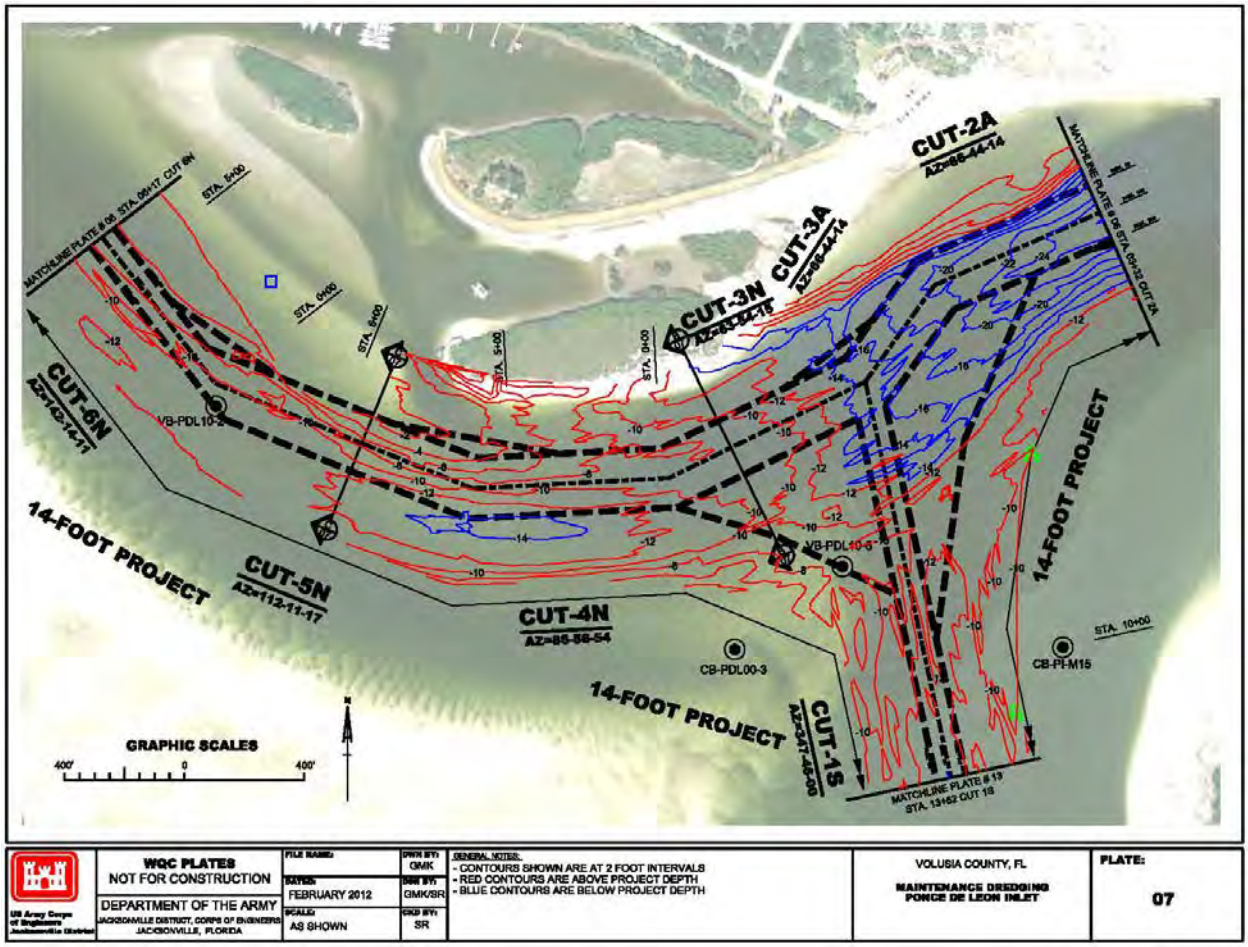


Figure 2. The "throat" of the Ponce de Leon Inlet (Cuts 3N to 5N and 1S) is problematic as shoal obstruction develops rapidly, requiring frequent dredging to sustain navigability. (Note the shoal buildup north and south of the channel creating "disappearing islands").

3.3 ENVIRONMENTAL FACTORS THAT WOULD BE AFFECTED

3.3.1 PHYSICAL

The Halifax River originates at Tomoka Bay, at the confluence of the Tomoka River, Bulow Creek and Halifax Creek. The river's drainage basin, or catchment, includes most of eastern Volusia County, which includes flow from both the Tomoka River and Halifax Creek. The total area covers 390 square miles. Water flows south for a distance of 25 miles and merges with the Spruce Creek and the Mosquito Lagoon before connecting to the Atlantic Ocean through the Ponce de Leon Inlet (Wikipedia, 2012).

3.3.2 WATER QUALITY

The Ponce de Leon Inlet channel is located within an area bounded by barrier islands to the east and mainland to the west. The entrance channel extends 700 feet eastward of the barrier island. No portion of the Inlet is within a designated Florida Outstanding Waters or Aquatic Preserve. The Federal Clean Waters Act requires that the surface water of each state be classified in accordance with designated uses. The project site is located within a Class III surface water quality (Chapter 62-302, F.A.C.), which is designated for general use of recreation including swimming. Both the Inlet and Halifax River are considered to be Impaired Waters pursuant to Chapter 62-303(d), F.A.C. due to higher than acceptable levels of mercury in fish tissue. The Halifax River is also listed on the 62-303(d) due to elevated nutrients, coliform bacteria, copper, lead and iron (Haydt and Frazel, 2003).

Surface water quality data has been evaluated by the St. Johns River Water Management District (SJRWMD) since the mid 1990's as part of the Water Quality Index program. The sample point closest to the Inlet (No. 27010037) is located on the Halifax River (a.k.a. IWW) 100 feet north of the Beach Memorial Bridge located in Daytona Beach, FL. The outlet for the Halifax River is the Inlet, some 5 miles south of the sample point. Waters within the Halifax River exhibit estuarine properties, such as a near-neutral pH and good buffering capability. Total suspended solids, phosphorus, and chlorophyll concentrations are higher than typically found in other estuaries. In contrast, total organic carbon and total nitrogen concentrations are lower than typically found (SRJWMD, 2012). At the Halifax River sample point location from 2007 to 2011, field measured dissolved oxygen (DO) ranged between 4.6 mg/L and 10.9 mg/L, with a median value of 6.58 mg/L (SJRWMD, 2012 http://floridaswater.com/watershed/factPages/27010037.html).

Turbidity is defined as the cloudiness of haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye, and includes both organic and inorganic material. Turbidity measurement in collected samples determines the amount of suspended particulate matter present within the water column to which the extent of light passing through it is reduced. Increased turbidity in estuaries can be a result of suspended bottom sediments from wind and wave action, storm water runoff from the watershed, erosion and other factors. Excessive turbidity in estuaries has a variety of physical and biological detrimental effects, including stressed fish spawning and survivability (Bash and Berman, 2001). Florida Surface Water Quality Standards state that turbidity shall never exceed 29 NTU above natural background conditions. Turbidity values within the Halifax River near the Inlet are considered generally average (median value of 8.83 NTU). From 2007 to 2011, turbidity values ranged from 3.4 (February, 2007) to the highest reading of 29.3 (June, 2011). The second highest turbidity value of 27.8 NTU was recorded on 15 June, 2011 (SJRWMD, 2012).

Excessive turbidity is also measured by the amount of total suspended solids (TSS) in the water column. The presence of increased suspended matter reduces water clarity, thus resulting in degraded overall surface water quality. From 2007 to 2011, TSS values from samples collected at the Halifax River sample point measured lowest at 7.5 mg/L on 5 February 2011, to its highest of 94.0 mg/L on 15 June, 2011 (SJRWMD, 2012).

3.3.3 SEDIMENT ANALYSIS

Geotechnical data was collected in May, 2010 from core sampling within Inlet Cuts 1S, 6N and 7N, **Figure 3**. Grain size analyses were performed on the individual samples from the channel. This geotechnical data was used in conjunction with thirteen historical borings as well as background knowledge of the project to characterize the material within the areas to be dredged or used as placement options. The composite samples have a mean grain size of 2.13 phi or 0.23 mm, and a stand deviation of 1.36 phi. The percentage of fines passing through the #230 sieve is 1.26%, and the average visual shell content is 28.19%. The Munsell colors of the samples are described as 10YR 6.1, 10YR 7.1, and 10YR 8/1.

Additionally, beach samples were collected at locations from FDEP monuments R-140 through R-147 and R-158 through R-161 in November 2010, and from R-162 through R-177 in May 2011. Grain size analyses were performed on the individual samples. A representative composite sample was created using the sample results. The composite sample classifies the sediments as poorly-graded, fine-grained quartz sand with trace to little fine grained sand-sized shell fragments. The samples have a composite mean grain size of 2.51 phi or 0.16 mm and a standard deviation of 1.21 phi. The percentage of fines passing the #230 sieve is 0.60%, and the average visual shell content is 2.8%. The Munsell colors of the samples are described as 2.5Y 6/1, 2.5Y 6/2, 2.5Y 7/1 and 2.5Y 8/1.

The channel in the vicinity of Inlet has been dredged to the maximum authorized depth with allowable over-depth multiple times over the life of the project, most recently in 2012. Therefore, all shoal materials are newly deposited in the channel through normal coastal inlet processes. The shoal sediments in the vicinity of Inlet and the planned beach placement areas both consist of predominately of poorly-graded, fine-grained quartz sands possessing similar characteristics, including Munsell colors. Using the CEM 2002 method for finding the overfill ratio results in $R_A = 1.00411$, the results of the compatibility analysis show that the sediments of all areas are very similar and compatible, according to the requirements of the FDEP “Sand Rule” guidelines (Chapter 62B-41.0072J).

Figure 3. Recent (2010) sub-surface investigation core sample locations for Inlet Cuts 1S, 6N, and 7N

3.3.4 CULTURAL RESOURCES

The earliest widely accepted date of occupation by aboriginal inhabitants of Florida dates from around 12,000 years ago. This earliest cultural period, called the Paleo-Indian period, lasted until about 10,000 YBP (years before present). Sea level was lower and the continental shelves were

exposed - an area almost twice the width of the current size of the state. Few Paleo-Indian archeological sites are recorded in northeastern Florida.

During the Archaic period (ca. 10,000 YBP - ca. 2500 YBP), a wider range of resources was exploited and may have led to a more sedentary existence. Sea level rose to its present position. Known sites in Volusia County mostly date to the Late Archaic time period and are located along inland waterways and marshes.

The dominant cultural tradition within Volusia County, known as St. Johns, developed from the Archaic period in north Florida around 2500 YBP. The various stages of St. Johns I and II (2500 YBP to A.D. 1565) are based on the evolution of pottery types and design and increasing sedentism, ceremonialism and mound building. St. Johns site types recorded by the Florida Master Site File (FMSF) include freshwater and marine shell middens and earthen mounds, many of which are recorded in Volusia County. One of these, the Turtle Mound, was thought to be the Timucuan village of Surruque mentioned in early seventeenth century documents.

Early exploration by the Spanish in 1513 claimed “La Florida” for Spain. Indeed, Ponce de Leon is thought to have first landed just north of Cape Canaveral at 28.5 degrees north latitude. This began the first Spanish colonial period (A.D. 1513 - 1763) and the Timucua were the dominant tribal group in northeastern Florida. Their population was eventually decimated by European-introduced diseases, warfare, enslavement, and migration out of Florida.

Spain maintained control of northeastern Florida until 1763 when the British took it over.
During this time, royal land grants were given to colonists for the production of rice and indigo. Of the land grants in northeastern Florida, Andrew Turnbull began a new colony located in Volusia County in 1767. He named it New Smyrna. Spain regained power in 1784 and finally Florida became a state in 1821.

The FMSF has recorded four sites within the project areas and five within the immediate vicinity. Ones of particular notes include the Third Avenue Beach Ramp Wreck, recorded on the beach south of the inlet. This wreck dates from the British period (1763-1783) and is possibly William Bartram’s wrecked vessel from 1774. Also south of the jetty in the nearshore, a shipwreck site has been identified in the general vicinity but its exact location is unknown. In the inlet itself, a dugout canoe of prehistoric or historic origin was discovered and presently resides at the New Smyrna Beach Museum.

The presence of wildlife in the area is limited due to loss of habitat from human interaction and lack of natural vegetative cover. Vegetation along the shoreline of the federal channel and placement sites contain various small but distinct plant communities such as tidal swamp, coastal grassland, beach dune, and coastal berm (FNAI, 2010).

3.3.5 NATIVE AMERICANS

There are no tribal or historic properties eligible for inclusion currently listed on the National Register of Historic Places within the project area.

3.3.6 BIOLOGICAL RESOURCES

3.3.6.1 Vegetation

Vegetation above the immediate beach within the dune consists of typical upland species such as seagrape (*Coccoloba uvifera*), sea oats (*Uniola panicualta),* saltgrass (*Distichlis spicata),* bushy seaside ox-eye *(Borrichia frutescens),* and railroad vine, (*Ipomoea pes-careae).* Shrubs located at the upper elevation along the dune top include saltbush (*Bachharis halimifolia)* and saw palmetto (*Serenoa repens).* Exposed beach extends from the edge of the dune into the swash zone at the shoreline. Few species have naturally recruited to form a primary succession plant community along the beach, consist predominantly of sea oats, railroad vine, and seashore paspalum grass (*Paspalum vaginatum)* see **Figure 4**.

Figure 4. Shoreline vegetation along the Ponce de Leon Inlet Channel.

3.3.7 WILDLIFE RESOURCES

Migrant species from surrounding areas such as raccoon (*Procyon lotor),* eastern gray squirrel (*Sciurus carolinensis),* and other small mammals may appear in the project area or general vicinity. Dolphins (*Tursiops truncates),* porpoise and manatees may inhabit the nearby waters. Birdlife is abundant and it is estimated that about 30 species of waterfowl consisting of brown

pelicans, (*Pelecanus occidentalis)*, double-crested cormorants (*Phalacrocorax auritus)*, and white ibis (*Eudocimus albus)*, as well as various egrets, herons, gulls, and terns may occur in the project area region, especially around the inlet. Songbirds frequenting the area include various kingfishers, swallows, crows, wrens, warblers, and sparrows. Many sport and commercial species of fish are also common to the region. Additionally, healthy gopher tortoise (*Gopherus polyphemus)* and southeastern beach mouse (*Peromyscus polionotus niveiventris)* colonies are located within Volusia County's Smyrna Dunes Park, adjacent to the project area.

3.3.7.1 Marine Mammals

Ponce de Leon Inlet, including the project area, is within the range of the Florida sub-species of the West Indian manatee (*Trichechus manatus latirostris*) and up to 28 cetacean species, with bottlenose dolphin (*Tursiops truncates)* being most common. The project is not located in an Important Manatee Area (IMA) as designated by the USFWS, nor in an area designated as critical habitat for the manatee. However, a Florida Fish and Wildlife Conservation Commission (FWC) designated Manatee Protection Area encompasses portions of the project area within Ponce Inlet; see **Figure 5** and accompanying discussion of manatee in the Threatened and Endangered Species Section 3.3.8.1, page 29.

As previously stated, the most common cetacean is the bottlenose dolphin. Bottlenose dolphins have robust bodies that typically reach 6 to 12 feet as adults. They feed on fish such as mullet and sheepshead, along with marine invertebrates. The live up to 50+ years, and have weights between 140 kilograms and 650 kilograms. Bottlenose dolphins frequent both inshore and offshore marine waters along temperate and tropical coasts. Inshore dolphins live in small social groups, or pods, of up to 10 individuals, and are frequently sighted along the Atlantic coast and the Ponce de Leon Inlet. They are highly intelligent and have complex socialization and communication skills. Dolphins along the coast of Florida are protected by Federal law against harassment under the Marine Mammal Protection Act of 1972 (MMPA). (FWC, NMFS, website factsheets).

Figure 5. Manatee Protection Zone, shown in cross-hatch, includes the entrance and southern cuts of Ponce de Leon Inlet Federal Channel with connection to the IWW (Halifax River)

3.3.7.2 Migratory Birds

Various shorebirds occur in the project area. Numerous species of wading and shorebirds are associated with marine habitats in the Ponce Inlet, including the New Smyrna Beach area. Laughing gulls, royal terns, sanderlings, ruddy turnstones, and sandwich terns account for over 90% or all individuals observed within the area (Ecological Associates, Inc, 2010). Due to human disturbance, such as uncontrolled pets, all-terrain vehicles (ATV) and other recreational usage on the beach, sightings of piping plover and snowy plover have diminished more recently. Areas where shorebirds most frequently occur include the intertidal area of the swash zone along fresh wrack line.

Additionally, Smyrna Dunes Park is also a USFWS-designated critical habitat area (Unit FL-34) for piping plover, a federally protected species under the Endangered Species Act (ESA); see **Figure 6**, Section 3.3.8.3, page 32. Rookery habitat for wading birds and the federally threatened wood stork are not present at Ponce Inlet.

The following avian species are suspected to utilize, or known to occur in the project area:

Black Skimmer (*Rynchops niger*)
Brown Pelican (*Pelecanus occidentalis*)
Double-crested Cormorant (*Phalacrocorax auritus*)
Great Blue Heron (*Ardea herodias*)
Great Egret (*Casmerodius albus*)
Reddish Egret (*Egretta rufescens)*
Laughing Gull (*Larus atricilla*)
Greater Black-backed Gull *(Larus marinus)*
Herring Gull (*Larus argentatus)*
Ring-billed Gill (*Larus delewarensis)*
Osprey (*Pandion haliaetus*)
*Piping Plover (*Charadrius melodus*)
Royal Tern (*Sterna maxima*)
Forster's Tern (*Sterna fosteri)*
Caspian Tern (*Sterna caspia)*
Sandwich Tern (*Sterna sandricensis*)
Snowy Egret (*Egretta thula*)
White Ibis (*Eudocimus albus*)
Greater Yellowlegs (*Tringa melanoleuca)*
Willet (*Catoptrophorus semipalmatus*)
Snowy Plover (*Charadrius alexandrines)*
Marbled Godwit (*Limosa fedoa)*
Wilson's Plover (*Charadrius wilsonia)*
Black-bellied Plover (*Pluvialis squatarola)*
Semipalmated Plover (*Charadrius semipalmatus)*
Short-billed Dowitcher (*Limnodromus griseus)*
Dunlin (*Calidris alpina)*
Sanderling (*Calidris alba)*
Least Sandpiper (*Calidris minutilla)*
Western Sandpiper (*Calidris mauri)*
Red Knot (*Calidris canuta)*
Ruddy Turnstone (*Arenaria interpres)*
*Wood stork (*Mycteria americana)*

* Denotes federally protected species under the ESA

The Inlet project area is included in a shorebird survey study area which has been conducted annually from 2004 to 2010 by Ecological Associates, Inc. In addition to survey that was specific to piping plover (see Section 3.3.8.3), the monitoring project also included shorebirds that occur within the same location. The results of the most recent survey from 2009 to 2010 concluded that approximately 12,000 birds representing 51 separate species were sighted in the study area. The largest number of sightings and species diversity occurred on the Rockhouse Creek shoals, anecdotally referred to as a "disappearing island". These findings attest to the

importance of this shoal area as a bird resting and foraging area. Other areas of significant sightings include the Atlantic coastal area and south side tip of the Inlet along the shoreline at Smyrna Dunes Park. No exposed shoaled areas occur within the Federal authorized and maintained channel, and therefore are not impacted by frequent dredging events. However, the accretion process often results in submerged shoals within the Federal channel adjacent to the exposed accumulated material, and these submerged shoals are the focus of attention during maintenance dredging events; see **Figure 2**, page 20.

3.3.8 THREATENED AND ENDANGERED SPECIES

Federally listed species under the Endangered Species Act of 1973 (ESA) that may occur in the area are discussed in the following sections**.** The State listed species of special concern include the osprey, least tern, and great white heron.

3.3.8.1 Manatee

The West Indian manatee has been listed as a protected mammal in Florida since 1893. The manatee is also federally protected under the MMPA as a depleted species. The manatee was listed as an endangered species throughout its range in 1967 (32 FR 4061) and received federal protection with the passage of the ESA in 1973. Although critical habitat was designated in 1976 for the Florida subspecies (*Trichechus manatus latirostris*) (50 CFR 19.95(a)), there is no federally designated critical habitat in the project's impact area. Florida provided further protection in 1978 by passing the Florida Marine Sanctuary Act designating the state as a manatee sanctuary and requiring signage and speed zones in Florida's waterways.

Manatees reside and feed mainly in the estuarine areas and around inlets, and are only occasionally observed in the open ocean. Ponce de Leon Inlet and the IWW provide a transitional travel corridor for manatees traveling to foraging habitat of seagrass colonies established in Indian River lagoon south of the project area.

In addition, the Inlet south channel Cuts 1S, 2S, and 3S are included within the protection zone as depicted in **Figure 5**, page 26. Although no portion of the project is within a designated Important Manatee Area (IMA), it lies directly north of the IMA boundary within Mosquito Lagoon (FWC website, 2012).

3.3.8.2 Sea Turtles

Four species of sea turtles that are federally listed endangered or threatened under ESA utilize habitat within the project area as well as the adjacent nearshore and beach. These include the loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), and Kemp' Ridley sea turtle *(Lepidochelys kempii)* (FWC/FWRI website). The loggerhead sea turtle is listed as a federally threatened species, while the green sea turtle is listed as threatened, with the exception of breeding populations in Florida where they are listed as endangered. Both the Kemps ridley and leatherback sea turtles are listed as endangered under the ESA (USFWS website factsheets). The nesting season for all species of sea turtles, as defined by the FWC, is between May 1 and November 1 in Volusia County (FWC website, 2012).

Data from the Fish and Wildlife Research Institute (FWRI), the research arm of the FWC, determined that loggerhead, leatherback, and green sea turtles have historically nested from approximately 2.8 miles south of the Flagler/Volusia County line south to Ponce Inlet, some 23.5 miles, and then south of the Inlet along New Smyrna Beach another 11 miles (FWRI, 2008). This area is adjacent to the Federal channel and the dredged material beach placement sites. Sea turtle nesting and crawl data from 2007 to 2011 indicate that the majority of sea turtles that utilize this beach for nesting are mostly loggerhead, followed by green sea turtles, while very few leatherback sea turtles have been shown to occur (FWRI, 2012). Sea turtle nesting data acquired for Volusia County is presented **Table 3**, below. Averaged over the five year period (2007 to 2011), loggerhead sea turtles on Volusia County beach to the Inlet had a density of 11 nests per mile, whereas from the Inlet south along New Smyrna Beach, the density was 11.2 nests per mile. For green sea turtle, the density drops dramatically: for the same stretch of beach north of the Inlet, the density was 0.5 nest per mile, or 1 nest per 2 miles, and south of the Inlet along New Smyrna Beach, the density was 1 nest per mile. Leatherback nests were found the least, having an average of 0.1 nests per mile, or 1 nest per 10 miles along the beach north of the Inlet, and 0.3 per mile, or 1 nest every 3 miles south of the Inlet. One known Kemp's ridley sea turtle nest was found on the beach north of the Inlet in July, 2010. It should also be noted that of the 5 years studied, the least number of sea turtle nests were found for loggerhead and green sea turtle species in 2009. Furthermore, during 2008, no leatherback sea turtles were found on any beach in the County.

Table 3. Sea Turtle Nest and Crawl data on Volusia County Beaches from 2007 to 2011.

FWC Fish and Wildlife Research Institute
Statewide Nesting Beach Survey Program
Data Source: FWC/FWRI Statewide Nesting Beach Survey Program Database as of 8 February 2012

YEAR	COUNTY	BEACH	SUVEY START DATE	SURVEY END DATE	LOGGERHEAD				GREEN TURTLE				LEATHERBACK				KEMP'S RIDLEY			
					NEST	FALSE CRAWL	FIRST NEST DATE	LAST NEST DATE	NEST	FALSE CRAWL	FIRST NEST DATE	LAST NEST DATE	NEST	FALSE CRAWL	FIRST NEST DATE	LAST NEST DATE	NEST	FALSE CRAWL	FIRST NEST DATE	LAST NEST DATE
2007	Volusia	New Smyrna Beach	5/1/07	9/30/07	249	336	5/16/07	9/6/07	27	29	6/19/07	9/23/07	2	1	5/5/07	6/18/07	0	0		
2008	Volusia	New Smyrna Beach	5/1/08	9/30/08	336	353	5/10/08	9/6/08	14	12	6/27/08	10/1/08	0	0			0	0		
2009	Volusia	New Smyrna Beach	5/1/09	9/30/09	162	173	5/1/09	9/10/09	0	4			3	2	5/17/09	6/23/09	0	0		
2010	Volusia	New Smyrna Beach	5/1/10	9/30/10	286	333	5/12/10	9/20/10	12	12	7/22/10	9/22/10	3	0	5/23/10	6/23/10	0	0		
2011	Volusia	New Smyrna Beach	5/1/11	9/30/11	230	289	5/12/11	9/11/11	3	4	6/12/11	7/24/11	4	0	4/23/11	6/23/11	0	0		
2007	Volusia	Volusia Co Beaches	5/1/07	9/30/07	264	195	5/5/07	8/14/07	18	17	6/26/07	9/11/07	2	0	5/5/07	7/10/07	0	0		
2008	Volusia	Volusia Co Beaches	5/1/08	9/30/08	282	233	5/17/08	8/28/08	18	6	7/12/08	10/3/08	0	0			0	0		
2009	Volusia	Volusia Co Beaches	5/1/09	9/30/09	163	123	5/18/09	9/3/09	7	6	7/6/09	9/9/09	3	0	5/17/09	7/14/09	0	0		
2010	Volusia	Volusia Co Beaches	5/1/10	9/30/10	306	161	5/11/10	9/8/10	3	0	8/3/10	8/15/10	2	0	6/18/10	7/4/10	1	0	7/7/10	7/7/10
2011	Volusia	Volusia Co Beaches	5/1/11	9/1/11	265	131	4/23/11	8/24/11	13	5	7/4/11	9/13/11	8	0	4/18/11	7/7/11	0	0		

	CURRENT BOUNDARY DESCRIPTIONS	LENGTH (KM)
New Smyrna Beach	Ponce de Leon Inlet to N Boundary of Canaveral NS (28.93852, -80.83031)	17.5
Volusia Co Beaches	4 km S of Flagler/Volusia Co Line, S Bdry of Peninsula SP (29.38750, -81.08417) to Ponce de Leon Inlet	40.2

3.3.8.3 Piping Plover

The Ponce de Leon Inlet project area is within USFWS-designated piping plover critical habitat Unit FL-34 (FR Vol 66, no. 132 36106, July 10, 2001 Rules and Regulations). A description of Unit FL-34 including New Smyrna Beach in Volusia County is as follows:

> The majority of the unit is within Smyrna Dunes Park and Lighthouse Point Park. This unit includes shoreline extending from the jetty north of Ponce de Leon Inlet west to the Halifax River and Inlet junction. It includes shoreline south of Ponce de Lon Inlet from the Inlet and Halifax River junction, extending east and south along the Atlantic Ocean shoreline 1.2 km (0.70 mi). It includes land from MLLW to where densely vegetated (including grass or lawns) or developed structures, not used by the piping plover, begin and where the constituent elements no longer occur.

A map showing the extent of the Unit FL-34 is presented in **Figure 6**. Areas of shoal build-up, or "disappearing islands", partially fall within this designated critical habitat. One such shoal, the Rockhouse Creek shoal, is located on the west side of the channel between it and the IWW, but is not entirely within the USFWS-designated critical habitat Unit FL-34. Also, exposed shoaled areas are not within the actual federally authorized and maintained channel, and therefore are not impacted by frequent dredging events. However, the nearshore sediment transport process often results in submerged shoals within the Federal channel adjacent to the exposed accreted material, which are the focus of attention during maintenance dredging events; see **Figure 2**.

Figure 6. USFWS Designated Critical Habitat for Wintering Population of Piping Plover Unit FL-34.

Piping plover have been observed in the Ponce Inlet area of Volusia County during survey events conducted by Ecological Associates, Inc., from 2004 to 2010 within the critical habitat Unit FL-34, as described, and the area west of the Federal channel, referred to as the Rockhouse Creek shoal, a potential "disappearing island". Analysis of data from the reports shows a trend of heavier usage by piping plover along the Atlantic Beach area within Unit FL-34, and a lesser number of sightings in the Inlet channel. However, sightings of piping plover occurring outside of critical habitat Unit FL-34 were recorded at the Rockhouse Creek shoal. Survey data from both sites are summarized in **Table 4**, page 35. The sightings frequently occur along the intertidal swash zone where piping plover forage at low tide. Most often, the birds forage singularly but can be found in groups that average between 5 to 9 individuals. A monthly summary of maximum and mean sightings within Unit FL-34, excluding Rockhouse Creek, from 2004 to 2010 is presented in **Figure 7.**

A copy of the most recent piping plover survey report, entitled *Piping Plover and Shorebird Monitoring Within Unit FL-34 and Rockhouse Creek Shoals, 2009-2010*, is included in Appendix F. Earlier reports of the surveys from 2004 to 2009 are available upon request.

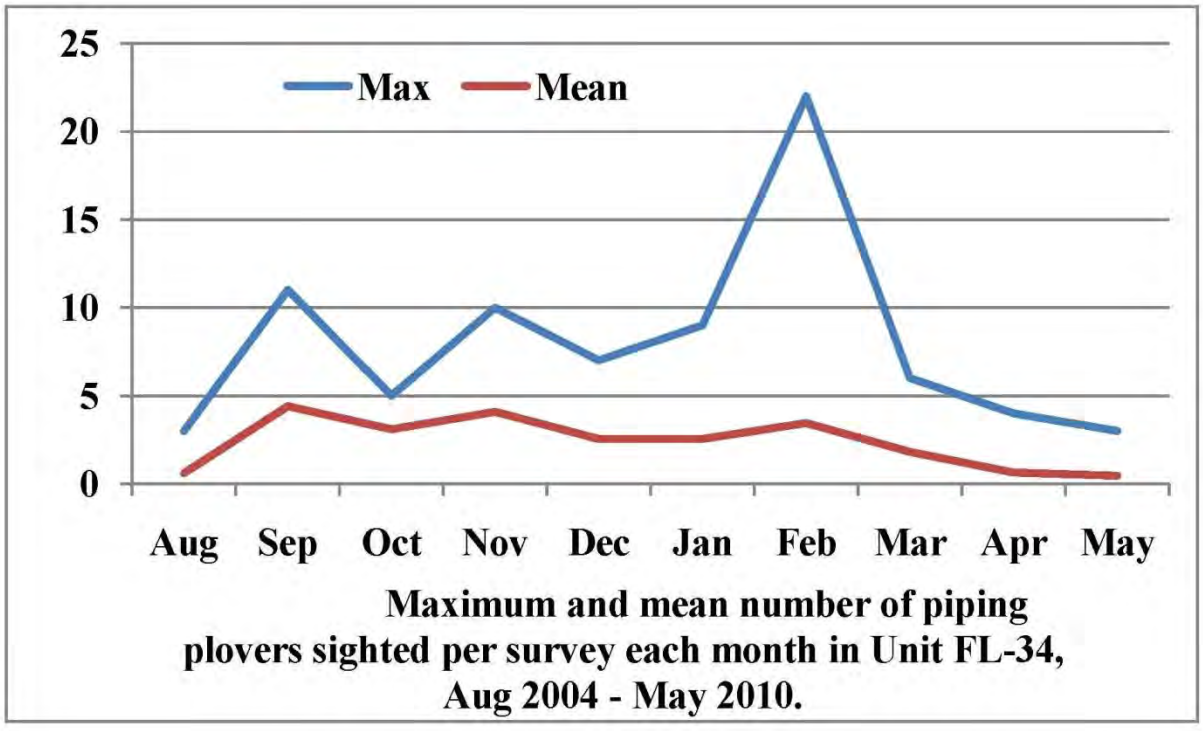


Figure 7. Summary piping plover sightings within Critical Habitat Unit FL-34
Source: Ecological Associates, Inc 2009 – 2010 Report

Table 4. Summary of Piping Plover Surveys at Ponce de Leon Inlet from 2004 to 2010

Survey Year	Location	Total* Sightings	Comments	No. of Banded
2004 - 2005	Unit FL -34	47	Most seen at sightings: 12 individuals.	0
	Rocky Cr Shoal	55	Average sightings per survey event: 14 individuals	3
2005 - 2006	Unit FL -34	62	Most seen at sightings: 10 individuals.	0
	Rocky Cr Shoal	44	Largest group sighted: 9 individuals	several
2006 - 2007	Unit FL -34	41	November was month with highest number of sightings	0
	Rocky Cr Shoal	47	Average individuals sighted per survey: 12	9
2007 - 2008	Unit FL -34	27	Most individuals observed in March; most sighted: group of 8 individuals	2
	Rocky Cr Shoal	38	Average sightings per survey: 10. Largest group sighted: 6 individuals	6
2008 - 2009	Unit FL -34	61	Most individuals observed after Sept. 14. Most observed at one sighting: 22	8
	Rocky Cr Shoal	35	Average sightings per survey: 9. Largest group sighted: 5 individuals	2
2009 - 2010	Unit FL -34	18	First sighting occurred in August, 2009; last sighting in December, 2009. Most sighted: 6	3
	Rocky Cr Shoal	72	Average sightings per survey: 11. Largest group sighted: 20 individuals	10

Source: Ecological Associates, Inc 2009 – 2010 Monitoring Report

* Total surveys for Rockhouse Creek shoals included 4 events per season. 2004 survey event started in October.

The USFWS has identified critical habitat units for the wintering population of piping plover through a description of known physical and biological features referred to as Primary Constituent Elements (PCE's), which are essential to piping plover conservation during the winter migration season. All areas proposed as critical habitat for the wintering population of the piping plover are occupied, and/or are within the species' historic geographical range containing sufficient PCE's to support at least one life history function, i.e. foraging and/or roosting (USFWS 5-yr Recovery Plan).

The PCE's of wintering piping plover habitat include sand and/or mud flats with no or very sparse emergent vegetation. In some cases, these flats may be covered or partially covered by a mat of blue-green algae. Adjacent non-vegetated sand, mud, or algal flats above high tide are also essential, especially for roosting piping plovers. Such sites may have debris, detritus (decaying organic matter), or micro-topographic relief (less than 50 cm above the substrate surface) offering refuge from high winds and cold weather. Essential components of the beach/dune ecosystem include:

- surf-cast algae for foraging of prey, sparsely vegetated backreach (beach area above mean high tide seaward of the dune line, or where no dunes exist, seaward of a delineating feature such as a vegetation line, structure, or road) for roosting and refuge during storms;

- spits (a small point of land, preferably consisting of sand, running into water) for feeding and roosting;

- salterns (bare sand flats in the center of the mangrove ecosystems typically found above mean high water and are only irregularly flushed with sea water) for feeding and roosting; and

- washover areas (broad, unvegetated zones with little or no topographic relief that are formed and maintained by the action of hurricanes, storm surge, or other extreme wave action) for feeding and roosting.

Several of these components (sparse vegetation having little or no topographic relief) are mimicked in artificial habitat types used less commonly by piping plovers, but nonetheless, are considered critical habitat (e.g. dredge spoil sites). Not all life history functions require all the PCE's; therefore, not all proposed critical habitat will contain all the PCE's. All proposed critical habitat areas have been determined (by the USFWS) to contain sufficient PCE's to provide for **one or more** of the life history functions of the wintering population of the piping plover (USFWS 5-yr Recovery Plan).

In some cases, the PCE's exist as a result of ongoing Federal actions, such as channel maintenance and dredged material placement. As a result, ongoing Federal actions at the time of designation will be included in the baseline in any consultation subsequent to this designation.

Discussion of the direct effects to piping plover and its critical habitat from maintenance dredging are presented in Section 4.7.2.3, page 47.

3.3.8.4 Southeastern Beach Mouse

Southeastern beach mouse *(Peromyscus polionotus)* is listed under the ESA as threatened and occurs in isolated populations found in eastern counties of Florida, including Volusia County. Southeastern beach mice occupy both primary and secondary frontal or scrub dunes year round. Their main source of food consists of sea oats, along with grains and seeds of various graminoids (grasses, sedges and rushes) or forbs (broadleaf herbaceous plants). They also forage on small invertebrates such as arthropods. The scrub dunes serve as refugia for beach mice during and after tropical storm events, where recolonization of the frontal dunes takes place (FWS, 2008). Volusia County is the northern-most extent of the southeastern beach mouse range, whereas Broward County is the southern-most extent for the species in Florida.

Locally, the southeastern beach mouse is known to have a small population located at the tip of Smyrna Dunes Park, in a suitable habitat of upland coastal dune. The Smyrna Dunes Park supports a viable population with an effective breeding size of at least 500 individuals as evidenced by research at the site (FWS, 2008).

A localized survey consisting of a live-trapping effort was conducted by the University of Central Florida that included Smyrna Dunes Park in the study area. The study's timeframe consisted of May 2006; October 2006; April 2007; and May 2008 (J. Stout, 2009). The FDEP permitted traps were located on the top of the primary dune where vegetation exists and were allowed to remain open from late afternoon until being checked early morning of the following day. Data was collected for captured mice, which included piercing with ear tags and tail snips for genetic analysis; the captured mice were then released after data collection (J. Stout, 2009). Results of the May 2006 survey found that of the 300 traps set over three days, 46 captures of 29 individuals were recorded. Fourteen (14) males were captured along with 15 females; 26 were adults and 3 were sub-adults. The October, 2006 survey occurred over two nights. A total of 200 traps were set but no captures were recorded. The April, 2007 survey occurred over two nights. Of the 222 traps set, 66 individual mice were captured. Of these, 39 were males, and 27 were females, with 15 adults. The final trapping cycle was conducted from May 12 to 14, for a total of 372 traps set during the 3-night period that captured 12 individuals. Of these, 10 were adults; 6 were males; five were female; and one was of unknown sex (J. Stout, 2009). It should also be noted that of all the sites included in the study, the most traps and captures occurred at Smyrna Dunes Park.

3.3.8.5 Gopher Tortoise

Gopher tortoise (*Gopherus polyphemus)* are considered a candidate species for proposed listing on the ESA in eastern sections of the United States which includes the population in Florida. If this species achieves listing on ESA, it could be designated as either endangered or threatened, depending upon the level of imperilment the species is facing. Populations west of Mobile, AL are currently listed under the ESA as threatened (USFWS, website provided in References of Section 8).

The upland scrub and grassland natural community of Smyrna Dunes Park provides a quality habitat for gopher tortoise (USACE Biologists field observations). A thriving colony of these animals is openly located within the perimeter of the park in this quality habitat. However, no maintenance activities are proposed within this habitat.

3.3.8.6 Smalltooth Sawfish

The smalltooth sawfish (*Pristis pectinata*) is currently listed as endangered under the ESA by NMFS (50 CFR 224). In 2003, it was the first marine fish species in U.S. waters added to the ESA listing (Ocean Conservancy 2009). Although smalltooth sawfish once ranged throughout U.S. coastal waters along the southeastern Atlantic and northern Gulf of Mexico, its known primary range is now reduced to the coastal waters near Everglades National Park and the Charlotte Harbor Estuary in extreme southern Florida. Sightings are very rare. Although the Indian River Lagoon system and lower reaches of the St. Johns River were historically identified as areas of abundance, by 1981, research concluded that the smalltooth sawfish had been

virtually extripated from this system (Snelson and Williams, 1981). Only one recent encounter from the St. Johns River (2009) has been recorded in the National Sawfish Encounter Database (NSED) (Burgess et al, 2011).

Similar to sharks and rays, smalltooth sawfish belong to a group of fish known as elasmobranches. Their skeletons are composed of cartilage, and are considered modified rays having a body shape and gill slits also found on sharks (NMFS 2009). They are long-lived and slow to mature (up to 10 years). Adults can grow to be quite large; the longest recorded length is 24.7 feet, although the average length is around 18 feet (FLMNH website 2012). Females bear live young after about one year of gestation, and the litters reportedly range from 15 to 20 pups which are born during the warmer summer months in shallow, protected waters (FLMNH 2012). Their diet consists of macroinvertebrates, crustaceans, and fishes such as herrings and mullets. The saw is used to disturb surficial sediments in search of benthic invertebrates or to impale prey fishes on the rostral teeth (FLMNH 2012).

Scientists with the University of Florida have concluded that the sawfish population has declined by as much as 99% over the past 30 years and is in danger of extinction (Ocean Conservancy fact sheet 2009). The primary contributor for the decline of the smalltooth sawfish population is bycatch from commercial and recreational fisheries. Other threats include entanglement in fishing lines, degraded water quality, reduction of critical habitat, disturbance by divers, and removal of their "saws" (NMFS 2010).

Smalltooth sawfish typically inhabit shallow waters (depths up to 20 feet) near the mouths of rivers in estuarine lagoons over sandy or muddy substrates; likewise, they may also be found in deeper waters (greater than 50 feet) along continental shelf (Carlson et al, 2006). Shallow coastal waters, such as bays and estuaries having depths less than 4 feet, provide an important nursery area for juvenile smalltooth sawfish (Carlson et al, 2006). The only breeding areas still known to exist are located in southwest Florida in Charlotte Harbor and Ten Thousand Islands (Burgess et al, 2011).

No critical habitat for smalltooth sawfish lies within or adjacent to the project area. The closest NMFS-designated critical habitat for smalltooth sawfish is around 8 miles south in the Indian River Lagoon where the species was once abundant but populations have since receded. Key habitat features, especially for juvenile individuals, consist of shallow, warm water with proximity to mangroves and estuarine conditions; consequently, none of these features occur in the Ponce Inlet area.

Currently, the South Atlantic Regional Biological Opinion (SARBO, 1997) does not authorize any take of the federally listed smalltooth sawfish.

3.3.9 SEAGRASS

No seagrass beds are known to occur within the Ponce Inlet area or within the project limits. The closest known seagrass beds are located several miles south of the project area in the Indian River Lagoon, according to the FDEP mapped data (FDEP, website provided in References of Section 8).

3.3.10 ESSENTIAL FISH HABITAT DESCRIPTION (EFH).

Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (16 U.S.C. 1801-1882) requires identification of habitats needed to support sustainable fisheries and comprehensive fishery management plans with habitat inclusions. The Act also requires preparation of an Essential Fish Habitat (EFH) assessment and coordination with NMFS when adverse impacts to EFH are likely to occur.

EFH is defined in the MSFCMA as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." For interpreting the definition of EFH, "waters" include aquatic areas and their associated physical, chemical, and biological properties used by fish, and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hardbottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.

The South Atlantic Fisheries Management Council (SAFMC, 1998) has designated intratidal flats and water column zones within the project area as EFH in compliance with the MSFCMA. A summary of that assessment is included here. Managed species that commonly inhabit the project area are shown in **Table 5**.

Table 5. Managed species commonly occurring in the project area**.**

Common Name	**Scientific Name**
Bluntnose stingray	*Dastatis sayi*
Cownose ray	*Rhinoptera bonasus*
American eel	*Angulla rostrata*
Conger eel	*Conger oceanicus*
Speckled worm eel	*Myrophis punctatus*
Atlantic menhaden	*Brevoortia tyrannus*
Striped anchovy	*Anchoa hepsetus*
Bay anchovy	*Anchoa mitchilli*
Inshore lizardfish	*Aynodus foetens*
Spotted hake	*Urophycis regius*
Rough silverside	*Membras martinica*
Atlantic silverside	*Medidia medidia*
Black seabass	*Centropristis striata*
Sand perch	*Diplectrum formosum*
Gag grouper	*Mycteroperca microlepsis*

Gray snapper	*Lujanus griseus*
Spotfin mojarra	*Eucinostomus argenteus*
Silver jenny	*Eucinostomus gula*
Pigfish	*Orthopristis chrysoptera*
Sheepshead	*Archosargus probatocephalus*
Pinfish	*Lagadon rhombodies*
Silver perch	*Bairdiella chrysura*
Spotted seatrout	*Cynocion nebulosus*
Weakfish	*Cynocion regalis*
Spot	*Leiostomus xanthurus*
Southern kingfish	*Menticirrhus saxatilus*
Atlantic croaker	*Micropogonias undulatus*
Red drum	*Sciaenops ocellatus*
Striped mullet	*Mugil cephalus*
White mullet	*Mugil curema*
Northern searobin	*Prionotus carolinus*
Bay whiff	*Citharichthys spilopterus*
Fringed flounder	*Etropus crossotus*
Gulf flounder	*Paralichthys albigutta*
Summer flounder	*Paralichthys dentatus*
Southern flounder	*Paralichthys lethostigma*
Windowpane	*Scopthalmus aquosus*
Hogchoker	*Trinetes maculates*
Blackcreek tonguefish	*Symphurus plagiusa*
Blue crab	*Callinectes sapidus*
Brown shrimp	*Penaeus aztecus*
Pink shrimp	*Penaeus duorarum*
White shrimp	*Penaeus setiferus*
Welk	*Busyconn* spp
Eastern oyster	*Crassostera virginica*
Hard clam	*Mercenaria mercenaria*

Source: South Atlantic Fisheries Management Council 1998

The fish community of eastern coastal Florida is one of the most diverse in the western Atlantic Ocean region. This high diversity is the consequence of biogeographical (geographical distribution of organisms) and environmental factors operating on various spatial and temporal scales (Gilmore, 2001). Tidal flats are dynamic features of coastal landscapes whose distribution and character may change with shifting patterns of sediment erosion and deposition. Factors that affect the regional character of tidal flats include tidal range, prevailing weather patterns, coastal geography and geology. Human activities that change flow patterns or sediment supply such as dam and jetty construction, dredging and filling can also significantly alter regional characteristics (SAFMC, 1998). In areas with a small tide, wind and waves are generally the most important factors in the formation of tidal flats with the exception of locations near tidal inlets and river mouths, similar to the Ponce de Leon Inlet.

Tidal flats contain critical structural components of coastal systems that serve as benthic nursery areas, refuges and feeding grounds, thus providing essential fish habitat for numerous species. Benthic community of tidal flats include diatoms, cyanbacteria, euglenophytes and unicellular algae, which can equal or exceed phytoplankton primary production in the water column, and can represent a significant portion of overall estuarine primary productivity (SAFMC, 1998). Benthic fauna that live in and/or on the sediment include ciliates, rotifers, nematodes, copepods, annalids, amphipods, bivalves, and gastropods. These species are preyed upon by mobile predators moving onto the flats with the flood tide. The regular ebb and flow of the tide is an important aspect to the functioning of these systems by providing a corresponding rhythm that exists in the animals and microalgae adapted to the intertidal zone (SAFMC, 1998).

The estuarine water column comprises four salinity catagories: Oligohaline (<8 ppt), mesohaline (8-18 ppt), and polyhaline waters (13-30 ppt) with some euhaline water (>30 ppt) around inlets. A high salinity rate (>35 ppt) is expected at the Inlet due to tide and wind transported seawater mixing with freshwater supplied by the Indian and Halifax Rivers. Particulate materials settle from these mixing waters and accumulate as bottom sediments. Coarser-grained sediments, saline waters, and migrating organisms are introduced from the ocean, while finer-grained sediments, nutrients, organic matter, and fresh water are input from rivers and tidal creeks. The sea water component stabilizes the system by supplying abundant inorganic chemicals and relatively conservative temperatures. Closer to the sea, rapid changes in variables, such as temperature, are moderate compared to shallow upstream waters. Without periodic additions of sea water, seasonal thermal extremes would reduce the biological capacity of the water column as well as reduce the recruitment of fauna from the ocean (SAFMC, 1998). The water column is composed of horizontal and vertical components. Horizontal gradients of nutrients that decrease seaward affect the distribution of phytoplankton and organisms utilizing this primary area of productivity. Vertically, the water column may be stratified by the degree of salinity (freshwater overlaying heavier saltwater), decreased oxygen content (lower values at the bottom from high biological oxygen demand due to inadequate vertical mixing) and introduction of contaminants (nutrients, pesticides, industrial waters, and pathogens) (SAFMC, 1998).

The estuarine habitat not only provides food, structure, and refuge from predators to fishery organisms, but also regulates the amount to freshwater, nutrient and sediment inputs into the

estuary. In addition to is function as an essential fisheries habitat the marsh plays a vital role in the health and water quality of the estuary by providing stability to the shoreline and storing floodwaters during coastal storms. Estuaries provide habitat for several decapods species and is an important nursery habitat for larval and juvenile stages of decapods blue crab, white shrimp, and grass shrimp. Fiddler crabs burrow preferentially in sediments with intermediate densities of marsh vegetation root mats. Marsh grasses, where present in association with the Inlet, contribute to the production of fisheries by providing refuge and foraging areas. Red drum and shrimp are considered most dependent on salt marsh habitat.

Ocean surf zones are high salinity environments that support coastal pelagic species. Along the coastal area of Ponce Inlet and New Smyrna Beach, the substrate consists of unconsolidated bottom. Species expected to occur in this habitat are included on **Table 5,** pages 39 - 40.

3.3.11 NOISE

Noise in the area of the Ponce de Leon Inlet is typically limited to that of vessels utilizing the navigational channel in transit between the Atlantic Ocean and the IWW. Commercial and recreational vessels as well as personal watercraft contribute moderately to the amount of noise in the area.

3.3.12 SAFETY

The Federal channel was designed and authorized for a specific depth and width. Over time, shoal buildup regularly occurs which reduces the navigable capacity of the channel. If it is not adequately maintained, the use of the channel becomes a safety hazard for vessels. The United States Coast Guard (USCG) is authorized to prohibit the use of channels that pose a safety hazard for vessels.

3.3.13 RECREATION

The Ponce Inlet and New Smyrna Beach communities are heavily populated areas along Florida's Atlantic Coast. The beach is a popular recreation site as this region experiences a large volume of tourists, particularly during the winter months. These communities provide recreational opportunities that include boating, canoeing, kayaking, fishing, swimming, and educating citizens on the environment.

3.3.14 NAVIGATION

In the 1960's initial dredging of a channel for the use of commercial shipping was authorized by Congress for a 12+2-foot channel to access the IWW from the Atlantic Ocean for commercial and personal recreation vessels, as well as rescue operations of the USCG. The Ponce de Leon Inlet has become an important navigation channel for recreational boating, commercial shrimp harvesting and sport-fishing, excursion boats and general tourism.

3.3.15 ECONOMIC

The Ponce de Leon Inlet navigation channel is routinely used by the USCG, various excursion boats, local commercial fishing vessel fleets, and numerous recreational watercrafts to gain access to the Atlantic Ocean from the IWW. This channel provides long-term economic stimulus to the economy of communities associated with Ponce Inlet and New Smyrna Beach

metropolitan areas from the generation of revenues from the sale of goods and services to the public.

Major land uses in the project area include residential, commercial, and public parks. Numerous marinas occupy the landscape of the waterway along the shoreline of the Federal project area. As well, build up of suitable beach material from beach or nearshore placement ensures continued economic growth for commercial businesses along Ponce Inlet and New Smyrna Beach through recreational tourism. Continued channel maintenance benefits the local economy by accommodating increased vessel traffic along the waterway which contributes additional commerce to local communities.

4 ENVIRONMENTAL EFFECTS

4.1 INTRODUCTION

This section is the scientific and analytic basis for the comparisons of the alternatives. See table 1 in Section 2.0 (Alternatives) for a summary of impacts. The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects.

4.2 WATER QUALITY

4.2.1 NO ACTION ALTERNATIVE [STATUS QUO]

Boats moored in or traveling through the project area could disturb the sediments that have accumulated in the channel with anchors or propellers, potentially causing a chronic increase in local turbidity levels.

4.2.2 MAINTENANCE DREDGING

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

4.2.3 MATERIAL PLACEMENT OPTIONS

As with the dredging activity, the primary change in water quality during placement of dredged material within the nearshore and beach would be a temporary increase in turbidity. These activities would be monitored similar to the dredging activity.

4.3 HISTORIC PROPERTIES

4.3.1 NO ACTION ALTERNATIVE [STATUS QUO]

The no-action alternative would not have any effect on historic properties eligible for inclusion on the National Register of Historic Places.

4.3.2 MAINTENANCE DREDGING

There is potential for submerged historic properties to be located in the maintenance dredge area. A dugout canoe of prehistoric or historic origin (VO7584) was previously discovered in the inlet and some recorded archaeological sites along the waterway have been identified from dredge spoil (VO7516, VO7517). Given the history of area, there is a potential for submerged historic properties to be adversely impacted by the proposed maintenance dredging.

4.3.3 MATERIAL PLACEMENT OPTIONS

Beach Placement Area

Two historic properties located along the beach placement area south of the jetty are recorded in the Florida Master Site File (FMSF). Both sites (VO7306, VO4386) may have been destroyed by previous hurricanes and subsequent beach maintenance and construction. These site locations will be monitored during beach placement activities to avoid potential impacts in the event there are portions of these sites that remain unidentified.

Nearshore Placement Area

There is potential for submerged historic properties to be located in the nearshore placement area. A shipwreck site (VO7484) has been identified in the general vicinity but its exact location is unknown. Given the maritime history of this vicinity along the Atlantic Coast, there is potential to adversely impact submerged historic properties.

A submerged cultural resources survey is being conducted within the Ponce Inlet maintenance dredging and beach placement project areas. If any significant historic resources are discovered, they will be avoided by buffering so impacts to these resources will not occur due to activities associated with dredging or the placement of pipelines, anchors, spudding, or pump-out operations. Coordination with the SHPO and the appropriate federally recognized Native American tribes was initiated November 13, 2012, and is ongoing.

4.4 NOISE

4.4.1 NO ACTION ALTERNATIVE [STATUS QUO]

Grounding vessels and the rescue equipment required to free them could generate increased local noise levels as the channel shoal increases and becomes impassable.

4.4.2 MAINTENANCE DREDGING

There could be a slight temporary increase in noise levels from the maintenance dredging but background levels from vessel traffic and general public within the area are already moderate. Noise levels would return to background levels upon completion of the project.

4.4.3 MATERIAL PLACEMENT OPTIONS

There could be temporary increases in noise levels at the placement sites during the operation of the discharge equipment. Beach placement is anticipated to generate increased noise above background than nearshore placement due to the heavy equipment needed to rework the dredged material on the dry beach. Noise levels would return to background levels upon completion of the project.

4.5 SAFETY

4.5.1 NO ACTION ALTERNATIVE [STATUS QUO]

Long-term adverse impacts to vessel safety from unaddressed channel shoal buildup and reduced navigability are anticipated as a result of this alternative. As the channel shoals, larger craft, such as commercial fishing and excursion vessels, would be required to deviate to the northwest outside of the authorized Federal channel due to the obstruction. This scenario significantly increases the risk of vessel groundings, as has been documented by 2008 correspondence from the USCG, Appendix D.

4.5.2 MAINTENANCE DREDGING

The proposed maintenance would remove shoal obstructions from the Federal Inlet channel which would improve navigational safety by eliminating one of the primary causes of vessel grounding. This alternative would increase overall boater safety by facilitating improved access to IWW for all vessels including the USCG. Temporary impacts to navigation are anticipated from the presence of the dredge equipment during construction.

4.5.3 MATERIAL PLACEMENT OPTIONS

Dredge barge and pipelines could temporarily alter navigation patterns during construction; however, authorized channel depths would be restored which would provide a lasting beneficial impact.

4.6 WILDLIFE RESOURCES

4.6.1 NO ACTION ALTERNATIVE [STATUS QUO]

Shorebird monitoring conducted since the last channel dredging in 2011 has shown that there was no long-term net loss of habitat (roosting, nesting, and foraging) as a result of the dredging; thus, suspension of dredging activity could have a negligible effect on wildlife resources utilizing the project area.

4.6.2 MAINTENANCE DREDGING

4.6.2.1 Marine Mammals

No impacts to any marine mammals, particularly the West Indian manatee and bottlenose dolphin, are anticipated during the proposed maintenance dredging. During recent maintenance events of August 2011 and August 2012, observers located on the special purpose dredge USACE CURRITUCK did not document any sightings or occurrences of manatees within 50 feet of the dredge during the maintenance operation activity. Marine mammal species that were searched for included bottlenose dolphin, Atlantic spotted dolphin, and manatee.

4.6.2.2 Migratory Birds

Temporary impacts to migratory birds are anticipated as a result of the proposed maintenance dredging from removal of exposed shoal which has grown into the Federal channel. However, general census monitoring reports from 2007 to 2011 that include the general region indicate a diverse and healthy population of wading and shorebirds that are present along the shoreline adjacent to Federal Inlet channel after recent dredging events.

4.6.3 MATERIAL PLACEMENT OPTIONS

Wildlife impacts from all placement options are expected to be short-term and minimal during construction. Both proposed beach placement alternatives could temporarily impact wildlife utilizing the areas. While mobile species could relocate away from the dredging disturbance, it is anticipated that some species will be attracted to the pipe outfall and will actively forage on the infaunal organisms in the dredged material. In addition, migrating dredged sediment placed in either nearshore site is also anticipated to augment and increase wildlife habitat as the material migrates towards and onto the dry beach.

4.7 THREATENED AND ENDANGERED SPECIES

4.7.1 NO ACTION ALTERNATIVE [STATUS QUO]

4.7.1.1 Manatee

Manatees could become injured through collision or trapped by large vessels passing overhead if the clearance between the channel bottom and vessel hull is not adequately maintained.

4.7.1.2 Sea Turtle

The no-action alternative could result in loss of sea turtle nesting beach opportunity due to continued erosion or from a lack of beach or nearshore placement of the dredged material.

4.7.1.3 Piping plover

There would be no impact to Piping Plover critical habitat Unit FL-34 from the no-action alternative. In fact, Unit FL-34 could increase in area as sand accumulates into the channel from shoal accretion.

4.7.1.4 Smalltooth Sawfish

The no action alternative is not expected to impact smalltooth sawfish as this species is unlikely to occur within the Federal channel or nearshore placement sites. Shallow estuarine waters, which are more suitable (contain the essential elements) for juvenile sawfish nursery habitat, could increase should no dredging occur.

4.7.2 MAINTENANCE DREDGING

4.7.2.1 Manatee

No impacts to manatees are anticipated as a result of the proposed dredging. During the recent maintenance events of 2011 and 2012, Marine Mammal observers did not document any manatee activity occurring within 50 feet of the dredge which would have resulted in a temporary shutdown of the operation until the manatees safely migrated away from the work zone. In order to not adversely affect the manatee, the Corps would comply with the Service's Standard Manatee Conditions for In-water Work during dredging.

4.7.2.2 Sea Turtles

Data acquired from FWC documented a total of 237 nests and 293 non-nesting emergences along the New Smyrna Beach shoreline. A total of 278 nests and 136 non-nesting emergences were documented along the Volusia County Beach shoreline. All requirements of the NMFS South Atlantic Regional Biological Opinion (SARBO) would be followed during dredging activities in order to minimize impacts to swimming sea turtles.

4.7.2.3 Piping Plover

A portion of the project area is within USFWS designated critical habitat Unit FL-34. Shoal build-up of material occurs in the Halifax River that includes the inner channels of the Inlet and the IWW. General census monitoring reports conclude these areas, anecdotally known as

Figure 8. Disappearing island within Piping Plover Critical Habitat Unit FL-34 post-dredging with high recreational usage. Note the accretion of material into the IWW on lower right side of shoal. Date of image: May, 2010.

"disappearing islands" support piping plover during wintering periods of up to 10 months per year. This ephemeral feature is formed from the dynamic process of shoal build-up that is exposed at MLLW but consequently disappears during the high tide. The shoals frequently accrete material into or immediately adjacent to the Federal channel, which requires routine dredging to maintain the channel in the authorized footprint. These areas also receive significant disturbance from intense recreational usage, as shown in **Figure 8.** This usage includes unrestrained dogs, grounded watercraft, and high density human trampling on the beach. The dredge activity is not expected to impact piping plover or its critical habitat.

Corps is currently in consultation with the USFWS regarding piping plover usage of designated critical habitat that occurs within the project site. A Corps-drafted letter (6 September 2012), specific to this activity, requested consultation under Section 7 of the Endangered Species Act; a copy is included in Appendix E.

4.7.2.4 Smalltooth Sawfish

No effect is anticipated to the smalltooth sawfish as this species has not been known to occur within the project limits. No NMFS-designated critical habitat is present within the immediate area and no recent sightings have been reported to NMFS or FWC. No takings of this species or other disturbance have occurred during any of the numerous dredging events or other maintenance activities over the past 30 years.

4.7.3 MATERIAL PLACEMENT OPTIONS

4.7.3.1 Manatee

In order to not adversely affect the manatee, the USACE would comply with the Service's Standard Manatee Conditions for In-water Work during beach and nearshore placement activities. There were no impacts to manatees as a result of the recent maintenance actions that also included the south nearshore placement in 2011 and 2012.

4.7.3.2 Sea Turtles

Per the USFWS SPBO, daily early morning surveys for sea turtle nests will be required if any portion of the beach placement occurs during the period from May 1 through October 31. Only those sea turtle nests that may be affected by the placement activities will be relocated the morning following deposition to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. However, the Corps has determined that nearshore placement would be not likely to adversely affect nesting sea turtles. Therefore, the Corps does not anticipate the need to perform daily surveys for sea turtle nests if any portion of the nearshore placement occurs during the period from May 1 through October 31.

4.7.3.3 Piping Plover

All four placement options have the potential to benefit wintering piping plover habitat. Although outside of the designated critical habitat Unit FL-34, beach placement could directly increase the usage by piping plover through potentially increasing available resources. In addition, physical conditions from nearshore placement could result in dispersion of finer sediments through downdrift processes for the successful migration of sand-sized sediments onshore, with finer sediments moving offshore. Results are pending from the ERDC RIOS study conducted after the recent maintenance activity of 2012, but are expected to support this scenario. Neither the nearshore nor beach placement areas are located within USFWS-designated critical habitat Unit FL-34. Placement of dredged material into the nearshore areas will not affect piping plover or their habitat. Furthermore, placement of material on the two proposed beach areas will enhance potential usage by piping plover by addressing erosion issues and providing increased food sources. A letter requesting initiation of consultation of the SPBO was issued by the Corps on September 6, 2012 (Appendix E) that states neither piping plover nor their critical habitat (Unit FL-34) are likely to be adversely affected by this project.

4.7.3.4 Smalltooth Sawfish

No effect to smalltooth sawfish is anticipated by placement in either of the nearshore areas as they do not contain suitable nursery or foraging habitat for smalltooth sawfish.

4.8 ESSENTIAL FISH HABITAT

Section 3.3.10, page 39, describes the "existing conditions" of the Essential Fish Habitat (EFH) in the project area. This is defined as "federally managed fisheries, and associated species such as major prey species, including affected life history stages." The following subsections describe the individual and cumulative impacts of the no action and preferred alternatives on EFH, federally managed fisheries, and associated species such as major prey species, including the affected life history stages.

4.8.1 NO ACTION ALTERNATIVE [STATUS QUO]

Increased shoal build-up in the Federal channel could lead to vessel bottom strikes, which could cause temporary increases in turbidity, further degrading habitat for fish.

4.8.2 MAINTENANCE DREDGING

The proposed maintenance dredging of the project channels could impact approximately 95 acres of previously dredged estuarine/inshore water column and unconsolidated substrate. Species managed by the NMFS that are common within the project area can be found in **Table 5,** pages 30 - 40. The USACE has determined that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries along the IWW and Atlantic coast of Florida. This determination was based on the fact that the substrate of the project area is naturally dynamic and unconsolidated, and measures shall be taken to protect adjacent habitat. Turbidity could affect vision of marine life within the sediment plume as well as those marine organisms with gills, but these effects would be temporary as they would be limited to the actual dredging and placement operations. Routine maintenance dredging may suppress re-colonization of certain benthic organisms and therefore could impact other trophic levels within the food chain. However, it is important to note that the project channels are man-made; the actual channel widths encompass a fraction of the entire water body, and similar habitat occurs immediately adjacent to the channels. In addition, the Ponce de Leon Inlet maintenance dredging is anticipated to encompass 60 days every 2 to 5 years; thus, migrating larvae and/or juvenile fish could be subject to project related elevated turbidity and suspended sediment levels during that time period.

4.8.3 MATERIAL PLACEMENT OPTIONS

Placement of dredged material into the two nearshore placement areas could directly and indirectly impact up to 194 acres of marine/offshore water column and unconsolidated substrate. For the beach areas, up to 60 acres of ocean high salinity surf zone could be directly or indirectly impacted. However, the dredging record of this project shows that the majority of the material is extracted regularly from a small area of the entire channel, and ranges in volume from 30,000 to 60,000 cubic yards per event. Based on the historic dredging record, these limited quantities of sand could be placed approximately every 2-5 years, and therefore, the possibility of longer term adverse impacts (i.e. suppression of re-colonization of the infaunal community) is not likely. In addition, placement along portions of these areas has occurred on multiple occasions over the past 30 years. The dredged sediment is anticipated to be similar in composition to the existing

beach and nearshore sediments, and only small portions of the placement areas are anticipated to be used during each individual dredging event.

4.9 AESTHETICS

4.9.1 NO ACTION ALTERNATIVE [STATUS QUO]

There would be no affect on landscape aesthetics by pursuing the no action alternative.

4.9.2 MAINTENANCE DREDGING

Temporary air pollution, water turbidity, and noise pollution increases can be expected during project construction. The dredge equipment will have a temporary effect on the view shed until completion of the project.

4.9.3 MATERIAL PLACEMENT OPTIONS

Temporary air pollution, water turbidity, and noise pollution increases can be expected during the placement of dredged material onto the beach or into the nearshore placement areas. Conversely, dredged material placement on beaches of Ponce Inlet and New Smyrna Beach and associated nearshore should augment the beach habitat available which could improve the areas aesthetic resources.

4.10 NAVIGATION

4.10.1 NO ACTION ALTERNATIVE [STATUS QUO]

The no-action alternative would result in a decrease in the navigability of the channel over time as sediments accumulate in the channel causing obstructions from shoal build-up.

4.10.2 MAINTENANCE DREDGING

The proposed action could result in a temporary disruption of normal vessel traffic in the channel due to the presence and operation of the dredge. However, long-term benefits to navigational safety would result from the action as proposed.

4.10.3 MATERIAL PLACEMENT OPTIONS

As with the maintenance dredging alternative, beach or nearshore placement could result in a temporary disruption of normal vessel traffic in the area due to the presence and operation of the material transport and deposition equipment. North beach or nearshore placement could increase the maintenance interval as material migrates back into the Federal channels from longshore transport.

4.11 ECONOMICS

4.11.1 NO ACTION ALTERNATIVE [STATUS QUO]

A potential decline in the revenue-generating capabilities of the commercial and recreational centers of Ponce Inlet, including New Smyrna Beach, would be probable as the build-up of shoal material prevents access to recreational and commercial vessel.

4.11.2 MAINTENANCE DREDGING

There would be a minor short-term economic stimulus to the local economy from the sale of goods and services in support of the dredging operation. The deepening of the Federal navigational channel encouraged the construction of commercial and recreational centers in the Ponce Inlet and New Smyrna Beach communities, and associated local marinas and restaurants have had a positive effect on the local economy.

4.11.3 MATERIAL PLACEMENT OPTIONS

Beach or nearshore placement could help augment and maintain a recreational beach which generates revenue from tourism. North beach or nearshore placement could decrease maintenance interval, thus increasing dredging costs.

4.12 NATIVE AMERICANS

The project will not affect any Native American properties. Coordination with the following federally recognized tribes will occur during the noticing of this draft EA: Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida. Consultation as part of the National Historic Preservation Act is ongoing, see section 5.3 of this document. As this is Operations and Maintenance of an existing authorized Federal channel, and the beach and nearshore placement areas have been used several times in the past, no impacts to Native American resources or properties are anticipated from any of the proposed alternatives, pending the outcome of a completed coordination with the Tribes.

4.13 CUMULATIVE IMPACTS

4.13.1 NO ACTION ALTERNATIVE [STATUS QUO]

Continued shoaling within the Federal Ponce de Leon Inlet channel would continue with adverse consequences to navigation, wildlife through potential collisions, socio-economic operations within the community, and navigational safety through the inability of the USCG to respond efficiently to routine or emergency operations and distress calls.

4.13.2 MAINTENANCE DREDGING

The proposed action could result in a temporary loss of critical habitat for wintering piping plover. However, due to dynamic coastal processes along the shoreline, these losses are self-compensating. That is, once the shoreline has reached equilibrium post dredge, stability to piping plover critical habitat Unit FL-34 occurs. Beneficial cumulative effect may arise from the continued periodic maintenance events expected to occur in the Inlet to help stabilize the shoreline by disallowing accretion of material into channel.

4.13.3 MATERIAL PLACEMENT OPTIONS

Additional benefit may result from the placement of dredged material on the beach or in the nearshore immediately adjacent to the beaches of Ponce Inlet and New Smyrna Beach by alleviating erosion of the shoreline.

4.14 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

4.14.1 NO ACTION ALTERNATIVE [STATUS QUO]

The no-action alternative would result in avoidable effects to the resources as discussed earlier in this section.

4.14.2 MAINTENANCE DREDGING

Maintenance activities could result in some turbidity generated at the dredging site and the excavation of the material could eliminate benthic organisms within the dredging cuts. In addition, there could be a short-term disruption to recreational and commercial navigation and fishing in the Federal navigational channel from the presence and operation of the dredge plant.

4.14.3 MATERIAL PLACEMENT OPTIONS

Maintenance activities could result in some turbidity generated at the placement sites. Placement operations could bury benthic organisms present in the placement sites. In addition, there could be a short-term disruption to recreational and commercial navigation, fishing, and beach recreation during placement activities.

4.15 IRREVERSIBLE AND IRRETRIEVABLE RESOURCE COMMITMENTS

Other than the use of fuel, equipment and supplies, there would be no irreversible commitment of resources from the proposed maintenance activities. Dredging could temporarily disrupt navigation and recreational activities.

5 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

5.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Environmental information on the project has been compiled and considered while this EA was prepared. The project is in compliance with the National Environmental Policy Act (NEPA).

5.2 ENDANGERED SPECIES ACT OF 1973

This project will be coordinated with the NMFS through the South Atlantic Regional Biological Opinion (SARBO) dated September 25, 1997 as amended on October 29, 1997. This project will also be coordinated with the USFWS through the Statewide Programmatic Biological Opinion (SPBO) dated April 19, 2011, as amended on August 22, 2011. A letter requesting consultation of the SPBO was issued by the Corps on September 6, 2012 (Appendix E).

5.3 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)

Consultation with the Florida State Historic Preservation Officer (SHPO) and appropriate federally recognized Native American tribes was initiated in November 13, 2012, and is ongoing in accordance with the National Historic Preservation Act of 1966, as amended, and as part of the requirements and consultation processes contained within the NHPA implementing regulations of 36 CFR 800, this project is also in compliance, through ongoing consultation, with

the Archeological Resources Protection Act (96-95), the Abandoned Shipwreck Act of 1987 (PL 100-298; 43 U.S.C. 2101-2106); American Indian Religious Freedom Act (PL 95-341), Executive Orders (E.O) 11593, 13007, & 13175 and the Presidential Memo of 1994 on Government to Government Relations. Consultation is ongoing with the SHPO and appropriate federally recognized tribes.

5.4 CLEAN WATER ACT OF 1972

This project is in compliance with this Act. A Section 401 water quality certification was issued on 22 November, 1999 (FDEP File No. 0129417-001-JC); a modification for a time extension from DEP was issued 14 July, 2009 (FDEP File No. 0129417-002-JC). Also, a minor modification to the permit (FDEP File No. 0308009-001-JC) was issued on 3 August, 2012 that included maintenance action within another shoaled area of the authorized Federal channel. All state water quality standards would be met. A Section 404(b) evaluation is included in this EA as Appendix A. Copies of these permits are included in Appendix D.

5.5 CLEAN AIR ACT OF 1972

The draft version of this EA will serve as coordination with the US Environmental Protection Agency (USEPA) to comply with Section 309 of the Act. This project is not anticipated to produce any significant new atmospheric emissions; therefore, it is anticipated that this project would comply with the Clean Air Act.

5.6 COASTAL ZONE MANAGEMENT ACT OF 1972

A Federal consistency determination (CD) in accordance with 15 CFR 930 Subpart C of the Coastal Zone Management Act (CZMA) is included in this report as Appendix B. The State of Florida concurred that the project is consistent with the Florida Coastal Zone Management Program through the issuance of the current FDEP JCP (FDEP File No. 10158893-005-JC).

5.7 FARMLAND PROTECTION POLICY ACT OF 1981

No prime or unique farmland was impacted by implementation of this project. Therefore, this project is in compliance with this Act.

5.8 WILD AND SCENIC RIVER ACT OF 1968

No designated wild and scenic river reaches were affected by the project related activities. Therefore, this project is in compliance with this act.

5.9 MARINE AND MAMMAL PROTECTION ACT OF 1972

To ensure the protection of any manatees present in the project area, the conditions outlined in FDEP permit no. 10158893-005-JC and the standard USFWS manatee construction conditions for in-water work would be implemented during dredging. Manatee observers would be on-board the dredge during operations in order to perform the manatee protection monitoring, such as shut-down of dredging operations upon manatees sighted within a 50-foot radius of the dredge until they move further than 50 feet away from the operation. This project is in compliance with this act.

5.10 ESTUARY PROTECTION ACT OF 1968

The protective measures outlined in Section 4 would ensure avoidance and minimization of impacts to inner channel waters of the Ponce de Leon Inlet from the proposed dredging activities. Therefore, this project is in compliance with this act.

5.11 FEDERAL WATER PROJECT RECREATION ACT

Although the Inlet channel provides recreational benefits, the principles of the Federal Water Project Recreation Act, (Public Law 89-72) as amended, are not applicable to this project as it is Operations and Maintenance of an existing authorized Federal navigation channel.

5.12 SUBMERGED LANDS ACT OF 1953

Dredging and beach or nearshore placement would occur on submerged lands of the State of Florida. This project has been coordinated with the State which issued FDEP JCP File No. 10158893-005-JC which addresses the Sovereign Submerged Lands authorization. Therefore, the project is in compliance with this Act.

5.13 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990

The majority of the project lies within Coastal Barrier Resource System (CBRS) unit P-08. Maintenance dredging is consistent with provisions of the CBRS which excerpts: “maintenance of existing channel improvements... and including the disposal of dredge materials related to such improvements.” CBRS has no requirement to dispose of the material within the same CBRS unit. CBRS does not otherwise regulate how the maintenance material may be used. This CBRS wxemption was verified by Service letter dated 25 September 2003.

5.14 RIVERS AND HARBORS ACT OF 1899

The proposed work could temporarily obstruct navigable waters of the United States but would ultimately improve navigability of these waters. The proposed action will be subjected to the public notice and other evaluations normally conducted for activities subject to the act. The project will be in full compliance with this Act.

5.15 ANADROMOUS FISH AND CONSERVATION ACT

Anadromous fish species would not be affected by the proposed work. The project would be coordinated with the NMFS and would be in compliance with the act.

5.16 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT

Measures shall be taken to protect migratory birds, i.e. avoiding nesting sites. The project would be in compliance with these acts.

5.17 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT

The term *dumping* as defined in the Act (3[33 U.S.C. 1402](f)) does not apply to the placement of material for a purpose other than disposal (i.e. placement of rock material as an artificial reef or the construction of artificial reefs as mitigation). Therefore, the Marine Protection, Research

and Sanctuaries Act does not apply to this project. The disposal activities addressed in this EA have been evaluated under Section 404 of the Clean Water Act.

5.18 MAGNUSON – STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

USACE has determined that the project would not have a substantial adverse impact on EFH or federally managed fish species occurring along the southeast coast of Florida. The proposed work will be coordinated with the NMFS; EFH coordination will be initiated with the noticing of this draft EA. The project will be in compliance with the act.

5.19 E.O. 11990, PROTECTION OF WETLANDS

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

5.20 E.O. 11988 FLOODPLAIN MANAGEMENT

This project would have no adverse impacts to flood plain management.

5.21 E.O. 12898 ENVIRONMENTAL JUSTICE

This project would not result in adverse human health or substantial environmental effects. In addition, no impacts on the ability of minority or low-income populations to obtain fish or wildlife for subsistence consumption are anticipated to occur. Therefore, no impacts to minority or low-income populations are anticipated and this project would be in compliance with this Executive Order.

5.22 E.O. 13089, CORAL REEF PROTECTION

There are no coral reefs located in the project area, nor are there any "species, habitats, and other natural resources associated with coral reefs." This project is in compliance with this Executive Order.

5.23 E.O. 13112, INVASIVE SPECIES

This project is not anticipated to introduce any invasive species. This project is in compliance with this Executive Order.

6 PREPARERS AND REVIEWERS

6.1 PREPARERS

Preparer	Discipline	Role
Kathleen McConnell	Biologist	Author
Al Morris	Engineer	Engineering
Grady Caulk	Archeologist	Cultural Resources
Jase Ousley	Geologist	Geo-tech Discussion

6.2 REVIEWERS

Reviewer	Discipline	Role
Paul DeMarco	Biologist	Review
Jason Spinning	PD-EC Chief	Review
Eric Summa	PD-E Branch Chief	Review
Jackie Keiser	PM-WN Chief	Review
Shelley Trulock	Project Manager	Review

7 PUBLIC INVOLVEMENT

7.1 SCOPING AND DRAFT EA

A Public Notice (PN) will be issued by Corps Construction-Operations Division for the routine maintenance dredging project which will include a 30 day public comment period. A copy of the Public Notice will be included in Appendix D.

7.2 AGENCY COORDINATION

The EA will be coordinated with the appropriate agencies (SHPO, FDEP, USFWS, EPA, FWC, and NMFS). All agency coordination letters received as a result of this effort will be included in Appendix E.

7.3 LIST OF RECIPIENTS

The PN will be made available to the public for a 30 day comment period. A list of recipients is attached to the PN in Appendix G.

7.4 COMMENTS RECEIVED AND RESPONSES

Comments received and responses will be incorporated into the final document.

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APPENDIX A –

SECTION 404(B) EVALUATION

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SECTION 404(B) EVALUATION

ENVIRONMENTAL ASSESSMENT
FOR
PONCE DE LEON INLET
VOLUSIA COUNTY, FLORIDA

1. Project Description
    a. Location. The project is located in the vicinity of Ponce de Leon Inlet, from the Atlantic Ocean to the Indian River and Halifax River, Volusia County, Sections 32 and 37, Township 16 South, Range 34 East, Class III Waters.

    b. General Description. The project is to maintenance dredge the Ponce de Leon Inlet entrance channel, inlet throat, and inlet channels leading to the Atlantic Intracoastal Waterway (IWW) in Volusia County, FL. This would include Cuts 1A to 3A, 1S to 3S, and 3N to 13N, along with wideners where the channel converges with the IWW. Approximately 200,000 cubic yards of shoal material are expected to be removed every 4 years, or as needed, to maintain the federal channel authorized project depths. The Inlet entrance channel across the ocean bar will be maintained to a depth of -15.0 feet MLLW, the inlet throat to a depth of -12.0 feet MLLW, the southward channel to the IWW to a depth of -12.0 feet MLLW, channel Cut-3N, Cut-4N and Cut-5N to a depth of -12.0 feet MLLW, and remaining north channel to the IWW to a depth of -7.0 feet MLLW. For each cut, an allowable 2-foot overdepth is authorized. The dredged material consists of fine grained sand with percent fines ranging from less than 1% to less than 20% passing through the #200 sieve.

    There are four (4) potential placement areas related to maintenance dredging of Ponce de Leon Inlet:

    - North beach placement: On-land shoreline up to 7,500 feet north of the north jetty from FDEP monuments R-140 to R-148.

    - South beach placement: On-land shoreline starting approximately 1-mile south of the south jetty between FDEP monuments R-158 through R-177.

    - North nearshore placement area: Located immediately north of the north jetty between FDEP monuments R-140 and R-148, between contours -8.0 feet and -18.0 feet MLLW. The dimensions are 1 mile long by 800 feet wide

- South nearshore placement area: Located one mile south of the south jetty approximately 1500 feet offshore; the dimensions are 1 mile long by 800 feet wide, between contours -8.0 feet to -18.0 feet at MLLW.

c. Near-shore placement will occur during emergency situations, when an insufficient quantity of material exists to justify the cost of beach placement, when the dredged material contains more than 10% fines pursuant to requirements of the FDEP "Sand Rule" guidelines (Chapter 62B-41.0072J), or if the necessary real estate for beach placement cannot be acquired.

d. Authority. The Ponce de Leon Inlet was authorized as a Federal navigation project under the Rivers and Harbors Act adopted on October 27, 1965, House Document 74, 89th Congress, 1st session. This provided for a channel of 12-ft minimum depth at mean low low water (MLLW) stabilized by rock jetties. Work was completed in July 1972, and maintenance of the Inlet has occurred regularly since initial construction. The most recent maintenance effort occurred in the summer of 2011. The Ponce de Leon Inlet dredging is authorized to a maximum depth of -17 feet MLLW within the entrance channel, -14 feet MLLW within the inlet throat, Southward channel to the IWW, channel Cut-3N, Cut-4N and Cut-5N, and -9 feet MLLW within the remaining north channel connecting to the IWW.

e. General Description of Dredged or Fill Material. Composite samples collected from the channel have a mean grain size of 2.13 phi or 0.23 mm, and a stand deviation of 1.36 phi. The percentage of fines passing through the #230 sieve is 1.26%, and the average visual shell content is 28.19%. The Munsell colors of the samples are described as 10YR 6.1, 10YR 7.1, and 10YR 8/1. The shoal sediments in the vicinity of Inlet and the planned beach placement areas both consist of predominately of poorly-graded, fine-grained quartz sands possessing similar characteristics, including Munsell colors. Using the CEM 2002 method for finding the overfill ratio results in R_A = 1.00411, the results of the compatibility analysis show that the sediments of both areas are very similar and compatible, according to the requirements of the FDEP "Sand Rule" guidelines (Chapter 62B-41.0072J).

f. Description of the Existing Beach Material.

1. Beach samples collected at locations within the placement zones classifies the sediments as poorly-graded, fine-grained quartz sand with trace to little fine grained sand and small sized shell. The samples have a composite mean grain size of 2.51 phi or 0.16 mm and a standard deviation of 1.21 phi. The

percentage of fines passing the #230 sieve is 0.60%, and the average visual shell content is 2.8%. The Munsell colors of the samples are described as 2.5Y 6/1, 2.5Y 6/2, 2.5Y 7/1 and 2.5Y 8/1.

2. Size. The area of the placement sites will vary from event to event. The north and south nearshore sites are approximately 1mile long by 800 feet wide. The north beach placement site is some 1.6 miles long, and the south beach placement area is along approximately 3.6 miles in total length.

3. Type of Site. The type of site for placement of the sand fill material consists of segments containing eroded, sandy, recreational beach. The channel cuts consist of unconsolidated fine, barren sand with no known subsurface rock (within the project work zone).

4. Type of Habitat. The beach fill site is a supratidal dry beach with a high energy intertidal environment. The nearshore placement areas are located waterward of the surf zone, approximately 1500 feet from the MLLW at depths of -12.0 feet to -18.0 feet with unconsolidated substrate.

g. Description of Placement Method. The placement of beach-compatible sand (per FDEP Sand Rule) will occur by pipeline discharge and distribution with heavy equipment. The nearshore placement will most likely occur from bottom dumping by split-hull hopper or special purpose dredges (i.e. USACE CURRITUCK). Both of these methods have routinely been utilized in previous maintenance events.

2. Factual Determinations (Section 230.11)

a. Physical Substrate Determinations (consider items in sections 230.11(a) and 230.20 Substrate)

1) Substrate elevation and slope. The material or sediment that has accumulated in the channel is above the authorized depths of the Ponce de Leon Inlet Federal navigation channels.

2) Sediment Type. The sediment from the project area is silty fine sand that is often times suitable for beach placement. Sediment within the inner channel cuts may contain fine-grained material that is not suitable for beach placement.

3) Dredged/Fill Material Movement. Material is subject to erosion by waves with net movement of fill material to the south and west in the littoral zone adjacent to Jewfish Key, Longboat Key and Anna Maria Island.

4) Physical Effects on Benthos. The placement of sand in both the north and south nearshore environments will result in the burial and subsequent loss of most of the beach infauna. These infaunal populations should recover to pre-placement levels within one year after completion of deposition.

5) Actions Taken to Minimize Impacts. Construction personnel would be briefed of the necessity to protect cultural resources outside the footprint of impact. Monitoring personnel would also provide an added dimension of protection for existing resources.

b. Water Circulation. Fluctuation and Salinity Determinations

1) Water Column Effects. Some temporary impacts would result from the suspension of materials during dredging and discharge. Small particles suspended during dredging would have an adverse but temporary impact on water clarity at the point of dredging and in the nearshore zone at the discharge point. This increased turbidity would reduce the amount of light that is able to penetrate the light column. The project proposes no long-term impacts to salinity, water chemistry, color, odor, dissolved gas levels, nutrients or eutrophication.

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

3) Normal Water Level Fluctuation and Salinity Gradients. Tides in the project area are semi-durnal, with two high and two low tides occurring each day. The average tidal range along the Ponce de Leon Inlet is 2.3 feet with a mean tide level of 1.81 feet. Salinity is that of oceanic waters. The project would not affect normal tide fluctuations or salinity gradients.

c. Suspended Particulate/Turbidity Determinations

1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Site. The project would have a temporary adverse impact on turbidity at the dredge site and in the nearshore zone near the discharge. Some

small sediment particles, primarily of silt grain size would become suspended in the water column during dredging and material placement activities, thereby causing an increase in water turbidity. This increase in turbidity is not expected to have a significant impact on the surrounding environment since project related increases in turbidity would be of limited duration and areal extent. The amount of temporary turbidity that would be produced would be low since the silt content of sediments is moderate. Any turbidity produced by the project is expected to quickly dissipate as a result of normal current and wave activity. Potential impacts related to increased turbidity would be further minimized by monitoring water quality at both the dredge and discharge sites. If turbidity levels exceed the state standard outside of state authorized mixing zones, all dredging activities shall be suspended until turbidity levels are within the allowable standards.

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

    a) Light Penetration. Some decrease in light penetration may occur in the immediate vicinity of the dredge and discharge sites, due to turbidity in the nearshore area during construction. The immediate nearshore area is a high wave energy system and subject to naturally occurring elevated turbidity and sediment, increases due to project construction should not be significant. Normally a nearshore turbidity monitoring program with a plume-mixing zone of 150 meters would be required. The project site is not located in any identified Outstanding Florida Waters. This effect will be short-term and have limited adverse impacts on the nearshore environment during construction activities.

    b) Dissolved Oxygen. These levels will not be altered by the project.

    c) Toxic Metals, Organic, and Pathogens. No toxic metals, organics, or pathogens will be disturbed or released at levels that exceed state water quality standards. The material will be tested as required of MPRSA and the EPA to determine suitability of disposal.

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

3) Effects on Biota. Substrate type and the presence of associated biota are influenced by sand movement. In areas where sand is constantly shifting, moving either on or offshore, the presence of low- and high-relief substrate will vary. The loss of material within the Federal channel is not expected to expose previously covered rocky substrate creating reef habitat.

a) Primary Production, Photosynthesis. The project would have little to no adverse effects on existing primary productivity and photosynthesis within the dredged areas or fill placement site. No seagrass beds or other photosynthesizing vegetation occur within the project area.

b) Suspension/Filter Feeders. Suspension and filter feeders within the dredge area and fill site would be physically removed or buried as a result of the project. These losses would be temporary since many suspension and filter feeding organisms have high reproductive rates and quickly colonize disturbed areas.

c) Sight Feeders. Project related increases in turbidity would not have a long-term impact on the value. Dredging and placement of fill material would cause some increases in turbidity, the resulting turbidity would be of shore duration and would affect a limited area. Most sight feeders are highly mobile and would be able to relocate to areas unaffected by project activities.

4) Actions taken to Minimize Impacts. All practical safeguards would be taken during construction to either avoid or minimize impacts and to preserve values associated with the environment, aesthetics, recreation, and economics. Specific precautions that would be implemented in conjunction with the proposed project are discussed elsewhere in this 404(b) evaluation and in the Environmental Assessment (EA) for this project.

d. Contaminant Determinations. The material to be secured from the proposed maintenance dredging would be clean sand free of contaminants.

e. Aquatic Ecosystem and Organism Determinations. The grain size characteristics and composition exhibited by the proposed fill material are similar to those of the existing beach sediments. No sediment related impacts are expected. The proposed fill material meets the exclusion criteria; therefore, no additional chemical-biological interactive testing would be required.

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

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

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

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

5) Effects on Special Aquatic Sites. No adverse long-term impacts to any special aquatic sites are anticipated.

6) Coral Reefs (refer to Section 230.44). There are no coral reefs established within the immediate vicinity of the borrow area.

7) Threatened and Endangered Species. There would be no significant adverse impact to any threatened or endangered species or to the critical habitat of any threatened or endangered species. Measures would be in place to protect marine species in the water or on land. Sea turtle nesting may occur adjacent to the project area during the time that dredging material disposal takes place both on land and adjacent nearshore. If construction occurs during the nesting season, a nest relocation program will be implemented as recommended by the USFWS. Manatee protection measures as specified by the USFWS will be followed to minimize the potential for harm. No impacts to piping plover or their critical habitat (Unit FL-34) are anticipated as a result of this activity. See Sections 3 and 4 of the Environmental Assessment.

8) Other Wildlife. No adverse impacts to small foraging mammals, reptiles, wading birds, or wildlife in general are anticipated to occur as a result of this activity.

9) Actions to Minimize Impacts. All practical safeguards will be taken during construction to preserve and enhance environmental, aesthetic, recreational, and economic values in the project area. Specific precautions that will be implemented in conjunction with the proposed project are discussed elsewhere in this 404(b) evaluation.

f. Proposed Disposal Site Determinations

1) Mixing Zone Determination. No mixing will likely occur due to the sandy nature of the dredged material, the shallow water depth, and the small quantity of fine-grained particles associated with the material.

2) Determination of Compliance with Applicable Water Quality Standards. The waters of the project area are not designated Outstanding Florida Waters. The project would temporarily exceed acceptable level and a FDEP Water Quality Permit is needed to meet State standards.

3) Potential Effects on Human Use Characteristic

a) Municipal and Private Water Supply. The project proposes no adverse impacts to municipal or private water supplies. Reservoirs for these resources are not located within or near the project site.

b) Recreational and Commercial Fisheries. Fishing or other recreational activities that are common to the area would be suspended during construction activities; as well as, boating of fishing within the immediate project area. Fishing within the project area is not expected. Recreational swimming in the project area would be prohibited. Other than the listed activities, the project proposed no adverse impacts to recreational or commercial fisheries.

c) Water Related Recreation. Activities of this nature are not expected to occur within the project area.

d) Aesthetics. The proposed dredging and discharge of the dredged materials would increase noise and degrade the scenery in the channel and the disposal site. Although the placement of material on the beach or in the two nearshore areas would temporarily decrease the aesthetic value of that area, there would be a long-term increase in shoreline habitat.

e) Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves. The project proposes no adverse impacts to these resources.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. There will be no cumulative impacts that result in a significant impairment of water quality as a result of the dredging of the channel cuts or the disposal of the dredged material at the proposed placement area.

h. Determination of Secondary Effects on the Aquatic Ecosystem. There will no secondary impacts on the aquatic ecosystem as a result of the dredging of the channels or the disposal of the dredged material at the placement sites.

3. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

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

b. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site Which Would Have Less Adverse Impact on the Aquatic Ecosystem. The No Action Alternative would not have met the study objectives. Therefore, no practicable

alternatives exist which meet the study objectives of maintaining the channel depths for use by commercial and/or recreational vessels utilizing the Ponce de Leon Inlet and IWW Federal navigation channels.

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

d. Compliance with the Endangered Species Act of 1973. The maintenance dredging of the Ponce de Leon Inlet, with placement of dredged material either on the south or north beach placement areas, or in the north or south nearshore areas, will not jeopardize the continued existence of any species listed as threatened or endangered. Nor will these actions result in the likelihood of destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973, as amended.

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

f. Appropriate steps have been taken to minimize the adverse environmental impact of the proposed action.

g. Based on these guidelines, the proposed disposal site for the discharge of dredge material is specified as complying with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

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APPENDIX B –

COASTAL ZONE MANAGEMENT CONSISTENCY

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FLORIDA COASTAL ZONE MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES

ENVIRONMENTAL ASSESSMENT
FOR
PONCE DE LEON INLET O&M
VOLUSIA COUNTY, FLORIDA

1. Chapter 161, Beach and Shore Preservation.

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

Response: This project contemplates regional sediment management, and implements an action that best manages the sediment in the region.

2. Chapters 163 (part II), 186, and 187, County, Municipal, State and Regional Planning.

These chapters establish the Local Comprehensive Plans, the Strategic Regional Policy Plans, and the State Comprehensive Plan (SCP). The SCP sets goals that articulate a strategic vision of the State's future. Its purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

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

3. Chapter 186, FS, STATE AND REGIONAL PLANNING.

The state comprehensive plan provides basic policy direction to all levels of government regarding the orderly social, economic, and physical growth of the state. The goals, objectives, and policies of the state comprehensive plan are statewide in scope and are consistent and compatible with each other. The statute provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals.

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

4. Chapter 252, Disaster Preparation, Response and Mitigation.

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

Response: The proposed project involves the dredging of the GIWW and Longboat Pass in order to maintain safe navigation conditions. The project will ensure the channel will have a safe access for vessels traveling to or from Ponce Inlet, the Atlantic Intracoastal Waterway (IWW), and the Atlantic Ocean. Therefore, this project as proposed is consistent with the efforts of Division of Emergency Management.

5. Chapter 253, State Lands.

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

Response: The proposed maintenance dredging will not adversely affect the resources protected in this Chapter. Therefore, the proposed project would comply with the intent of this chapter.

6. Chapters 253, 259, 260, and 375, Land Acquisition.

This chapter authorizes the state to acquire land to protect environmentally sensitive areas.

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

7. Chapter 258, State Parks and Aquatic Preserves.

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

Response: The proposed project area is not within a Florida aquatic preserve, and beach placement of material will not occur on State Park properties. Project related activities are not anticipated to adversely affect the environment within the aquatic preserve. This project has been fully coordinated with the state, and therefore, is consistent with this chapter.

8. Chapter 267, Historic Preservation.

This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: This project is being coordinated with the State Historic Preservation Officer (SHPO). Survey results indicated historical properties exist in the project area. Additional survey and SHPO coordination of these resources will be conducted prior to any activities at their known or supposed locations. The project will be consistent with the goals of this chapter.

9. Chapter 288, Economic Development and Tourism.

This chapter directs the state to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The maintenance dredging of the Ponce de Leon Inlet will maintain navigation corridor critical to local and national commerce. The project is compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

10. Chapters 334 and 339, Transportation.

This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: The maintenance dredging of the Inlet and connecting waters promotes and maintains navigation within the Inlet and the IWW.

11. Chapter 372, Living Land and Freshwater Resources.

This chapter establishes the Florida Fish and Wildlife Conservation Commission (FWC) and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The project will have no effect on freshwater aquatic life or non-domesticated animal life. Therefore, the work complies 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.

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

13. Chapter 375, F.S., Outdoor Recreation and Conservation Lands

The statute addresses the development of a comprehensive multipurpose outdoor recreation plan. The purpose of the plan is to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.

Response: This project will benefit recreation by preventing obstruction in the channel for recreational boating.

14. Chapter 376, Pollutant Spill Prevention and Control.

This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

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

15. Chapter 377, Oil and Gas Exploration and Production.

This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

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

16. Chapter 379, Fish and Wildlife Conservation

The framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources are established in this statute. It is the policy of the state to conserve and wisely manage these resources. Particular attention is given to those species defined as being endangered or threatened. This includes the acquisition or management of lands important to the conservation of fish and wildlife. This statute contains specific provisions for the conservation and management of marine fisheries resources. These conservation and management measures permit reasonable means and quantities of annual harvest, consistent with maximum practicable sustainable stock abundance, as well as ensure the proper quality control of marine resources that enter commerce. Additionally, this statute supports and promotes hunting, fishing and the taking of game opportunities in the State. Hunting, fishing, and the taking of game are considered an important part in the state's economy and in the conservation, preservation, and management of the state's natural areas and resources.

Response: The proposed nearshore disposal or beach fill may represent a temporary short-term impact to infaunal invertebrates by burying these organisms. However, these organisms are highly adapted to the periodic burial by sand in the intertidal zone. These organisms are highly fecund and are expected to return to pre-construction levels within six months to one year after construction. Beach and nearshore disposal for material placement will not have an effect to nesting sea turtles through the use of best management practices or conducting activities outside of nesting season. Shoreline disposal activities either would not be performed during the main part of the sea turtle nesting season or is not located on a high nesting density beach. It is not expected that sea turtles would be significantly impacted by this project. In addition, the project will have no effect on freshwater aquatic life or wild animal life. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

17. Chapter 380, Environmental Land and Water Management.

This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development. This chapter also deals with the Area of Critical State Concern program and the Coastal Infrastructure Policy.

Response: The proposed dredging and nearshore placement have been coordinated with the local regional planning commission. Therefore, the project is consistent with the goals of this chapter.

18. Chapters 381 (selected subsections on on-site sewage treatment and disposal systems) and 388 (Mosquito/Arthropod Control).

Chapter 388 provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the state.

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

19. Chapter 403, Environmental Control.

This chapter authorizes the regulation of pollution of the air and waters of the state by the Florida Department of Environmental Protection (FDEP).

Response: An Environmental Assessment addressing project impacts has been prepared and was reviewed by the appropriate resource agencies including the FDEP. Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. This certification would be achieved prior to the start of construction. The project complies with the intent of this chapter.

20. Chapter 553, F.S., Building and Construction Standards.

The statute addresses building construction standards and provides for a unified Florida Building Code.

Response: This project does not involve construction of any buildings; this chapter does not apply.

21. Chapter 582, Soil and Water Conservation.

This chapter establishes policy for the conservation of the state soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

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

22. Chapter 597, F.S., Aquaculture

The statute establishes public policy concerning the cultivation of aquatic organisms in the state. The intent is to enhance the growth of aquaculture, while protecting Florida's environment. This includes a requirement for a state aquaculture plan which provides for the coordination and prioritization of state aquaculture efforts, the conservation and enhancement of aquatic resources and which provides mechanisms for increasing aquaculture production for the creation of new industries, job opportunities, income for aquaculturists, and other benefits to the state.

Response: The proposed project is not located near or on aquacultural property; this chapter does not apply.

APPENDIX C –

FDEP PERMITS

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Department of Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

CERTIFIED - RETURN RECEIPT REQUESTED

November 22, 1999

U. S. Army Corps of Engineers
c/o Mr. Richard E. Bonner, P.E.
Jacksonville District
Post Office Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Bonner:

Permit Number: 0129417-001-JC
Project Name: Ponce DeLeon Inlet Maintenance Dredging

Your request for a Joint Coastal Permit, issued pursuant to Chapter 161 and Part IV of Chapter 373, Florida Statutes, and Title 62, Florida Administrative Code, has been approved by the Department. Please read the enclosed permit and permit conditions closely before starting construction. Particularly note the permit conditions pertaining to written reports which must be submitted to the Department at specified times.

Please direct any questions regarding this document to me by letter at the above address (add Mail Station 300), or by telephone at (850) 487-4471, ext. 121.

Sincerely,

Keith J. Mille
Environmental Specialist
Bureau of Beaches and Coastal Systems

KJM
Enclosures

copies (with attachments) furnished to:

Don Fore, USACOE Jacksonville District
Tim Murphy, USACOE Jacksonville District
Pricilla Arnold, USACOE Jacksonville District
Bill Fonferek, USACOE Jacksonville District
Joe Nolin, Volusia County, Ponce DeLeon Inlet Port Authority
Don Palmer, USFWS, Jacksonville
Eric Hawk, NMFS, Southeast Regional Office, St. Petersburg
David Arnold, FWCC, BPSM
Terry Zable, DEP, Central District Office, Orlando
Paden Woodruff, DEP, OBCS
FWCC Florida Marine Patrol
OBCS Permit Information Center
OBCS File

Department of
Environmental Protection

Jeb Bush
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

JOINT COASTAL PERMIT
CONSOLIDATED JOINT COASTAL PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

PERMITTEE/AUTHORIZED ENTITY:
U. S. Army Corps of Engineers
c/o Mr. Richard E. Bonner, P.E.
Jacksonville District
Post Office Box 4970
Jacksonville, Florida 32232-0019

Permit/Authorization No:0129417-001-JC
Date of Issue: November 22, 1999
Expiration Date: November 22, 2009

County: Volusia
Project: Ponce de Leon Inlet Maintenance Dredging

This permit is issued under the authority of Chapter 161 and Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act, and certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands owned by the Board of Trustees of the Internal Improvement Trust Fund, pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Department has the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, F.A.C., and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. In addition to the above, this proprietary authorization has been reviewed in accordance with Chapter 253, F.S., Chapter 18-21, Section 62-343.075, F.A.C., and the policies of the Board of Trustees.

As staff to the Board of Trustees, the Department has reviewed the activity described below, and has determined that the activity qualifies for a Consent of Use, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

The U. S. Army Corps of Engineers (Corps) is hereby authorized to construct the work in accordance with the permit project description and conditions, including the water quality monitoring requirements, the final "construction plans and specifications", and other application documents attached hereto or on file with the Department and specifically made a part hereof.

The Department will enter into a contractual agreement with the local project sponsor, Volusia County, under which Volusia County will be responsible for conducting monitoring and beach maintenance activities for the protection of nesting marine turtles, their hatchlings and their habitat. The agreement is enforceable against Volusia County and is independent of this permit.

PROJECT DESCRIPTION:

The project is to maintenance dredge the Ponce de Leon Inlet entrance channel, inlet throat, and inlet channels leading to the Intracoastal Waterway (IWW) in accordance with final plans and specifications. Approximately 200,000 cubic yards are expected to be removed every 4 years to maintain the channel depths. The entrance channel across the ocean bar will be maintained to a depth of -15 ft. (MLW), the inlet throat to a depth of -12 ft., the southward channel to the Intracoastal Waterway to a depth of –12 ft., and the northward channel to the Intracoastal Waterway to a depth of -7 ft. For each cut, an overdredge depth of 2 ft. is authorized. The dredged material consists of fine grained sand with percent fines ranging from less than 1% to less than 20% passing through the #200 sieve.

Beach quality material from the south channel and from the inlet channel may be placed within the south beach placement area located between R-159 through R-161. Beach quality material from the north channel may be placed within the north beach placement area located up to 6,000 ft. north of the north jetty. Dredged material may also be placed in a nearshore disposal area located 1 mile south of the south jetty. Nearshore placement would only occur during emergency situations, when an insufficient quantity of material exists to justify the cost of beach placement, or when the dredged material contains more than 10% fines. Only material containing less than 20 percent fines will be placed in the Nearshore Disposal Area.

During 1999, dredging is also authorized in IWW Cut V-23 located where the northward inlet channel intersects the IWW. The authorized dredge depth is –12 ft., plus 2 ft. overdredge depth. To conduct work at this site, the U.S. Army Corps of Engineers' split–hull hopper dredge CURRITUCK will be used. The amount of material dredged from this site is insufficient to justify placement on the beach, so the nearshore disposal area will be used.

LOCATION:

The project is located in the vicinity of Ponce de Leon Inlet, from the Atlantic Ocean to the Indian River and Halifax River, Volusia County, Sections 32 and 37, Township 16 South, Range 34 East, Class III Waters.

GENERAL CONDITIONS:

1. All activities approved shall be implemented as set forth in the drawings incorporated by reference and in compliance with the conditions and requirements of this document. The Corps shall notify the Department in writing of any anticipated significant deviation from this authorization prior to implementation so that the Department can determine whether a modification is required. If the Department determines that a deviation is significant, then the Corps or the local sponsor, as appropriate, shall apply for and obtain the modification prior to its implementation.

2. If, for any reason, the Corps does not comply with any condition or limitation specified herein, the Corps shall immediately provide the Department with a written report containing the following information: a description of and cause of noncompliance; and the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. Compliance with the provisions of this condition shall not preclude the Department from taking any enforcement action allowed under state law to the extent that federal sovereign immunity has been waived under 33 U.S.C. 1323 and 1344(t).

3. The Corps shall obtain any applicable licenses or permits which may be required by federal, state, local or special district laws and regulations. Nothing herein constitutes a waiver or approval of other Department permits or authorizations that may be required for other aspects of the total project. Projects shall not proceed until any other required permits or authorizations have been issued by the responsible agency.

4. Nothing herein conveys title to land or water, constitutes State recognition or acknowledgment of title, or constitutes authority for the use of sovereign land of Florida seaward of the mean high-water line, or, if established, the erosion control line, unless herein provided, and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State.

5. Any delineation of the extent of a wetland or other surface water submitted as part of the application, including plans or other supporting documentation, shall not be considered

specifically approved unless a specific condition of this authorization or a formal determination under Section 373.421(2), F.S., provides otherwise.

6. Nothing herein conveys to the Corps or creates in the Corps any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the Corps or local sponsor, or convey any vested rights or any exclusive privileges.

7. This document or a copy thereof, complete with all conditions, attachments, modifications, and time extensions shall be kept at the work site on the authorized activity. The Corps shall require the contractor to review this document prior to commencement of the authorized activity.

8. The Corps specifically agrees to allow Department personnel with proper identification, at reasonable times and in compliance with Corps specified safety standards access to the premises where the authorized activity is located or conducted for the purpose of ascertaining compliance with the terms of this document and with the rules of the Department and to have access to and copy any records that must be kept; to inspect the facility, equipment, practices, or operations regulated or required; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance. Reasonable time may depend on the nature of the concern being investigated.

9. At least forty-eight (48) hours prior to the commencement of authorized activity, the Corps shall submit to the Department a written notice of commencement of activities indicating the anticipated start date and the anticipated completion date.

10. If historic or archaeological artifacts are discovered at any time on the project site, the Corps shall immediately notify the State Historic Preservation Officer, and if a significant deviation is necessary, shall also notify the Department.

11. Within a reasonable time after completion of project construction or a periodic maintenance dredging event, the Corps shall submit to the Department a written statement of completion. This statement shall notify the Department that the work has been completed as authorized and shall include a description of the actual work completed. The Department shall be provided, if requested, a copy of any as-built drawings required of the contractor or survey performed by the Corps.

SPECIFIC CONDITIONS:

1. At least 30 days prior to the commencement of each maintenance dredging event to be conducted during the term of this permit, the Corps shall submit to the DEP Office of Beaches and Coastal Systems, 3900 Commonwealth Boulevard, Mail Station 300, Tallahassee, Florida 32399-3000, the geotechnical information identified in Specific Condition Nos. 7 and 9 below and a proposed schedule of dredging for the maintenance dredging event.

2. The South Beach Placement Area shall be the primary disposal area for material from the south channel (Indian River) and from the inlet entrance channel, as stated in the Corps' beach disposal plan submitted on October 26, 1998. This plan shall remain in effect unless the Department provides written approval for any modifications.

3. At least 7 days prior to the planned commencement date of construction, the Corps will schedule a pre-construction conference to review the specific conditions of this permit and the environmental protection contract specifications with the Corps' contractors, work crews, the Department's permit staff representative, and the marine turtle permit holder. The permittee shall provide a minimum of 7 days advance written notification to the following offices advising of the date, time, and location of the pre-construction conference:

DEP Office of Beaches and Coastal Systems
Mail Station 300
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000
fax: (850) 488-5257

FWCC Bureau of Protected Species Management
Office of Environmental Services
620 South Meridian Street
Tallahassee, Florida 32399-1600
fax: (850) 921-4369

DEP Central District Office
Submerged Lands and Environmental Resources Program
DEP/Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

4. Prior to each dredging event, the Corps will provide two copies of final construction plans and specifications for all authorized activities, which include the project specifications

listed in the Department's Consolidated Notice of Intent to Issue a Joint Coastal Permit and Authorization to Use Sovereign Submerged Lands.

5. Prior to each dredging event, the Corps will provide to the Department two copies of the Contractor's Environmental Protection Plan submitted in accordance with Section 01410, Para. 4.2.3 of the project specifications.

6. In the event that Volusia County does not conduct all necessary marine turtle protection and monitoring requirements, the Corps is still responsible for those marine turtle protection measures specified in the terms and conditions of the U. S. Fish and Wildlife Service Biological Opinion and the plans and specifications for this project.

7. The permittee and the Department, within their respective authorities and funding, shall ensure that beach compatible dredged material is placed on Florida's beaches to the extent economically feasible, consistent with Florida's beach management plan adopted pursuant to Chapter 161, F.S. and other beneficial uses criteria as may be specified by the Department and applicable federal standards. To further the parties' goals for sediment management, prior to each dredging event, the Corps shall provide the Department with existing geotechnical information characterizing the sediments to be dredged and alternative disposal options with projected costs to allow the Department to participate in funding alternative disposal options over the least costly method.

8. All fill material placed shall be sand that is similar to that already existing at the beach site in both coloration and grain size distribution. All such fill material shall be free of construction debris, rocks, or other foreign matter and shall not contain, on average, greater than 10 % fines (i.e. silt and clay, passing the #200 sieve) and shall not contain, on average, greater than 5 % coarse gravel or cobbles, and 10 % whole shell (retained by the #4 sieve). All such material shall be removed and disposed of by the Contractor, as approved by the Corps Contracting Officer.

9. Prior to each dredging event the Corps shall provide the Department with geotechnical information characterizing the sediments to be dredged that is sufficient to determine if the propsoed dredged material is suitable for beach and/or nearshore disposal. If the data provided is not adequate to determine the suitablility of the proposed disposal option, then additional geotechnical information shall be submitted.

10. In the event a hopper dredge is utilized for sand excavation, all conditions in the NMFS Biological Opinion for hopper dredging along the Southeast U.S. Atlantic Coast (dated August 25, 1995) and Interim Biological Opinion dated April 9, 1997, as amended in the Regional Biological Opinion dated September 25, 1997, must be followed. The Corps shall also forward to the Bureau of Protected Species Management in Tallahassee copies of the reports specified in

Condition No. 6 of the NMFS Biological Opinion. Pursuant to the NMFS Biological Assessment dated March 9, 1999, the use of the CURRITUCK hopper dredge is exempt from the requirements of the NMFS biological opinion.

MONITORING REQUIRED:

Water Quality - Turbidity - Nephelometric Turbidity Units (NTUs)

Frequency: Twice daily at least 4 hours apart during all dredging and disposal operations.

(Dredge Site) Location:
Background: At mid-depth, at least 300 meters upcurrent from the dredge or discharge point and clearly outside the influence of any turbidity generated by the project.

Compliance: At mid-depth, no more than 150 meters downcurrent from the dredge or discharge point within the densest portion of any visible turbidity plume.

(Beach Disposal Site) Location:
Background: At the surface and 1 meter above the bottom, approximately 150 meters offshore and at least 300 meters upcurrent from the discharge point and clearly outside of the influence of any turbidity generated by this project.

Compliance: At the surface and 1 meter above the bottom, approximately 150 meters offshore and no more than 150 meters downcurrent from the discharge point within the densest portion of any visible turbidity plume.

The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. During all maintenance dredging and disposal operations, turbidity levels shall not exceed these standards and mixing zone limits. If monitoring reveals turbidity levels at the compliance sites greater than 29 NTUs above the associated background turbidity levels, construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.

The following measures shall be taken by the permittee whenever turbidity levels at the limit of the mixing zone exceed the standards described in the Monitoring Required section, pursuant to Rule 62-302, F.A.C.:

a. Immediately cease all work contributing to the water quality violation.

b. Modify the work procedures that were responsible for the violation.

c. Notify the Office of Beaches and Coastal Systems at (850) 487-4471 and the DEP Central District Office at (407) 893-3311 within 24 hrs. of the time the violation is first detected.

Copies of all reports (Turbidity Monitoring Test Report, Section 01411, Appendix A, Plans and Specifications) shall be submitted to the Office of Beaches and Coastal Systems in Tallahassee and the DEP Central District Office in Orlando on a weekly basis within seven days of collection. The data shall be submitted with a cover letter containing the following information: (1) permit number; (2) a statement describing the methods used in collection, handling, storage and analysis of the samples; (3) a map indicating the sampling locations; and (4) a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data.

Executed in Tallahassee, Florida.

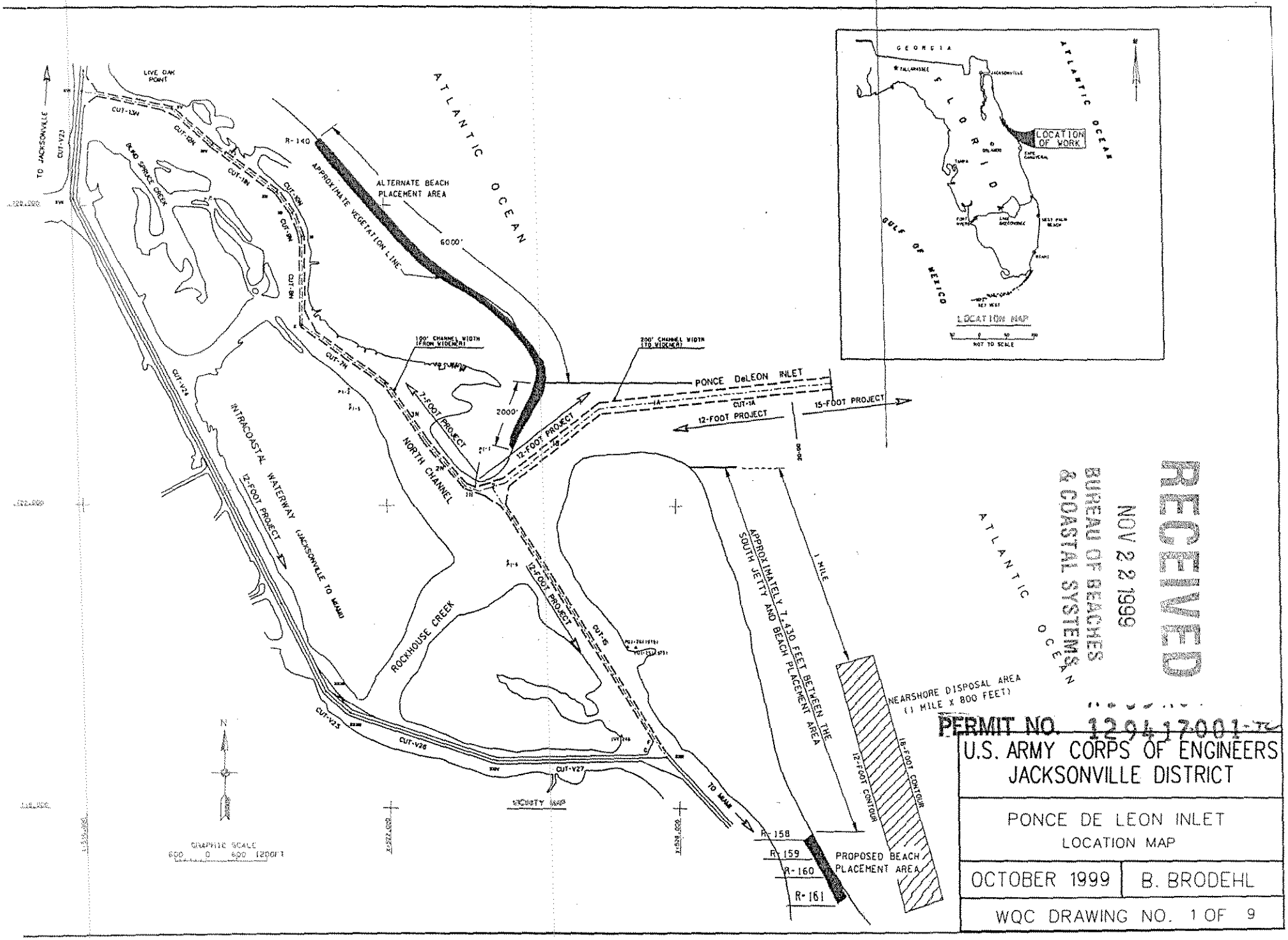
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Kirby B. Green, III, Deputy Secretary

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Deputy Clerk — Date: 11-23-99



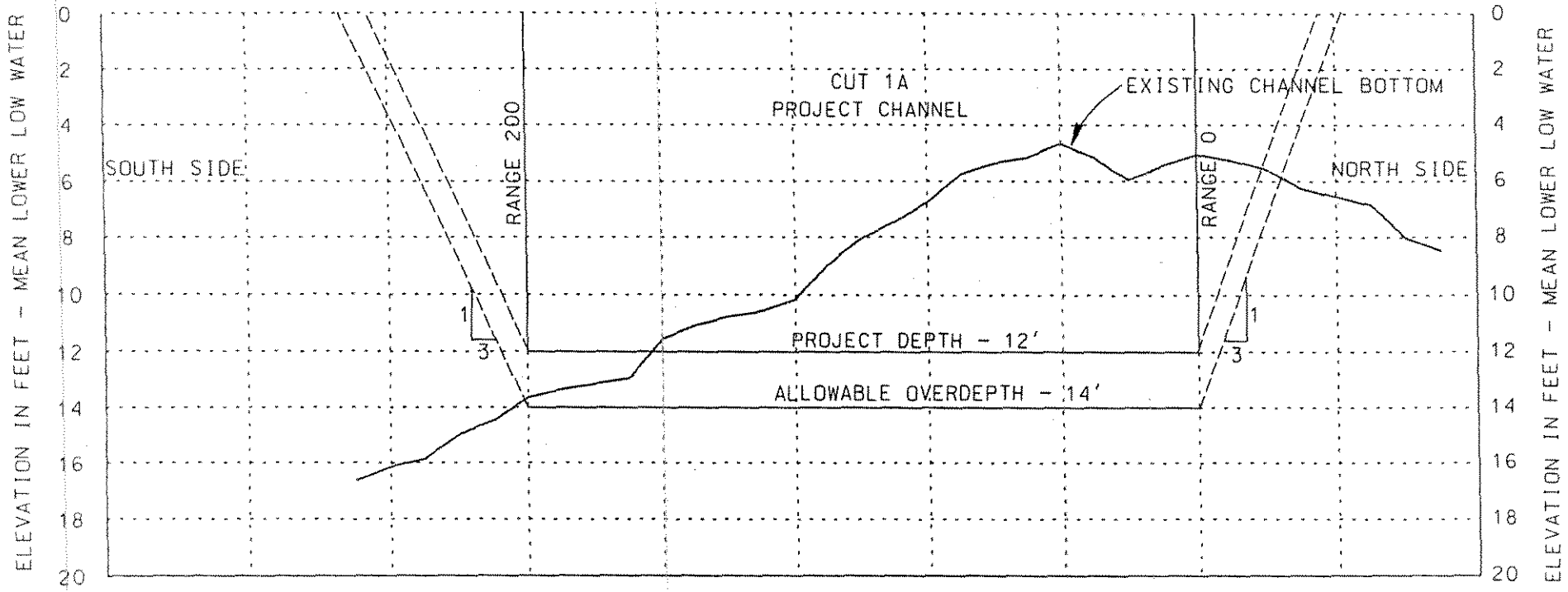
PERMIT NO. 129417001-JC

U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT

PONCE DE LEON INLET
LOCATION MAP

OCTOBER 1999 | B. BRODEHL

WQC DRAWING NO. 1 OF 9



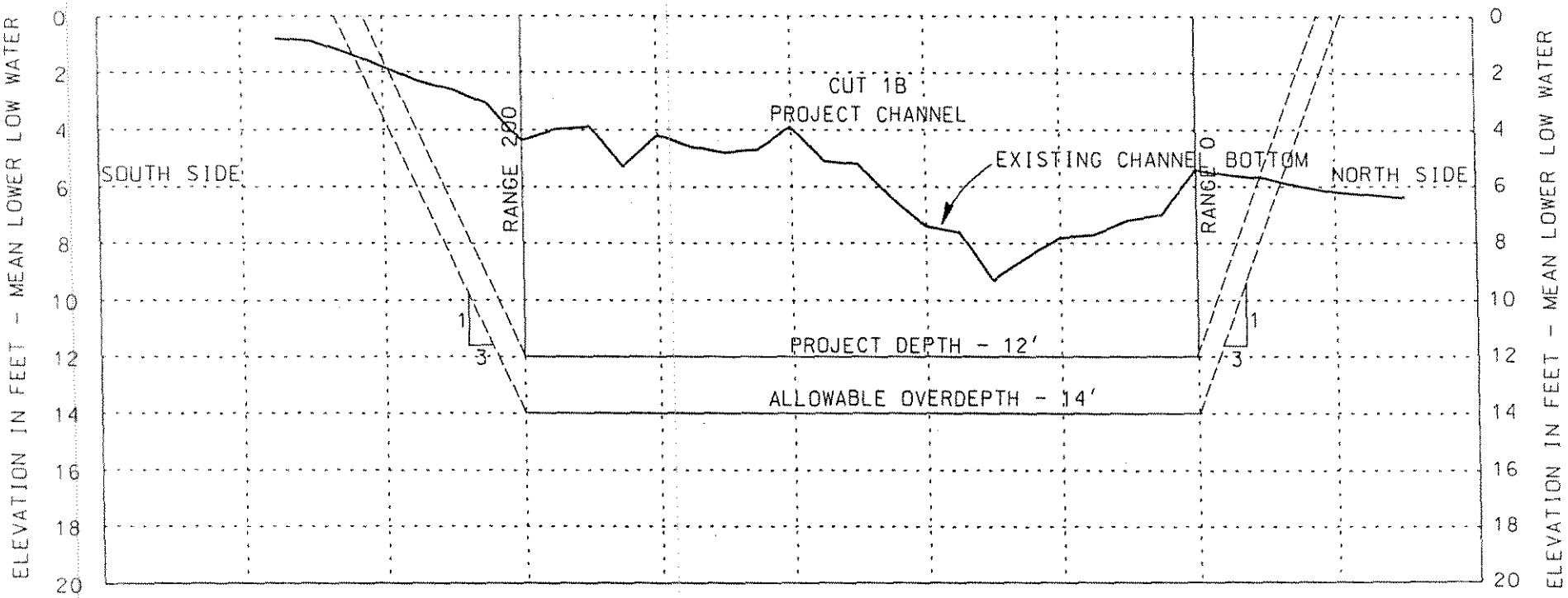
(HOR.) 40 20 0 40

(VER.) 5 0 5

TYPICAL CROSS SECTION FOR PONCE DE LEON - CUT 1A STATION 49 + 00

PERMIT NO. 129417-001

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT
PONCE DE LEON INLET X-SECTION CUT 1A
NOVEMBER 1994 | B. BRODEHL
WQC DRAWING NO. 2 OF 9



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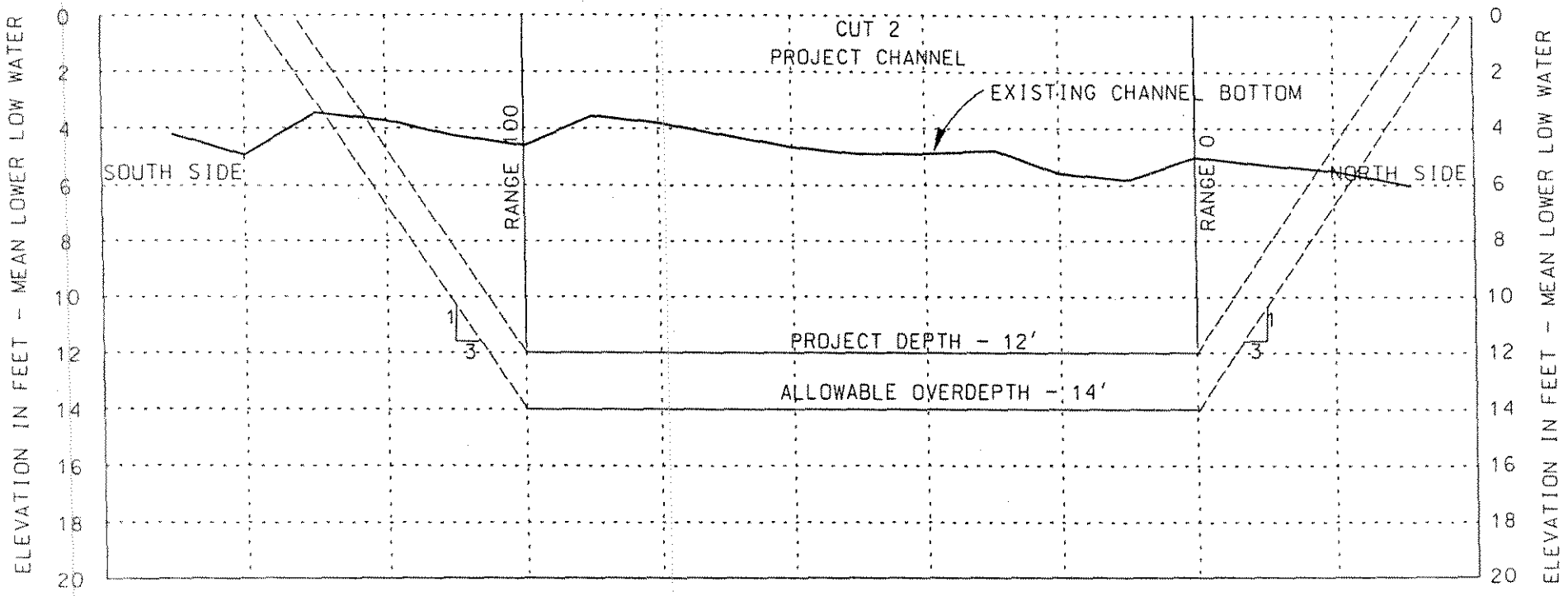
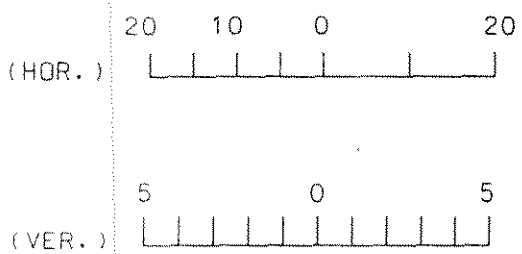
(VER.) 5 0 5

TYPICAL CROSS SECTION FOR PONCE DE LEON - CUT 1B STATION 6 + 00

PERMIT NO. 129417-001-JC

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT
PONCE DE LEON INLET X-SECTION CUT 1B
NOVEMBER 1994 | B. BRODEHL
WQC DRAWING NO. 3 OF 9

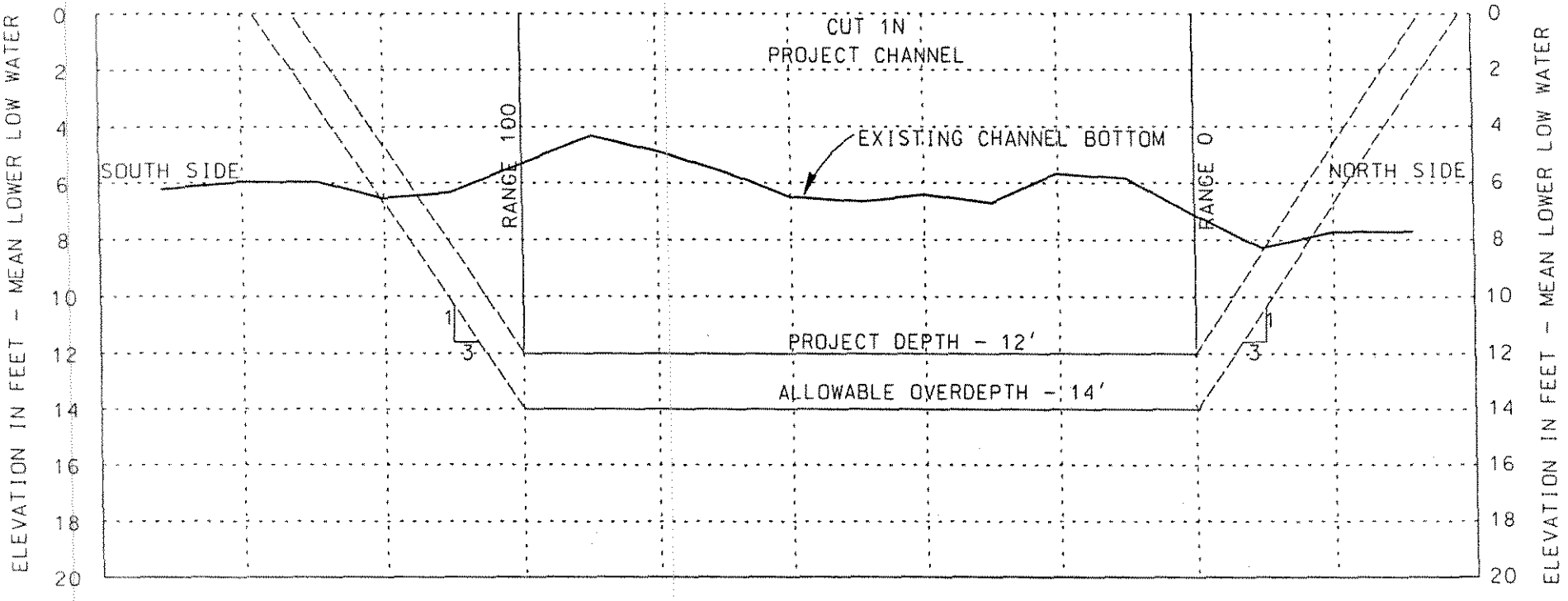


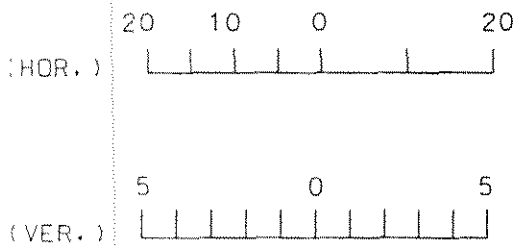


TYPICAL CROSS SECTION
PONCE DE LEON
PROPOSED CUT 2
STATION 4 + 00

PERMIT NO. 129417-001-JC

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT
PONCE DE LEON INLET X-SECTION CUT 2
NOVEMBER 1994 | B. BRODEHL
WQC DRAWING NO. 4 OF 9

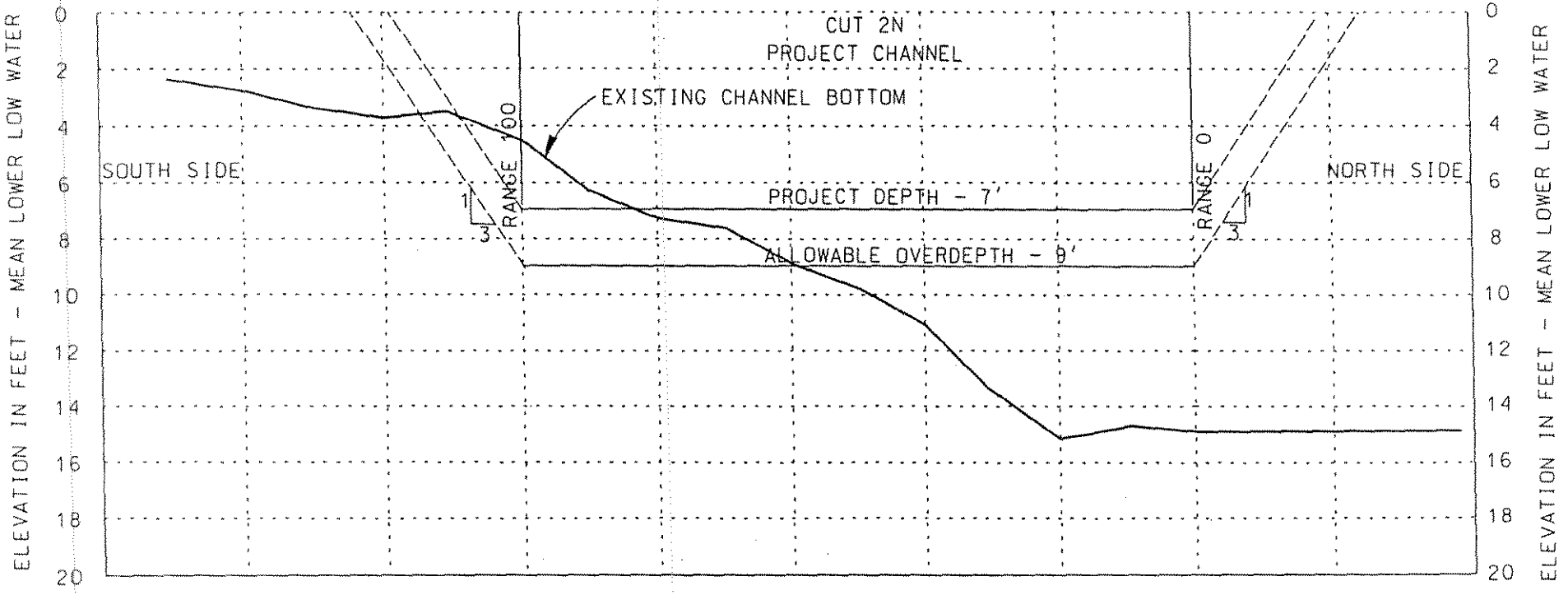




TYPICAL CROSS SECTION
PONCE DE LEON
PROPOSED CUT 1N
STATION 4 + 00

PERMIT NO. 129417-001-JC

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT
PONCE DE LEON INLET X-SECTION CUT 1N
NOVEMBER 1994 | B. BRODEHL
WQC DRAWING NO. 5 OF 9



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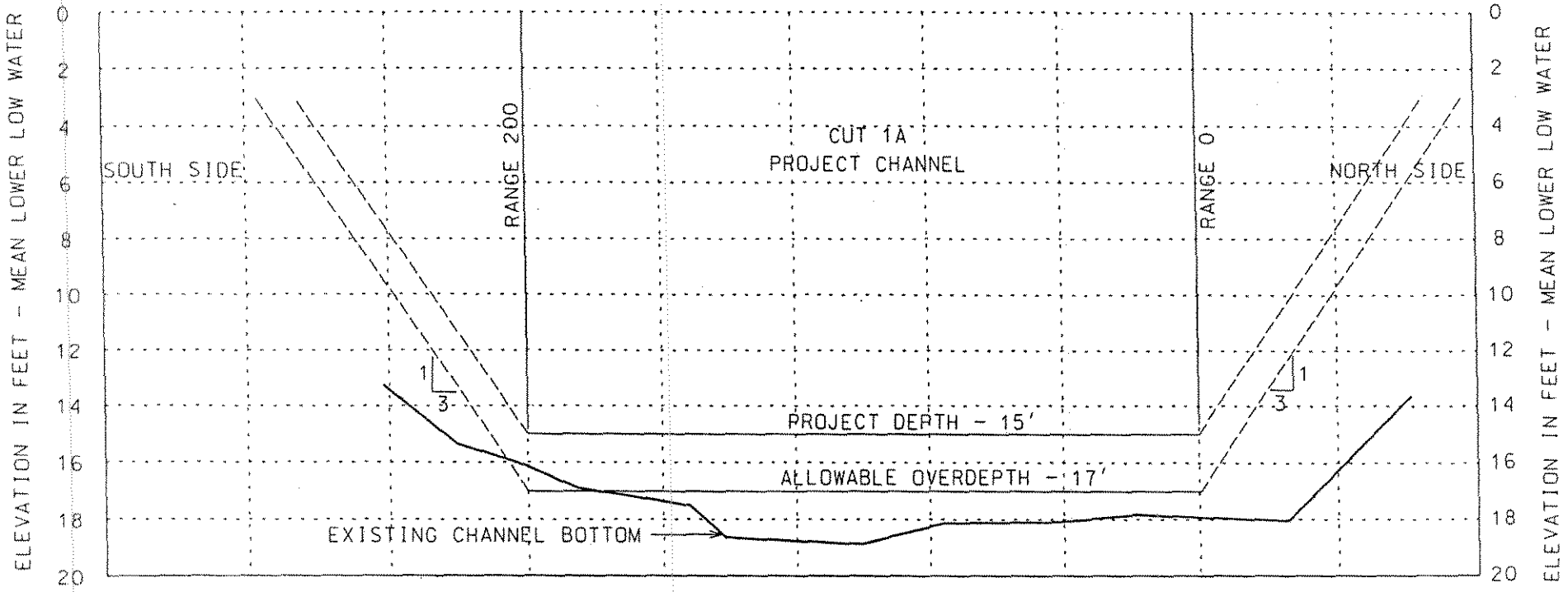
(HOR.)

5 0 5
(VER.)

TYPICAL CROSS SECTION
PONCE DE LEON
PROPOSED CUT 2N
STATION 6 + 00

PERMIT NO. 129417-001-JC

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT	
PONCE DE LEON INLET X-SECTION CUT 2N	
NOVEMBER 1994	B. BRODEHL
WQC DRAWING NO. 6 OF 9	



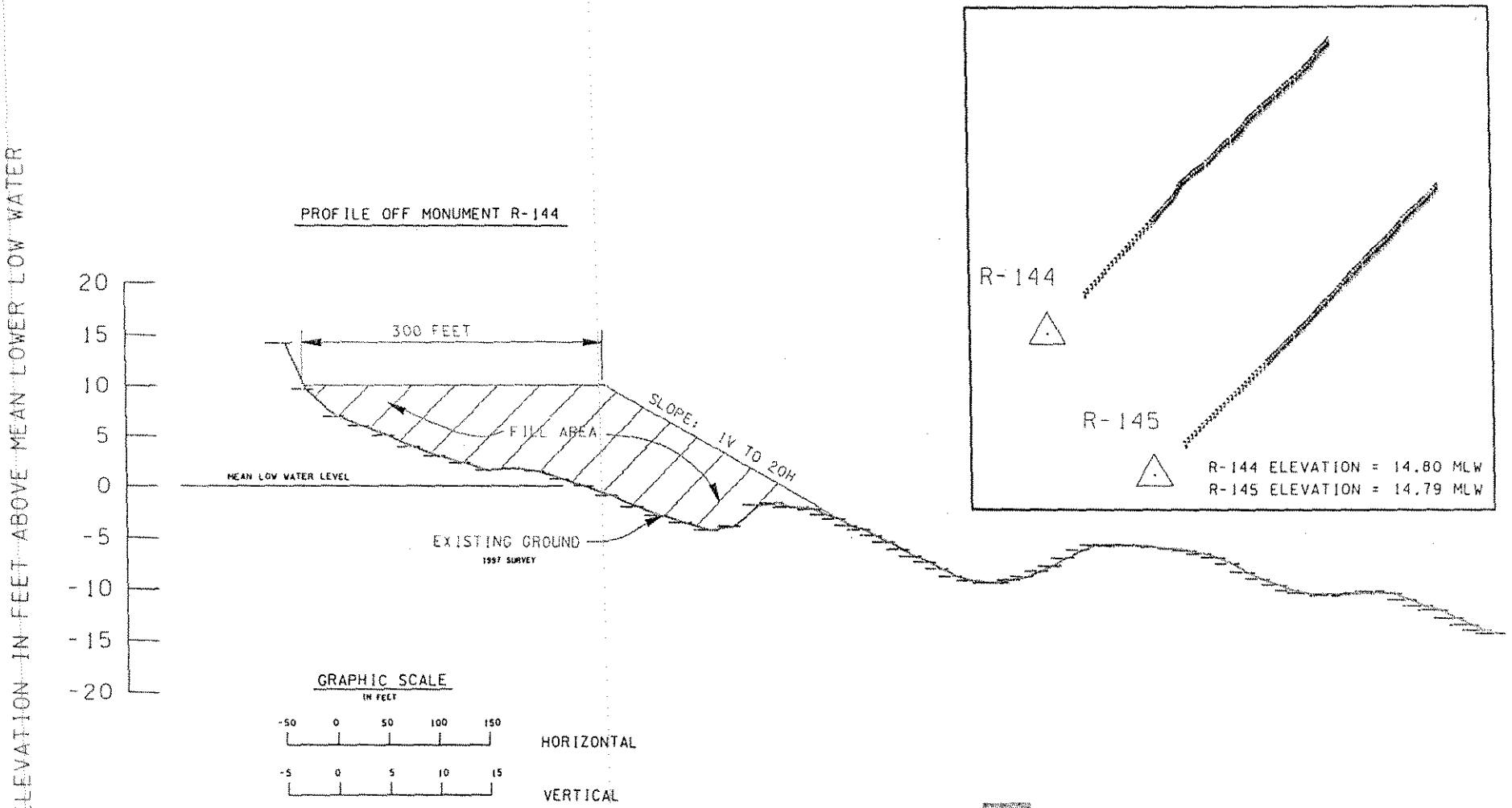
(HOR.) 20 10 0 20

(VER.) 5 0 5

TYPICAL CROSS SECTION
PONCE DE LEON
PROPOSED CUT 1A
OUTER CHANNEL

PERMIT NO. 129417-001-JC

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT	
PONCE DE LEON INLET X-SECTION CUT 1A	
OCTOBER 1999	B. BRODEHL
WQC DRAWING NO. 7 OF 9	



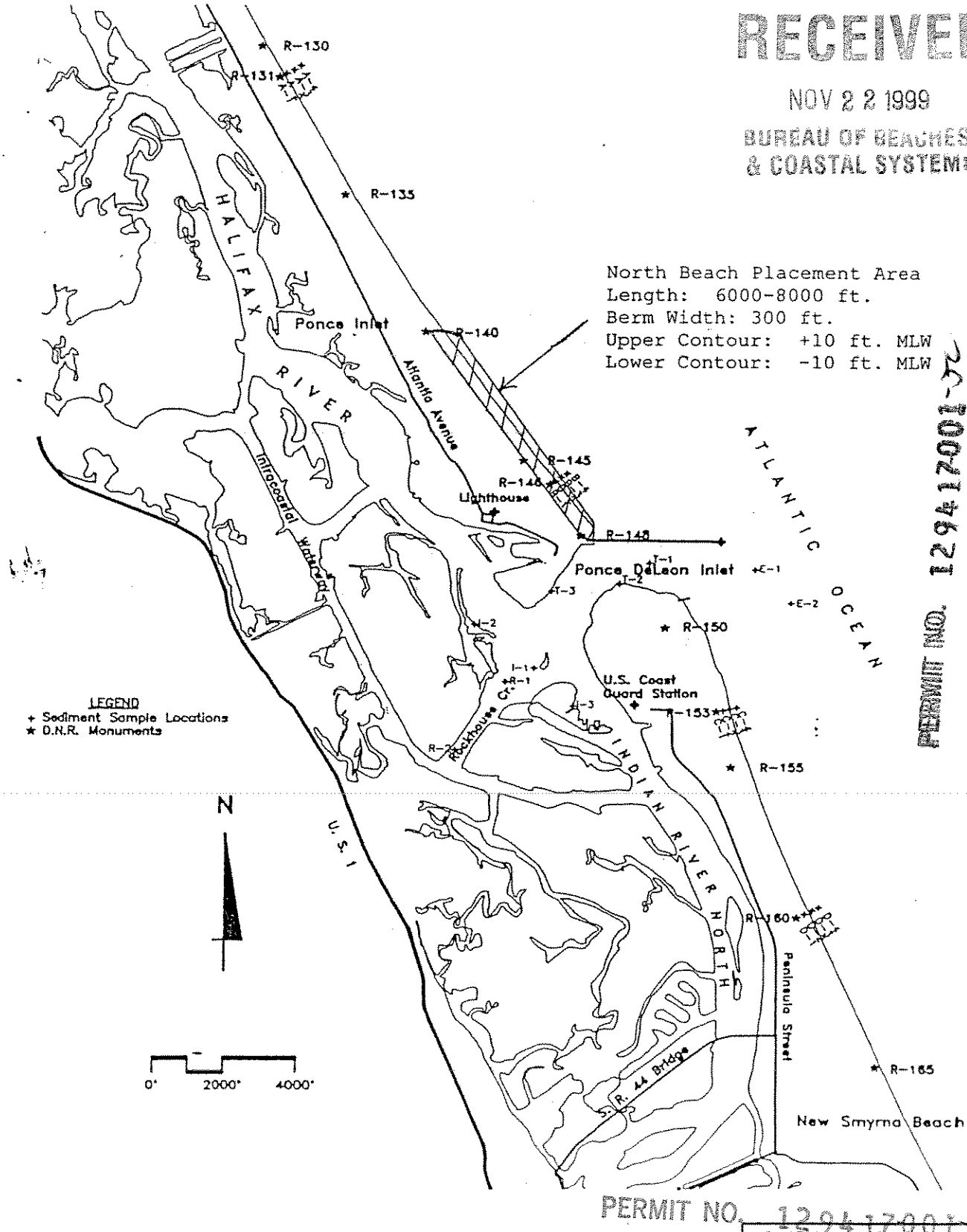
PERMIT NO. 1294117-001-JC

U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT

PONCE DE LEON INLET
TYPICAL BEACH PROFILE

SEP 1998	B. BRODEHL

WQC DRAWING NO. 8 of 9



PERMIT NO. 1294-1200-JC

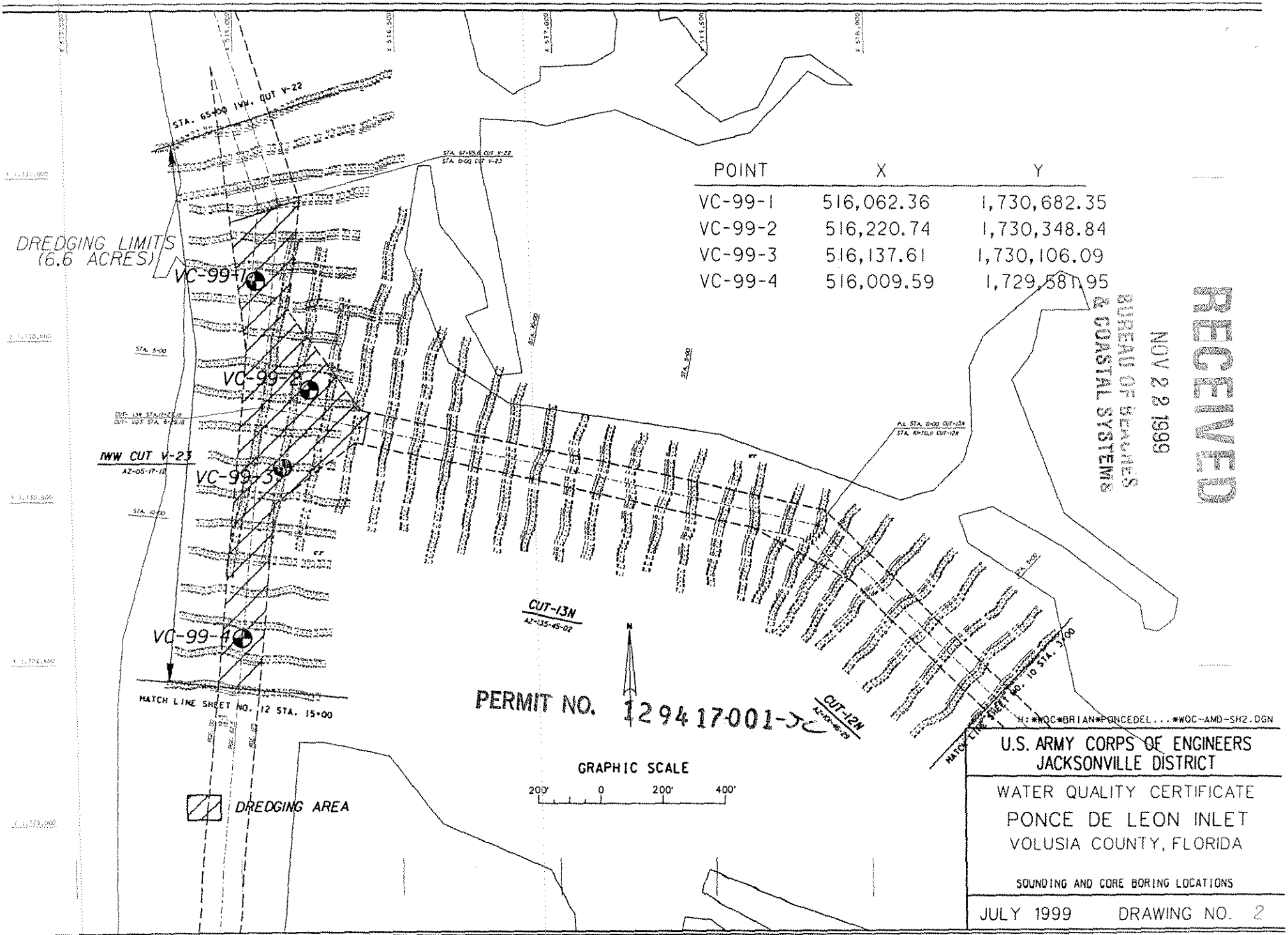
TAYLOR ENGINEERING INC
9086 CYPRESS GREEN DRIVE
JACKSONVILLE, FLORIDA 32256

Figure 2.6 Location of S
Collection St

U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT

PONCE DE LEON INLET
NORTH BEACH PLACEMENT AREA

SEP 1998	B. BRODEHL
WQC DRAWING NO. 9 of 9	



POINT	X	Y
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VC-99-2	516,220.74	1,730,348.84
VC-99-3	516,137.61	1,730,106.09
VC-99-4	516,009.59	1,729,881.95

RECEIVED
NOV 22 1999
BUREAU OF BEACHES
& COASTAL SYSTEMS

PERMIT NO. 129417001-JC

H:\WQC\BRIAN\PONCEDEL...\WQC-AMD-SH2.DGN

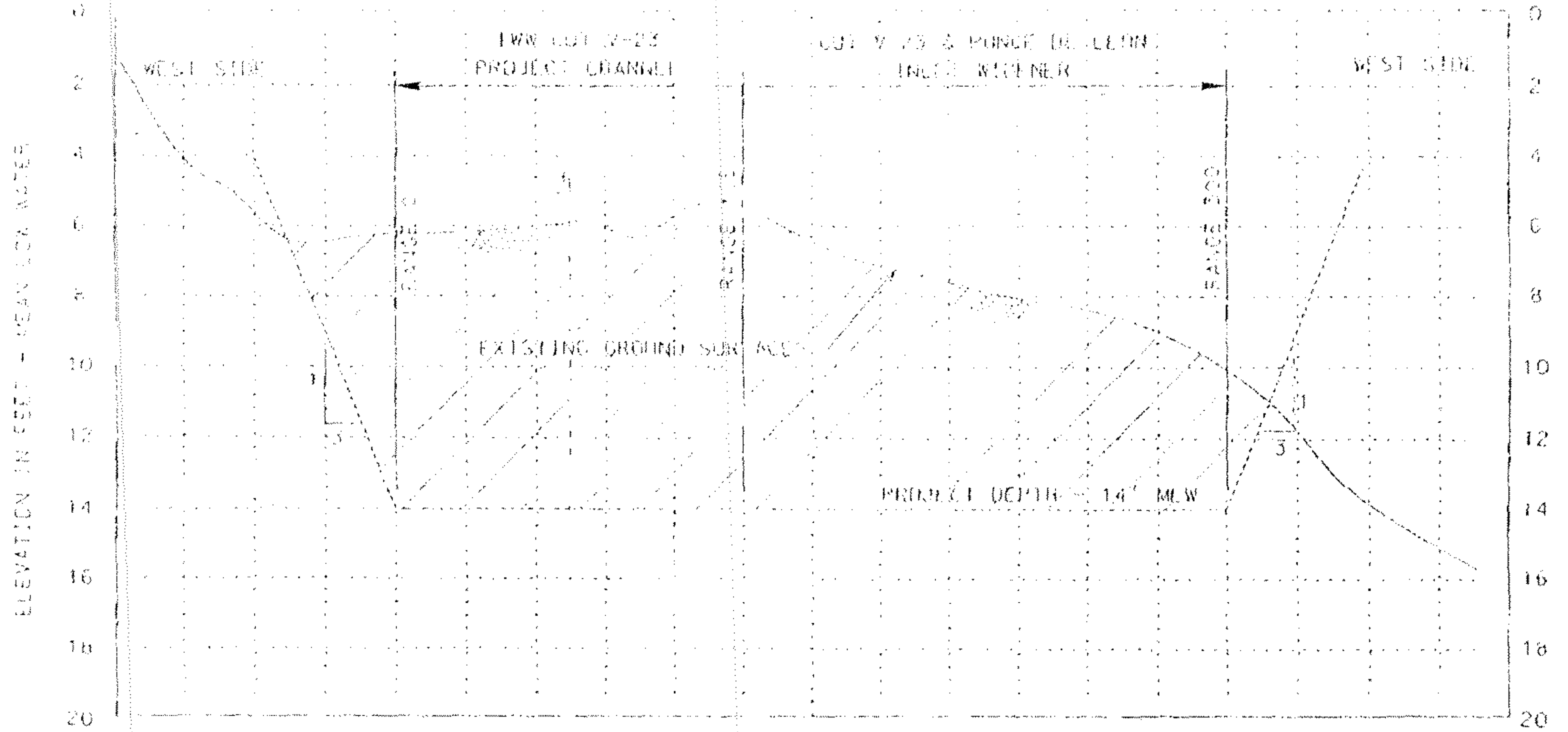
U.S. ARMY CORPS OF ENGINEERS
JACKSONVILLE DISTRICT

WATER QUALITY CERTIFICATE
PONCE DE LEON INLET
VOLUSIA COUNTY, FLORIDA

SOUNDING AND CORE BORING LOCATIONS

JULY 1999 DRAWING NO. 2

.\wqc-mod\wqc-amd-sh2.dgn Oct. 04, 1999 11:41:15



GRAPHIC SCALES

25' 0 25' 50' (HOR.)

2' 0 2' 4' (VER.)

TYPICAL CROSS SECTION
@ STA. 5+00 CUT V-23

PERMIT NO. 129417-001-JC

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT
WATER QUALITY CERTIFICATE PONCE DE LEON INLET VOLUSIA COUNTY, FLORIDA TYPICAL CROSS-SECTION
JULY 1999 DRAWING NO. 3

luck99\wqc-amd-sh3.dgn Jul. 30, 1999 12:57:06

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Florida Department of Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

July 14, 2009

U.S. Army Corps of Engineers
Jacksonville District
c/o Eric Summa
P.O. Box 4970
Jacksonville, FL 32232

Re: Permit No. 0129417-002-JN
Ponce De Leon Inlet Maintenance Dredging, Time Extension

Dear Mr. Summa:

We are in receipt of your notice to use the provisions of Section 14 of Chapter 2009-96, Laws of Florida, to extend the duration of the above permit. In accordance with the provisions of that legislation, the expiration date of the permit is changed as follows:

Original Expiration Date: November 22, 2009

New Expiration Date: November 22, 2011

All dates contained in the terms and conditions of the permit pertaining to deadlines, such as for commencing or completing construction, completing any mitigation, and submitting reports for the activity authorized by the permit, are modified in recognition of, and relative to, the new expiration date. You are advised that the legislation requires that, "The commencement and completion dates for any required mitigation associated with a phased construction project [is] extended such that the mitigation takes place in the same timeframe relative to the phase as originally permitted."

In accordance with the legislation, the permitted activity will continue to be governed by the rules in effect at the time the permit was issued. However, any future request to modify the permit, except where the modification lessens the environmental impact, will be governed by the rules in effect at the time of the modification.

This extension does not:

1. Otherwise change any other terms or conditions of the permit.
2. Affect the expiration date of any associated state-owned submerged lands lease or easement that was executed for the activities authorized in the permit. It also does not change any terms or conditions contained in the lease or easement, such as deadlines for submittal of any required lease fees.

3. Affect the water quality certification determination under Section 401, Public Law 92-500, 33 U.S.C. Section 1341 made as part of the permit.
4. Affect the coastal zone consistency concurrence determination made under Florida's Coastal Zone Management Program in Section 307 of the Coastal Zone Management Act and 15 CFR 930, Subpart D originally contained in the permit.
5. Affect the expiration date of any state, federal, or local permit, license, or authorization related to this permit, specifically including any federal permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

Sincerely,

Martin K. Seeling
Environmental Administrator
Bureau of Beaches and Coastal Systems

cc: Russell Jones, ACOE-Jacksonville
Jim McAdams, ACOE-Jacksonville
David Herbster, DEP, CentralDistrict
Roxanne Dow, DEP, BBCS
Jamie Christoff, DEP, BBCS
Guy Weeks, DEP, BBCS
Alex Whitworth, DEP, BBCS
West Gregory, DEP, Office of General Counsel
Kelly Russell, DEP, Office of General Counsel
JCP Compliance Officer, DEP, BBCS
John McDowell, BBCS, Field Inspector
David Roach, Florida Inland Navigation District
Joe Nolin, Volusia County Port Authority
BBCS File

Florida Department of Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

CERTIFIED - RETURN RECEIPT REQUESTED

November 14, 2012

U.S. Army Corps of Engineers
Attn.: Eric Summa
P.O. Box 4970
Jacksonville, Florida 32232-0019

Permit Modification No. 0308009-003-JN
Permit No. 0308009-001-JC, Volusia County
Ponce de Leon Inlet Maintenance Dredging, Minor Modification

Dear Mr. Summa:

Your request to modify Permit No. 0308009-001-JC was received on August 17, 2012, and has been reviewed by Department staff. The proposed permit modification is to revise the language of Specific Condition (SC) 1 to be consistent with the Interagency Coordination Agreement for Civil Works Projects (2006); revise the language of SC 7 to adhere to the recommendations of the Florida Fish & Wildlife Conservation Commission (FWC); and to correct the project name and permit number in the document 'header' of the Final Order on pages 3, 5, 7, 9, 11, 13, and 15. The changes to SCs 1 and 7 are discussed below. The change to the document header has been made separately, as an administrative correction (see attached permit).

Permit History

On September 12, 2011, the U.S. Army Corps of Engineers (Corps) applied for a Joint Coastal Permit to dredge material from Ponce de Leon Inlet access channel, Inlet throat, and north and south navigation channels be deposited in a nearshore disposal area, located 1 mile south of the Inlet. Permit No. **0308009-001-JC** authorizes the Corps to place the dredged material in the nearshore site one time only. Beach-quality material dredged during subsequent events was to be placed on the beach. However, a permit modification would be required for any future placement.

On August 8, 2012, the Corps requested a modification to Permit No. 0308009-001-JC to remove the one-time-only restriction on nearshore placement, allow near beach-quality material to be placed in the nearshore disposal site, and add a contingency allowing additional nearshore disposal events if beach-quality material is not available or if economic constraints mandate nearshore disposal. The application for Modification No. **0308009-002-JN** was withdrawn on August 15, 2012.

For additional background regarding activities related to the project area, please see the Consolidated Notice of Intent to Issue Joint Coastal Permit, and Authorization to Use Sovereign Submerged Lands for Permit No. 0308009-001-JC at the following website:

http://bcs.dep.state.fl.us/env-prmt/volusia/issued/0308009_Ponce_de_Leon_Inlet_Maintenance_Dredging/001-JC/Intent%20to%20Issue/071012%20Intent%20to%20Issue.pdf

Modification Justification

The project description in the original permit is not consistent with the language contained in the Interagency Coordination Agreement for Civil Works Projects (ICA) of 2006 between the Department and the Corps. The modification to SC 1will make the project description consistent with the ICA.

The proposed modification of SC 7 is necessary to make the permit conditions consistent with the recommended permit conditions from the FWC. The initial FWC comments provided to the Department were not definitive regarding turbidity barrier composition, included examples of signs that are now recommended for viewing on the FWC website, and contained more stringent restrictions regarding operations than are warranted by the project. The FWC provided the recommended revision to SC 7 to correct these inconsistencies, as shown below.

Staff Assessment

The Permittee has provided the Department with reasonable assurance that the proposed modifications will not cause adverse ecological impact or decrease the protection of the resource.

The proposed modifications of SCs 1 and 7 make the permit consistent with the ICA and permit conditions recommended by the FWC, respectively. The proposed permit modification does not change the scope of the proposed activity; therefore, the modification is not anticipated to adversely impact water quality or the environment.

The specific conditions shall be revised as follows (~~strikethroughs~~ are deletions, underlines are additions):

SPECIFIC CONDITIONS:

1. The Permittee and the Department, within their respective authorities and funding, shall ensure that beach compatible dredged material is placed on Florida's beaches, consistent with Florida's beach management plan adopted pursuant to Chapter 161, F.S. and other beneficial uses criteria as may be specified by the Department and applicable federal standards. The authorized activity includes a one-time placement of dredged beach-quality material in the nearshore disposal area. Future maintenance dredging events will be required to place beach-quality dredged material on the beach per the Ponce de Leon

Inlet Management Plan of 1997 to the maximum extent practicable when sufficient beach-quality material and funding are available. If the Permittee desires to perform additional maintenance dredging events under this authorization, a permit modification will be necessary.

7. **Manatee and Marine Turtle Protection Conditions**: During all construction authorized by this permit, the Permittee shall comply with the following conditions intended to protect manatees and marine turtles from direct project effects:

   a. All personnel associated with the project shall be instructed about the presence of marine turtles, manatees and manatee speed zones, and the need to avoid collisions with (and injury to) these protected marine species. The Permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

   b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

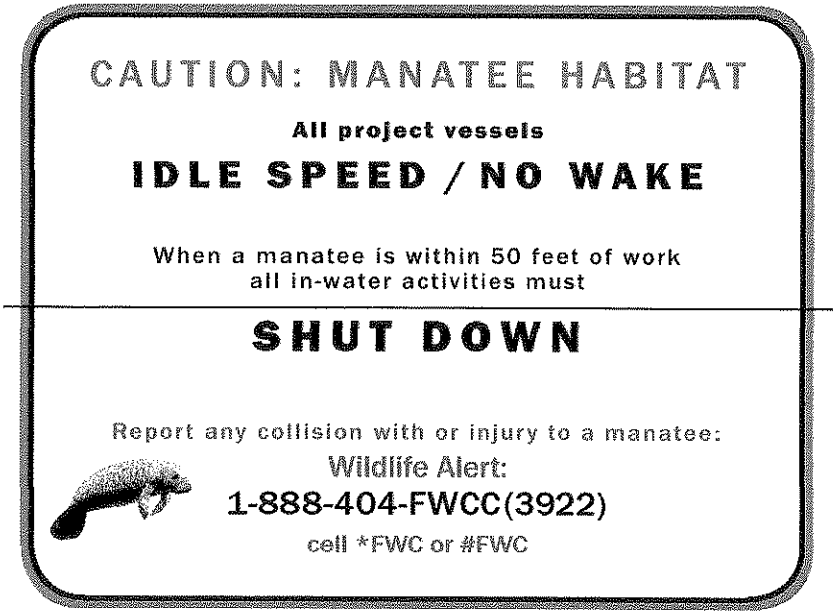
   c. ~~If s~~Siltation or turbidity barriers ~~are used, they~~ shall be made of material in which manatees and marine turtles cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid entanglement or entrapment. Barriers must not impede manatee or marine turtle movement.

   d. All on-site project personnel are responsible for observing water-related activities for the presence of marine turtles and manatees. **All in-water operations, including vessels, shall be shutdown if a marine turtle or manatee comes within 50 feet of the operation.** Activities shall not resume until the animal(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.

   e. Any collision with or injury to a marine turtle or manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922, and to FWC at ImperiledSpecies@myFWC.com. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service (FWS) in Jacksonville at 1-904-731-3336.

   f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the Permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A

second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. ~~Two of these signs are attached, and signs already approved by the FWC~~ These signs can be viewed at www.MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.



~~g. At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation during dredging activities, and be equipped with polarized sunglasses to aid in observation. The manatee observer shall be on site during all in-water construction activities and advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Two observers who have experience in manatee observation during night time dredging activity shall be used when nighttime clamshell dredging is conducted during the months of April through November.~~

~~h. During clamshell dredging, the dredge operator shall gravity release the clamshell bucket only at the water surface, and only after confirmation that there are no manatees within the safety distance identified in the standard construction conditions.~~

~~i. Hydraulic dredging shall be used as much as practicable.~~

After thorough review of your application, staff finds that the proposed modification is not expected to adversely affect water quality or be contrary to the public interest. Staff has also determined that the proposed alteration does not increase the potential for adverse impact on the coastal system, public beach access seaward of the mean high water line or nesting sea turtles and hatchlings and their habitat, and that the proposed alteration does not reduce the design adequacy of the project. Since the proposed modification is not expected to result in any adverse environmental impact or water quality degradation, the **permit is hereby modified** as requested. By copy of this letter, we are notifying all necessary parties of the modification(s).

This letter of approval does not alter the August 3, 2022 expiration date, other Specific or General Conditions, or monitoring requirements of the permit. This letter must be attached to the original permit.

This permit is hereby modified unless a sufficient petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, Florida Statutes (F.S.), as provided below. The procedures for petitioning for a hearing are set forth below. Mediation under Section 120.573, F.S., is not available for this proceeding.

NOTICE OF RIGHTS

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Because the administrative hearing process is designed to redetermine final agency action on the application, the filing of a petition for an administrative hearing may result in further modification of the permit or even a denial of the application. If a sufficient petition for an administrative hearing or request for an extension of time to file a petition is timely filed, this permit modification automatically becomes only proposed agency action on the application subject to the result of the administrative review process. Accordingly, the applicant is advised not to commence construction or other activities under this permit modification until the deadlines noted below for filing a petition for an administrative hearing or request for an extension of time has expired.

Under Rule 62-110.106(4), Florida Administrative Code (F.A.C.), a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

In the event that a timely and sufficient petition for an administrative hearing is filed, other persons whose substantial interests will be affected by the outcome of the administrative process have the right to petition to intervene in the proceeding. Any intervention will be only at the discretion of the presiding judge upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first.

Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition for an administrative hearing within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S.

In accordance with Rule 28-106.201, F.A.C., a petition that disputes the material facts on which the Department's action is based must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C. Under Sections 120.569(2)(c) and (d), F.S., a petition for administrative hearing must be dismissed by the agency if the petition does not substantially comply with the above requirements or is untimely filed.

This action is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this order will not be effective until further order of the Department.

This permit modification constitutes an order of the Department. The applicant has the right to seek judicial review of the order under Section 120.68, F.S., by the filing of a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

When there has been no publication of notice of agency action or notice of proposed agency action as prescribed in Rule 62-110.106, F.A.C., a person may request a copy of the agency action. The Department shall upon receipt of such a request, if agency action has occurred, promptly provide the person with notice. The Department does not require notice of this agency action to be published. However, the applicant may elect to publish notice as prescribed in Rule 62-110.106, F.A.C., which constitutes notice to the public and establishes a time period for submittal of any petition.

If you have any questions regarding this matter, please contact Tom Jacobs at the letterhead address (add Mail Station 300) or by telephone at (850) 413-7785.

Sincerely,

Martin K. Seeling
Environmental Administrator
Bureau of Beaches & Coastal Systems

MKS/tj

cc: Russ Jones, USACE
Cheryl Grieb, ECFRPC
Joie Alexander, Volusia County
Patricia Northey, Volusia County
Joyce Cusak, Volusia County
Daniel Fondren, DWRM
Gene Chalecki, DWRM
Roxane Dow, DWRM
Martin Seeling, DWRM
Lainie Edwards, DWRM
Tom Jacobs, DWRM
Robert Brantly, DWRM
El Kromhout, DWRM
Lt. Steve Van Nortwick, FWC, LE
Vladimir Kosmynin, DWRM
Dave Herbster, DEP, Central District Office
David Kriger, CCCL Processor
Alex Reed, DWRM
Guy Weeks, BECP Project Manager, DWRM
Wesley Cich, Field Inspector
Robbin Trindell, FWC, ISMS
Laura DiGruttlo, FWC, CPS
MarineTurtle@MyFWC.com
FWCConservationPlanningServices@myfwc.com
JCP Compliance Officer
DWRM File
Irene Sadowski, USACE

Attachment: Corrected Original Permit

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Lauren Wild 11-14-12

Deputy Clerk Date

Florida Department of
Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

CONSOLIDATED JOINT COASTAL PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

PERMITTEE:
U.S. Army Corps of Engineers
Attn.: Eric Summa
P.O. Box 4970
Jacksonville, Florida 32232-0019

PERMIT INFORMATION:
Permit Number: 0308009-001-JC

Project Name: Ponce de Leon Inlet Maintenance Dredging

County: Volusia

Issuance Date: August 3, 2012

Expiration Date: August 3, 2022

REGULATORY AUTHORIZATION:

This permit is issued under the authority of Chapter 161 and Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). Pursuant to Operating Agreements executed between the Department of Environmental Protection (Department) and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

PROJECT DESCRIPTION:

The project is to conduct maintenance dredging of the Ponce de Leon Inlet entrance channel, Inlet throat, and Inlet channels leading to the Atlantic Intracoastal Waterway (AIWW). Approximately 200,000 cubic yards of shoal material are expected to be removed every 4 years to maintain the federal channel depths. The channels will be maintained to the following maximum depths, which include the design depths, plus 2 feet of allowable overdepth: -17 feet mean lower low water (MLLW) for the entrance channel across the ocean bar; -14 feet MLLW for the Inlet throat; -14 feet MLLW for the southward channel to the AIWW; -14 feet MLLW for Cut-3N, Cut-4N and Cut-5N in the northward channel to the AIWW; and -9 feet MLLW for the remaining northward channel to the AIWW (Cut-6N through Cut-13N). Dredged material will be placed in a nearshore disposal area (D/A), located 1 mile south of the south jetty, for the initial maintenance dredging event only. The landward portion of the D/A will be filled first, and disposal will proceed waterward only as the landward portion reaches capacity.

Dredged material from subsequent maintenance dredging events will be placed on the beach, when sufficient beach-quality material and funding are available. A permit modification will be required for the placement of dredged material on the beach.

PROJECT LOCATION:

The maintenance dredging area is located at Ponce de Leon Inlet and the interior channels connecting the Inlet to the AIWW. The nearshore disposal area is located one mile south of the Inlet, with a landward edge along the -12-foot mean lower low water (MLLW) contour line. The project is located in Volusia County, Sections 32 and 37, Township 16 South, Range 34 East, in Ponce de Leon Inlet and the Atlantic Ocean, Class III Waters.

PROPRIETARY AUTHORIZATION:

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands held in trust by the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Board of Trustees delegated, to the Department, the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, F.A.C., and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. This proprietary authorization has been reviewed in accordance with Chapter 253, F.S., Chapter 18-21, F.A.C., and the policies of the Board of Trustees.

As staff to the Board of Trustees, the Department has reviewed the project described above, and has determined that the dredged material disposal activity qualifies for a Letter of Consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted to the U.S. Army Corps of Engineers (Corps), pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

The Department acknowledges that maintenance dredging of the inlet falls within one of the federal powers listed in the Submerged Lands Act under 43 USC 1311(d) or 43 USC 1314, and, under those provisions, the Corps needs no authorization from the Board of Trustees to utilize sovereignty submerged lands for that activity. However, under the provisions of the Coastal Zone Management Act (16 USC 1451-1465), this activity requires Florida's concurrence with a determination of consistency with the sovereignty submerged lands provisions of Florida's approved Coastal Management Program prior to federal approval of the proposed activity. The State has

determined that the activity is consistent with the sovereignty submerged lands provisions of Florida's approved Coastal Management Program.

COASTAL ZONE MANAGEMENT:

This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

WATER QUALITY CERTIFICATION:

This permit constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

AGENCY ACTION:

The above named Permittee is hereby authorized to construct the work outlined in the project description and project location of this permit and shown on the approved permit drawings, plans and other documents attached hereto. This agency action is based on the information submitted to the Department as part of the permit application, and adherence with the final details of that proposal shall be a requirement of the permit. **This permit and authorization to use sovereign submerged lands are subject to the General Conditions and Specific Conditions, which are a binding part of this permit and authorization.** Both the Permittee and their Contractor are responsible for reading and understanding this permit (including the permit conditions and the approved permit drawings) prior to commencing the authorized activities, and for ensuring that the work is conducted in conformance with all the terms, conditions and drawings.

GENERAL CONDITIONS:

1. This permit, including its general and specific conditions, must be construed in light of the February 28, 2006 Interagency Coordination Agreement for Civil Works Projects (ICA) between the Department and the Corps. As recognized in the ICA, the Department has the authority to include reasonable conditions in this permit. All of the conditions in this permit, both general and specific, are enforceable to the extent sovereign immunity has been waived under 33 U.S.C. §§ 1323 and 1344(t). The ICA is incorporated herein by reference.

2. All activities approved shall be implemented as set forth in the drawings incorporated by reference and in compliance with the conditions and requirements of this document. The Corps shall notify the Department in writing of any anticipated changes in:

   a) operational plans;

b) project dimensions, size or location;
c) ability to adhere to permit conditions;
d) project description included in the permit;
e) monitoring plans.

If the Department determines that a modification to the permit is required then the Corps shall apply for and obtain the modification. Department approval of the modification shall be obtained prior to implementing the change, unless the change is determined by the Department to reduce the scope of work from that authorized under the original permit, and will not affect compliance with permit conditions or monitoring requirements.

3. If, for any reason, the Corps does not comply with any condition or limitation specified herein, the Corps shall immediately provide the Department with a written report containing the following information:

a) a description of and cause of noncompliance;
b) the period of noncompliance, including dates and times;
c) impacts resulting or likely to result from the non-compliance;
d) steps being taken to correct the non-compliance; and
e) the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

Compliance with the provisions of this condition shall not preclude the Department from taking any enforcement action allowed under state law with respect to any non-compliance.

4. The Corps shall obtain any applicable licenses, permits, or other authorizations which may be required by federal, state, local or special district laws and regulations. Nothing herein constitutes a waiver or approval of other Department permits or authorizations that may be required for other aspects of the total project.

5. Nothing herein conveys to the Corps or creates in the Corps any property right, any interest in real property, any title to land or water, constitutes State recognition or acknowledgment of title, or constitutes authority for the use of Florida's sovereign submerged lands seaward of the mean high-water line or an established erosion control line, unless herein provided, and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State.

6. Any delineation of the extent of a wetland or other surface water submitted as part of the application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this authorization or a formal determination under section 373.421(2), F.S., provides otherwise.

7. Nothing herein authorizes any entrance upon or activities on property which is not owned or controlled by the Corps or local sponsor, or conveys any vested rights or any exclusive privileges.

8. This document or a copy thereof, complete with all conditions, attachments, modifications, and time extensions shall be kept at the work site of the authorized activity. The Corps shall require the contractor to review this document prior to commencement of the authorized activity.

9. The Corps specifically agrees to allow Department personnel with proper identification, at reasonable times and in compliance with Corps specified safety standards access to the premises where the authorized activity is located or conducted for the purpose of ascertaining compliance with the terms of this document and with the rules of the Department and to have access to and copy any records that must be kept; to inspect the facility, equipment, practices, or operations regulated or required; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance. Reasonable time may depend on the nature of the concern being investigated.

10. At least forty-eight (48) hours prior to the commencement of authorized activity, the Corps shall submit to the Department a written notice of commencement of activities indicating the anticipated start date and the anticipated completion date.

11. If historic or archaeological artifacts such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, are discovered at any time on the project site, the Corps shall immediately stop all activities in the immediate area which disturb the soil and notify the Department and the State Historic Preservation Officer. In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.05, *Florida Statutes.*

12. Within a reasonable time after completion of construction activities authorized by this permit, the Corps shall submit to the Department a written statement of

completion. This statement shall notify the Department that the work has been completed as authorized and shall include a description of the actual work completed. The Department shall be provided, if requested, a copy of any as-built drawings required of the contractor or survey performed by the Corps.

SPECIFIC CONDITIONS:

1. The Permittee and the Department, within their respective authorities and funding, shall ensure that beach compatible dredged material is placed on Florida's beaches, consistent with Florida's beach management plan adopted pursuant to Chapter 161, F.S. and other beneficial uses criteria as may be specified by the Department and applicable federal standards. The authorized activity includes a one-time placement of dredged beach-quality material in the nearshore disposal area. Future maintenance dredging events will be required to place beach-quality dredged material on the beach per the Ponce de Leon Inlet Management Plan of 1997. If the Permittee desires to perform additional maintenance dredging events under this authorization, a permit modification will be necessary.

2. Dredged material shall initially be placed at the -12-foot MLLW contour of the nearshore disposal area. When the -12-foot MLLW contour reaches capacity, the dredged material shall be deposited waterward in the disposal area, until the volume of material is exhausted, but shall not be placed seaward of the -18-foot MLLW contour.

3. The Permittee shall not store or stockpile tools, equipment, materials, etc., within littoral zones or elsewhere within surface waters of the state without prior written approval from the Department. Storage, stockpiling or access of equipment on, in, over or through seagrass (or other aquatic vegetation) beds, wetlands or vegetated dunes is prohibited unless within a work area or ingress/egress corridor specifically approved by this permit. Anchoring or spudding of vessels and barges within beds of aquatic vegetation or over hardbottom areas is also prohibited.

4. The Permittee shall not conduct project operations or store project-related equipment in, on or over dunes, or otherwise impact dune vegetation, outside the approved staging, beach access and dune restoration areas designated in the permit drawings.

5. **Pre-Construction Conference.** The Permittee shall conduct a pre-construction conference to review the specific conditions and monitoring requirements of this permit with Permittee's contractors, the engineer of record and the JCP

Compliance Officer (or designated alternate) prior to each construction event. In order to ensure that appropriate representatives are available, at least twenty-one (21) days prior to the intended commencement date for the permitted construction, the Permittee is advised to contact the Department, and the other agency representatives listed below:

DEP, Bureau of Beaches & Coastal Systems
JCP Compliance Officer
Mail Station 300
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000
phone: (850) 414-7716
e-mail: JCPCompliance@dep.state.fl.us

DEP Central District Office
Submerged Lands and Environmental Resources Program
3319 Maguire Boulevard
Orlando, Florida 32803-3767
phone: (407) 894-7555

Imperiled Species Management Section
Florida Fish & Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600
phone: (850) 922-4330
fax: (850) 921-4369 or email: marineturtle@myfwc.com

The Permittee is also advised to schedule the pre-construction conference at least a week prior to the intended commencement date. At least seven (7) days in advance of the pre-construction conference, the Permittee shall provide written notification, advising the participants (listed above) of the agreed-upon date, time and location of the meeting, and also provide a meeting agenda and a teleconference number.

6. **Pre-Construction Submittals.** At least fourteen (14) days prior to the date of the pre-construction conference (as required above), the Permittee shall submit the final plans and specifications for this project, which must be consistent with the activity description of this permit and the approved permit drawings. The Permittee shall point out any deviations from the activity description or the approved permit drawings, and any significant changes would require a permit modification. Submittal shall include one (1) hardcopy (sized 11 inches by 17

inches or greater, with all text legible) and one (1) electronic copy of the final plans and specifications. The plans and specifications shall be accompanied by a letter indicating the project name, the permit number, the type of construction activity, the specific type of equipment to be used, the anticipated volume of material to be moved (if applicable) and the anticipated schedule. Further, the Permittee shall specify any anticipated sites that will be used (such as a disposal or re-use location) and appropriate contact information for those facilities. The final plans and specifications submitted under this condition must comply with all conditions set forth in this permit.

Fish and Wildlife Protective Measures for Dredging

7. **Manatee and Marine Turtle Protection Conditions**: During all construction authorized by this permit, the Permittee shall comply with the following conditions intended to protect manatees and marine turtles from direct project effects:

   a. All personnel associated with the project shall be instructed about the presence of marine turtles, manatees and manatee speed zones, and the need to avoid collisions with (and injury to) these protected marine species. The Permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

   b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

   c. If siltation or turbidity barriers are used, they shall be made of material in which manatees and marine turtles cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid entanglement or entrapment. Barriers must not impede manatee or marine turtle movement.

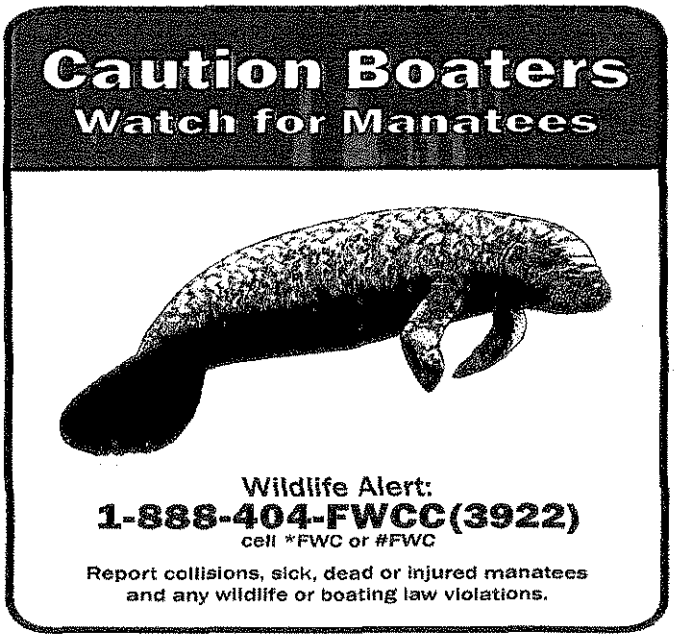
   d. All on-site project personnel are responsible for observing water-related activities for the presence of marine turtles and manatees. **All in-water operations, including vessels, shall be shutdown if a marine turtle or manatee comes within 50 feet of the operation.** Activities shall not resume until the animal(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared

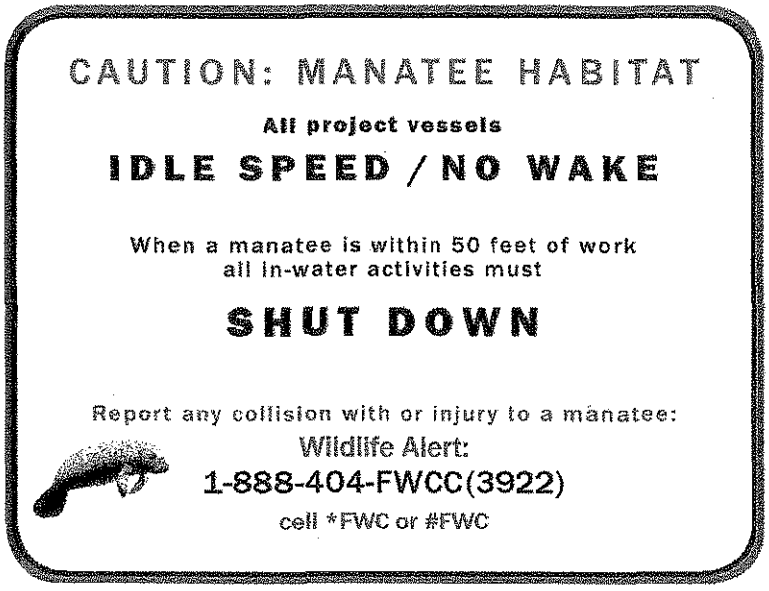
within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.

e. Any collision with or injury to a marine turtle or manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922, and to FWC at

ImperiledSpecies@myFWC.com. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service (FWS) in Jacksonville at 1-904-731-3336.

f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the Permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. Two of these signs are attached, and signs already approved by the FWC can be viewed at www.MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.





g. At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation during dredging activities, and be equipped with polarized sunglasses to aid in observation. The manatee observer shall be on site during all in-water construction activities and advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Two observers who have experience in manatee observation during night time dredging activity shall be used when nighttime clamshell dredging is conducted during the months of April through November.

h. During clamshell dredging, the dredge operator shall gravity-release the clamshell bucket only at the water surface, and only after confirmation that there are no manatees within the safety distance identified in the standard construction conditions.

i. Hydraulic dredging shall be used as much as practicable.

8. **Marine Turtle Protection Conditions for Dredging Activities:** The following recommendations are made to ensure consistency with the Florida Coastal Zone Management Act, specifically with Section 379.2431(1), F.S.

In the event a hopper dredge is utilized, the following requirements shall be met in conjunction with the Terms and Conditions of the applicable National Marine Fisheries Service (NMFS) Regional Biological Opinion for Hopper Dredging (South Atlantic):

a. Handling of sea turtles captured during hopper dredging projects shall be conducted only by persons with prior experience and training in these activities and who is duly authorized to conduct such activities as a NMFS-approved sea turtle observer or have

submitted documentation to the Corps of meeting the FWC Marine Turtle Conservation Guidelines specific to stranding activities (Section 3). The Corps will forward documentation to FWC and the Department for review concurrent with the submission of the contractor Environmental Protection Plan.

b. Corps staff or their designee that transport live or dead marine turtles or marine turtle parts into, out of or within, the state of Florida shall notify FWC in writing specifying the number, species of sea turtle, type of specimen, and the destination after transport is complete. Before transport, if the turtle is believed to be alive, Corps staff or their designee will coordinate with FWC and/or NMFS to determine the appropriate facility to receive live sea turtles for rehabilitation. Corps staff or their designee shall abide by the State of Florida's FWC Marine Turtle Conservation Guidelines (http://www.myfwc.com/wildlifehabitats/managed/sea-turtles/conservation-guidelines/) specific to transport of live stranded turtles.

c. *Dredging Pumps:* Standard operating procedure shall be that dredging pumps shall be disengaged by the operator, or the draghead bypass valve shall be open and in use when the dragheads are not firmly on the bottom, to minimize impingement or entrainment of sea turtles within the water column. This precaution is especially important during the cleanup phase of dredging operations.

d. *Sea Turtle Deflecting Draghead*: A state-of-the-art rigid deflector draghead shall be used on all hopper dredges in all channels at all times of the year.

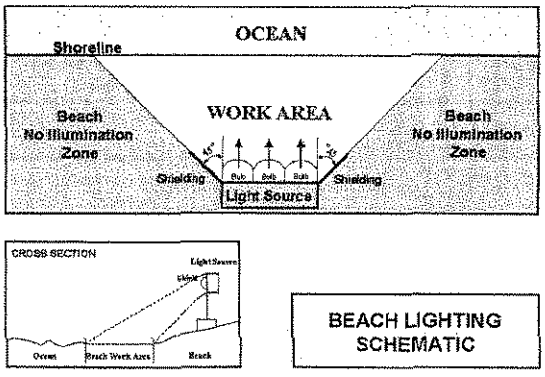
e. The Sea Turtle Stranding and Salvage Network (STSSN) Coordinator shall be notified at 1-904-573-3930 or via e-mail at Allen.Foley@myfwc.com of the start-up and completion of hopper dredging operations. In the event of capturing or recovering marine turtles or marine turtle parts, the STSSN should be contacted at 1-888-404-FWCC (3922).

f. Relocation trawling or non-capture trawling shall be implemented in accordance with the applicable NMFS Biological Opinion and Incidental Take authorization. Any activity involving the use of nets to harass and/or to capture and handle marine turtles in Florida waters requires a Marine Turtle Permit from FWC.

   i. A summary (use FWC Trawl Report spreadsheet, attached) of all trawling activity, including non-capture trawling, and all turtles captured in Florida waters, including all measurements, the latitude and longitude (in decimal degrees) of captures and tow start-stop points, and times for the start-stop points of the tows, including those tows on which no turtles are captured, shall be submitted to MTP@myfwc.com by January 15 of the following year.

9. **Project Lighting for Marine Turtle Protection**: Direct lighting of the beach and nearshore waters shall be limited to the immediate construction area during the

marine turtle nesting season and shall comply with safety requirements. Lighting on offshore or onshore equipment shall be minimized through reduction, shielding, lowering, and appropriate placement to avoid excessive illumination of the water's surface and nesting beach while meeting all Coast Guard, EM 385-1-1, and OSHA requirements. Light intensity of lighting equipment shall be reduced to the minimum standard required by OSHA for General Construction areas, in order not to misdirect sea turtles. Shields shall be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area (***Figure below***).



10. **Equipment Storage and Placement**: Staging areas for construction equipment shall be located off the beach, if off-beach staging areas are available, during the sea turtle nesting season. Nighttime storage of construction equipment not in use shall be off the beach. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Pipes placed parallel to the vegetation line shall be 5 to 10 feet away from the toe of the vegetation line. Temporary storage of pipes shall be off the beach to the maximum extent possible. If the pipes shall be on the beach, they shall be placed in a manner that will minimize the impact to nesting habitat and shall not compromise the integrity of the dune systems. If it will be necessary to extend construction pipes past a known migratory bird nesting site or over-wintering area for piping plovers, then whenever possible, those pipes should be placed landward of the site before birds are active in that area. No pipe or sand shall be placed within or seaward of a migratory bird nesting site during the migratory bird nesting season.

11. **Marine Turtle or Nest Encounters**: Upon locating a dead or injured sea turtle adult, hatchling or egg that may have been harmed or destroyed as a direct or indirect result of the project, the Corps and/or local sponsor shall be responsible for notifying FWC Wildlife Alert at 1-888-404-FWCC (3922). Care shall be taken in handling injured sea turtles or their eggs to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis. In the event a marine turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project shall be notified immediately so the eggs can be moved to a suitable relocation site.

12. The following species are protected by the Federal Migratory Bird Treaty Act, as well as Chapter 379, F.S., which prohibits the take and/or harassment of migratory birds and their nests and eggs for the following species: piping plover (*Charadrius melodus*), American oystercatcher (*Haematopus palliates*), black skimmer (*Rynchops niger*), brown pelican (*Pelecanus occidentalis*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), Wilson's plover (*Charadrius wilsonia*).

13. **Environmental Protection Plan:** The contractor's Environmental Protection Plan (EPP) shall be submitted for review and comment to the Department in coordination with FWC prior to any construction activity. This plan shall include monitoring of nesting migratory birds and marine turtle nests onsite during construction, as well as steps that will be followed to address any unavoidable take of migratory birds and/or marine turtles should that occur.

Monitoring Required

14. **Water Quality** - Turbidity shall be monitored as follows:

Monitoring for turbidity shall be conducted by an individual with professional experience conducting turbidity monitoring for coastal dredging projects. The monitoring shall continue for the duration of the dredging and filling activities. This monitoring is designed for a hopper dredge and nearshore placement. A permit modification would be required to adjust the turbidity monitoring if a pipeline dredge will be used or beach placement is proposed.

Units: Nephelometric Turbidity Units (NTUs).

Frequency: Twice daily, during separate hopper dredge loads.

Dredge Site: While the maximum turbidity plume, generated by overflow from the hopper, extends to the edge of the mixing zone.

Nearshore Disposal Site: During flood tide, while the maximum turbidity plume, generated by discharge of sediment from the hopper, extends to the edge of the mixing zone.

Location: Background: At the surface and mid-depth, clearly outside the influence of any artificially generated turbidity plume.

Dredge Site: approximately 300 meters upcurrent from the dredge.

Nearshore Disposal Site: approximately 300 meters upcurrent of the dredged material placement template, and the same distance offshore as the associated compliance sample.

Compliance: At the surface and mid-depth, within the densest portion of any turbidity plume generated by this project.

Dredge Site: Samples shall be collected 150 meters downcurrent from the overflowing hopper dredge, in the densest portion of the turbidity plume.

Nearshore Disposal Site: Samples shall be collected where the densest portion of the turbidity plume extends, (no more than) 150 meters from the point where the dredged material is discharged into the Atlantic Ocean.

Turbidity Reports. All turbidity monitoring data shall be submitted within one week of collection, along with documents containing the following information:

a. time of day samples were taken;

b. dates of sampling and analysis;

c. depth of water body;

d. depth of each sample;

e. antecedent weather conditions, including wind direction and velocity;

f. tidal stage and direction of flow;

g. water temperature;

h. a map indicating the sampling (compliance and background) locations;

i. a statement describing the methods used in collection, handling, storage and analysis of the samples;

j. a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, calibration of the meter and accuracy of the data.

Monitoring reports shall be emailed to the JCP Compliance Officer at JCPCompliance@dep.state.fl.us. Failure to submit reports in a timely manner constitutes grounds for revocation of the permit. When submitting this information to the Department, on the submittal cover page and at the top of each page of the report, please state: "This information is provided in partial fulfillment of the monitoring requirements in Permit No. 0308009-001-JC, Ponce de Leon Inlet Maintenance Dredging."

Calibration: The instruments used to measure turbidity shall be fully calibrated prior to, but within one month of, the commencement of the current dredging and filling activities, and at least once a month throughout those activities. Calibration shall be verified each morning prior to use, and after each time the instrument is turned on, using a turbidity "standard" that is different from the one used during calibration.

The compliance locations given above shall be considered the limits of the temporary mixing zone for turbidity allowed during construction. If monitoring reveals turbidity levels at compliance sites that are greater than 29 NTUs above background levels, construction activities shall **cease immediately** and not resume until corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be immediately reported to the JCP Compliance Officer in Tallahassee at (850) 414-7716 or JCPCompliance@dep.state.fl.us and the Department's Central District office in Orlando, Florida, at (407) 894-7555.

Any project-associated discharge other than dredging or authorized placement (e.g., scow leakage) shall also be monitored as close to the source as possible every hour until background turbidity levels return or until otherwise directed by the Department. The Permittee shall notify the Department, by separate email to the JCP Compliance Officer, of such an event within 24 hours of the time the Permittee first becomes aware of the discharge. The subject line of the email

shall state "PROJECT-ASSOCIATED DISCHARGE-OTHER", and include the Project Name and the Permit Number.

15. All reports or notices relating to this permit shall be sent to the Department, Bureau of Beaches and Coastal Systems, JCP Compliance Officer, 3900 Commonwealth Boulevard, Mail Station 300, Tallahassee, Florida 32399-3000 (e-mail address: JCPCompliance@dep.state.fl.us) and the Department's Central District Office, at the following mailing address:

DEP Central District Office
Submerged Lands and Environmental Resources Program
3319 Maguire Boulevard
Orlando, Florida 32803-3767

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Gene Chalecki, Acting Bureau Chief
Bureau of Beaches and Coastal Systems

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Deborah Bollen 8/3/12
Deputy Clerk Date

Prepared by Tom Jacobs.

Attachments: Approved Permit Drawings (25 pages)

DESIGN AUTHENTICATION

PROJECT: Ponce de Leon Inlet, Volusia County, FL (Maintenance Dredging Ponce de Leon Inlet with nearshore placement)

ATTACHED PLAN SHEETS: 1 through 24

The attached plans were prepared by the Jacksonville District, U.S. Army Corps of Engineers (USACE). The initials or signatures and registrations designations of the signatory below or that appear on these project documents are within the scope of employment as required by USACE Engineering Regulation 1110-1-8152, PROFESSIONAL REGISTRATION, 8 Aug 1995, and are not made in the individual capacity of the signatories.

USACE employee signatures are provided in support of the "Interagency Coordination Agreement for Civil Works Projects", signed 28 Feb 2006 by the Florida Department of Environmental Protection, the USACE Jacksonville District, and USACE Mobile District.

These plans are for permitting purposes only, and are not for construction.

Richard I. McMillen, P.E.
Chief, Navigation Branch
Operations Division

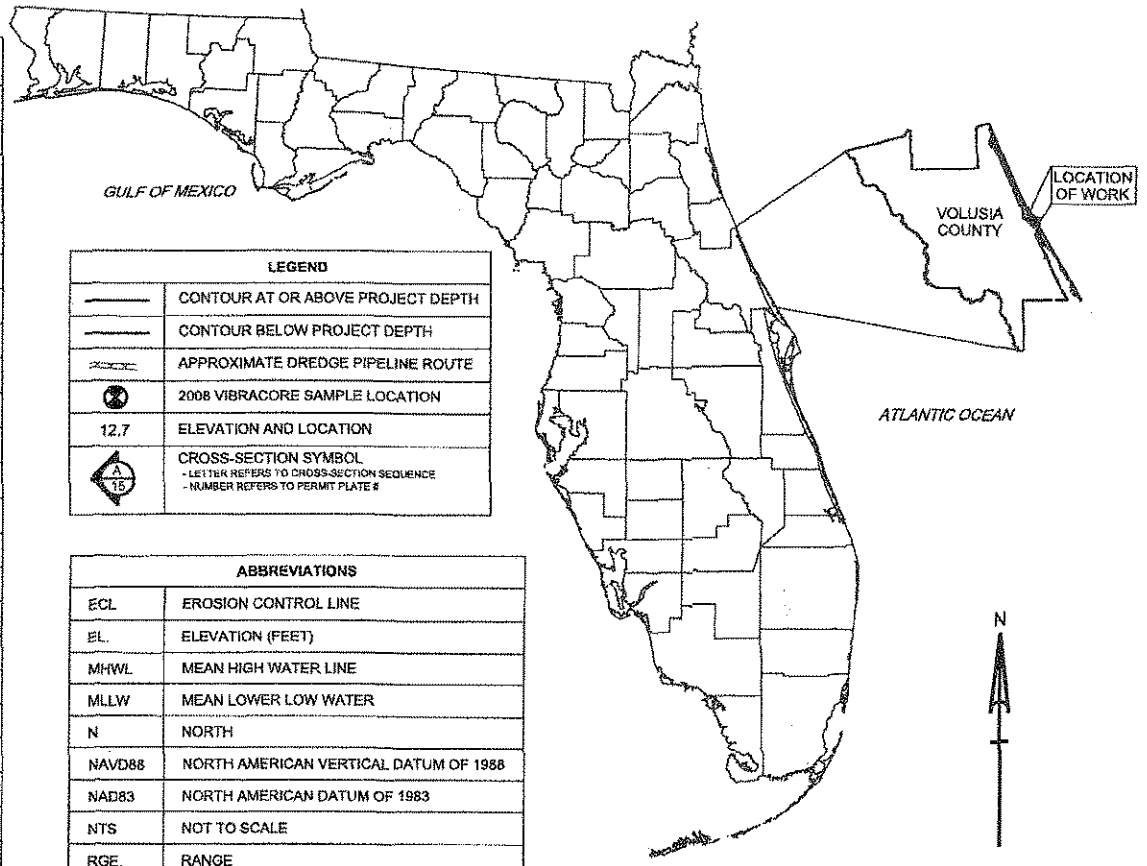
GA # 23351

4/10/12
DATE

PERMIT # 308009001

PONCE DE LEON INLET
VOLUSIA COUNTY, FLORIDA
MAINTENANCE DREDGING, 12-FOOT PROJECT

INDEX TO PLATES



LEGEND	
———	CONTOUR AT OR ABOVE PROJECT DEPTH
———	CONTOUR BELOW PROJECT DEPTH
⋯⋯	APPROXIMATE DREDGE PIPELINE ROUTE
⊗	2008 VIBRACORE SAMPLE LOCATION
12.7	ELEVATION AND LOCATION
A 15	CROSS-SECTION SYMBOL - LETTER REFERS TO CROSS-SECTION SEQUENCE - NUMBER REFERS TO PERMIT PLATE #

ABBREVIATIONS	
ECL	EROSION CONTROL LINE
EL.	ELEVATION (FEET)
MHWL	MEAN HIGH WATER LINE
MLLW	MEAN LOWER LOW WATER
N	NORTH
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NAD83	NORTH AMERICAN DATUM OF 1983
NTS	NOT TO SCALE
RGE.	RANGE
STA.	STATION

PERMIT # 308009001

US Army Corps of Engineers Jacksonville District

WQC PLATES
NOT FOR CONSTRUCTION

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

FILE NAME:
DATED: FEBRUARY 2012
SCALE: AS SHOWN

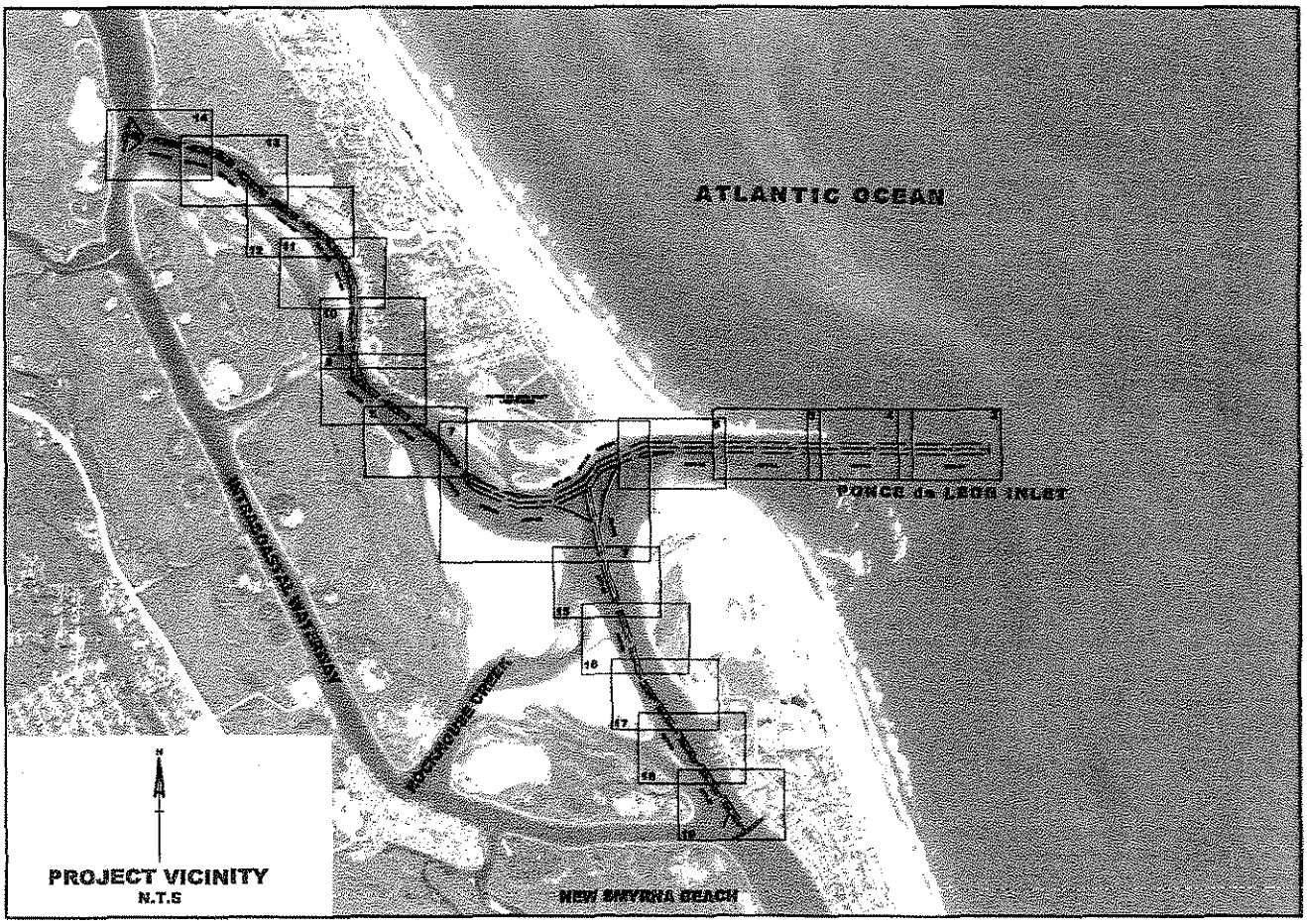
DWN BY: GMK
DSN BY: GMK/SR
CKD BY: SR

GENERAL NOTES:

VOLUSIA COUNTY, FL

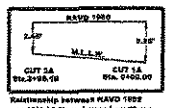
MAINTENANCE DREDGING
PONCE DE LEON INLET
PROJECT COVER SHEET, LEGEND, AND INDEX

PLATE: 01

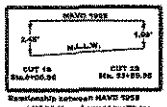


DEP CONTROL MONUMENTS (NAD 83) NORTH BEACH PLACEMENT LIMITS		
MONUMENT	X	Y
T-140	677083.46	1730906.62
T-141	677572.17	1730113.55
R-142	678337.11	1729367.65
R-143	678862.81	1728696.58
R-144	679380.63	1727847.52
R-145	679907.06	1727144.70
R-146	680512.70	1726371.37
T-147	681037.32	1725569.47
R-148	681570.51	1724927.46

DEP CONTROL MONUMENTS (NAD 83) SOUTH BEACH PLACEMENT LIMITS		
MONUMENT	X	Y
R-158	687001.63	1715414.08
R-159	687374.93	1714513.21
R-160	687826.04	1713632.23
R-161	688252.54	1712768.15
R-162	688737.25	1711945.21
R-163	689102.51	1711005.51
R-164	689605.27	1710168.76
R-165	690044.63	1709346.91
R-166	690494.33	1708374.78
R-167	690958.46	1707515.31
R-168	691344.19	1706783.51
R-169	691704.98	1705871.95
R-170	692201.48	1704983.18
R-171	692593.82	1704126.75
R-172	693175.80	1703327.40
R-173	693550.02	1702537.29
R-174	694020.97	1701679.25
R-175	694473.85	1700852.03
R-176	695003.64	1700038.26
R-177	695454.77	1699145.70



Relationship between NAVD 1988 and NOAA Mean Lower Low Water (1983 -2001 Epoch)



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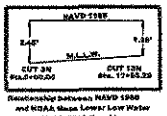


Relationship between NAVD 1988 and NOAA Mean Lower Low Water (1983 -2001 Epoch)

BENCHMARKS	NAVD ELEV. (FT)
872 1147 TIDAL 1	2.35
SMYRNAPORT	4.57
POI-26	5.41

LEGEND	
BM	BENCHMARK
	LIGHTED BEACON
	GREEN DAYBEACON
	RED DAYBEACON
2	RED LIGHTED BUOY
2	GREEN LIGHTED BUOY
	CAN BUOY
	NUN BUOY
	TIDE STAFF

MAP SHEET NOTES:

REFER TO SURVEY NUMBER: 10-170

ELEVATIONS ARE IN FEET AND TENTHS AND REFER TO NOAA'S REPORTED MLLW OF THE 1983-2001 TIDAL EPOCH.

TIDAL REDUCTIONS WERE OBTAINED UTILIZING REAL-TIME KINEMATIC GPS AND REFERENCED TO MLLW (Volusia-Brevard (we PortCanaveral)-07Jun n2010.ktd).

ALL ELEVATIONS ARE BELOW THE CHART DATUM UNLESS PRECEEDED BY A (+) SIGN.

PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE EAST ZONE OF FLORIDA AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83).

THIS SURVEY WAS PERFORMED USING REAL-TIME KINEMATIC GPS POSITIONING WITH THE FOLLOWING REFERENCE BASE LOCATION:

"REFERENCE BASE LOCATED AT "872 1147 A"

NORTHING: 1719382.240'
EASTING 683178.104'
NAVD88 ELEVATION: 3.83'

"TIDE STAFF LOCATED FROM "872 1147 TIDAL 1"(4.90' MLLW)

VERTICAL MEASUREMENTS WERE MADE USING A ROSS SMART SOUNDER 635 FREQUENCY 28 KHZ AND 200 KHZ SINGLE BEAM TRANSDUCER.

SURVEY VESSEL STATION	DATE OF SURVEY	CUT	BASE
SB-32	16 NOV 2010	CUT 1SN 5N CUT 3S 1S	872 1147 A
SB-32	17 NOV 2010	CUT 3N 4N CUT1A 3A	872 1147 A
SB-32	18 NOV 2010	CUT LONGITUDINALS	872 1147 A

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THAT TIME. THIS CHART IS SOLELY FOR THE DISTRIBUTION OF AVAILABLE DEPTHS AT THE TIME OF SURVEY.

SURVEY ACCURACY STANDARDS, QUALITY CONTROL, AND QUALITY ASSURANCE REQUIREMENTS WERE FOLLOWED DURING THIS SURVEY IN ACCORDANCE WITH USACE EM 1110-2-1003, HYDROGRAPHIC SURVEYING, 1 JAN 02.

PERMIT # 308009001

US Army Corps of Engineers Jacksonville District

WQC PLATES
NOT FOR CONSTRUCTION

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

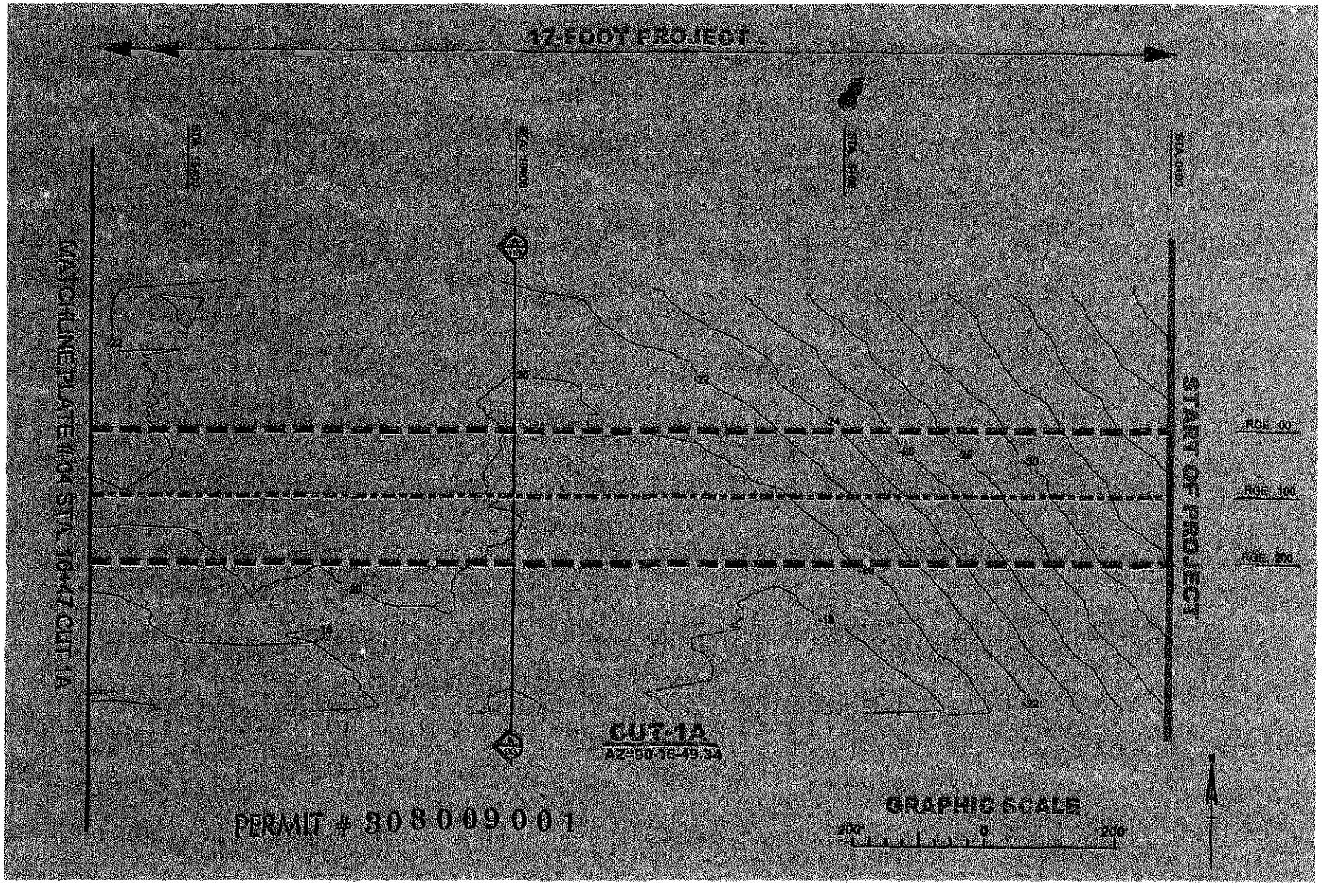
FILE NAME:	DWN BY: GMK
DATED: FEBRUARY 2012	DSN BY: GMK/SR
SCALED: AS SHOWN	CKD BY: SR

VOLUSIA COUNTY, FLORIDA

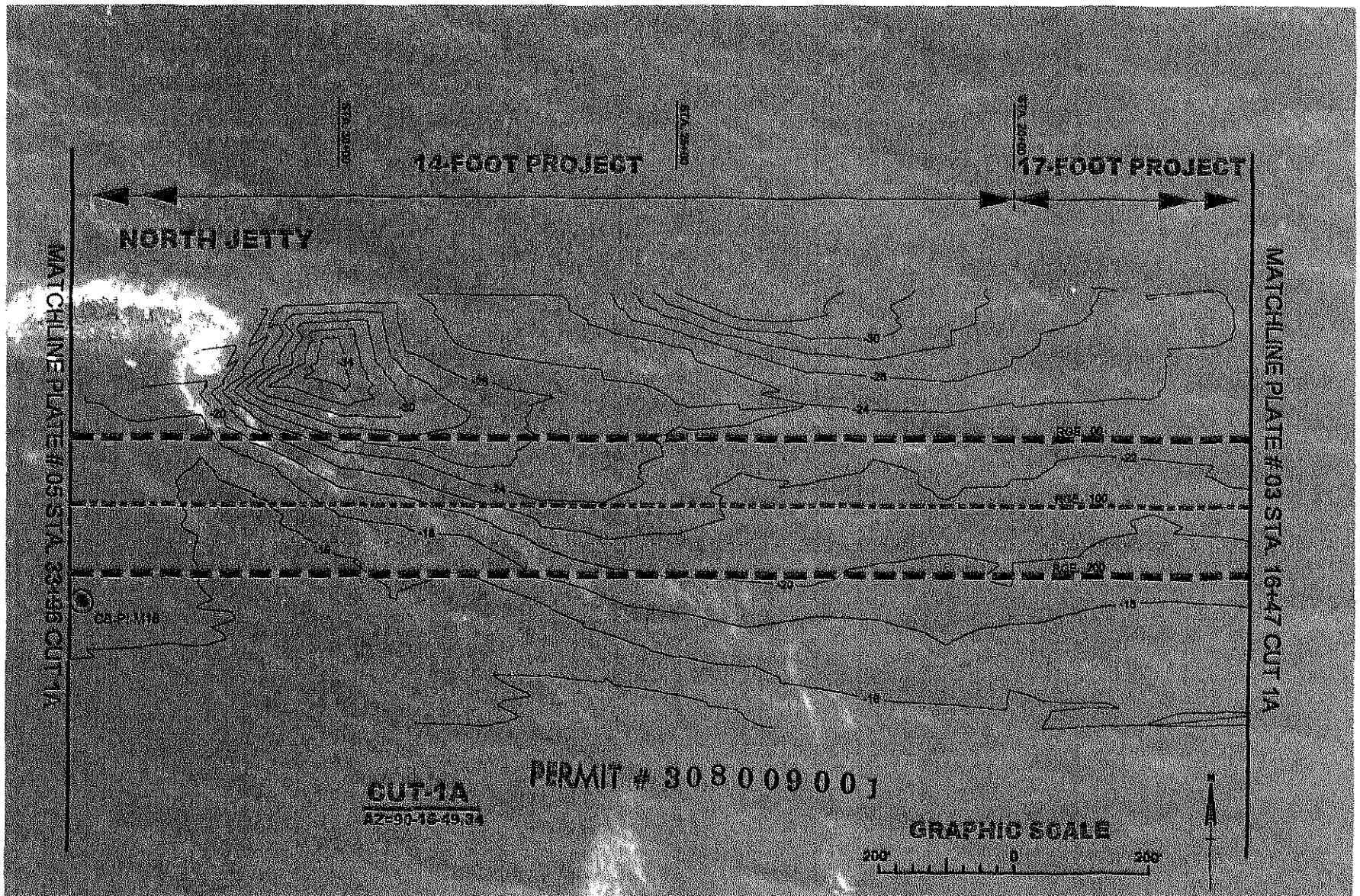
MAINTENANCE DREDGING
PONCE DE LEON INLET

PAGE LAYOUT AND SURVEY NOTES

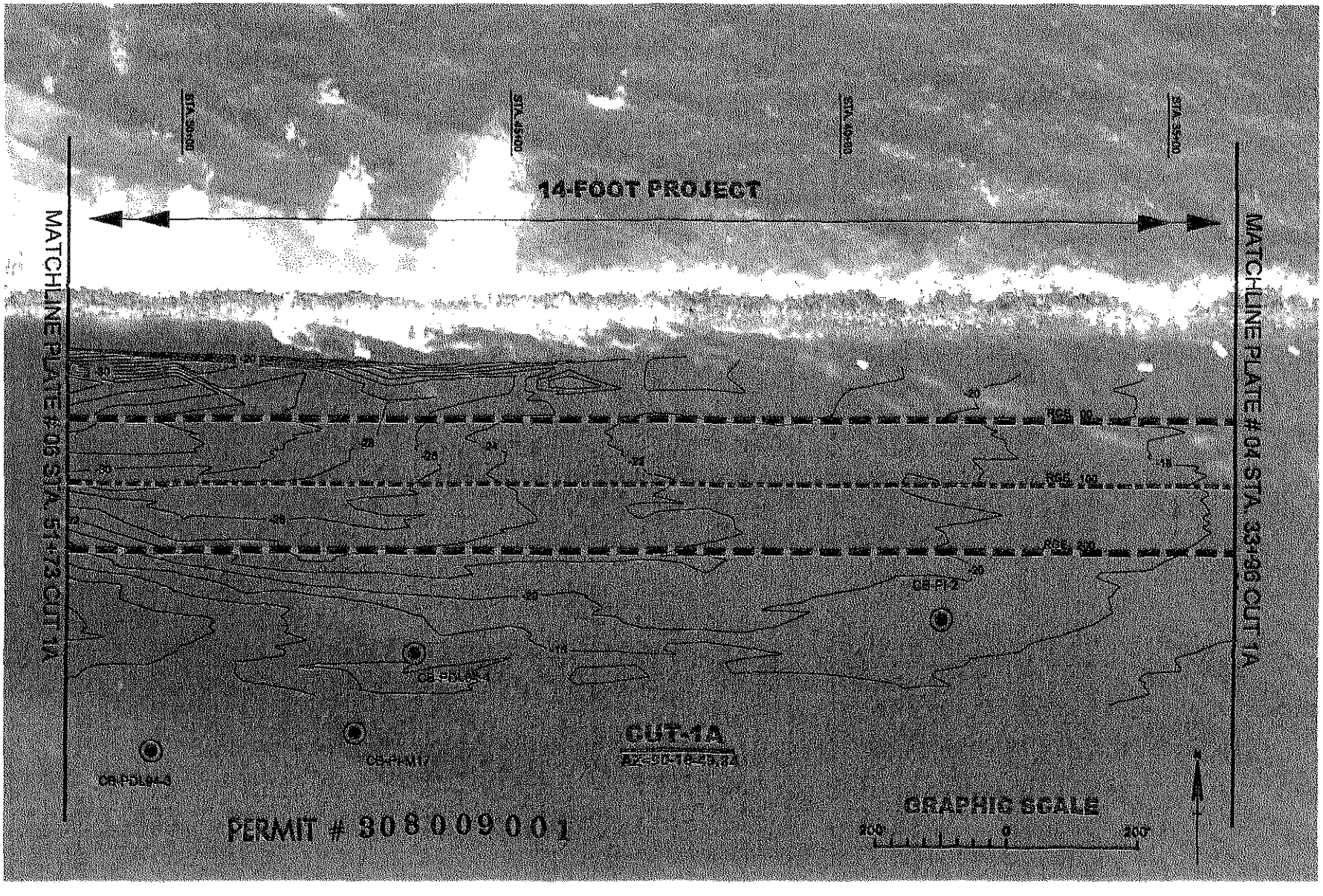
PLATE: 02



US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	FILE NAME:	DWN BY: GMK DSN BY: GMK/SR CKD BY: SR	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL **MAINTENANCE DREDGING PONCE DE LEON INLET**	PLATE: 03
		DATED: FEBRUARY 2012				
		SCALE: AS SHOWN				



US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	FILE NAME:	DWN BY: GMK DSN BY: GMK/SR CKD BY: SR	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL **MAINTENANCE DREDGING PONCE DE LEON INLET**	PLATE: 04
		DATED: FEBRUARY 2012				
		SCALE: AS SHOWN				



US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION	FILE NAME:	DWN BY: GMK	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL	PLATE:
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	05
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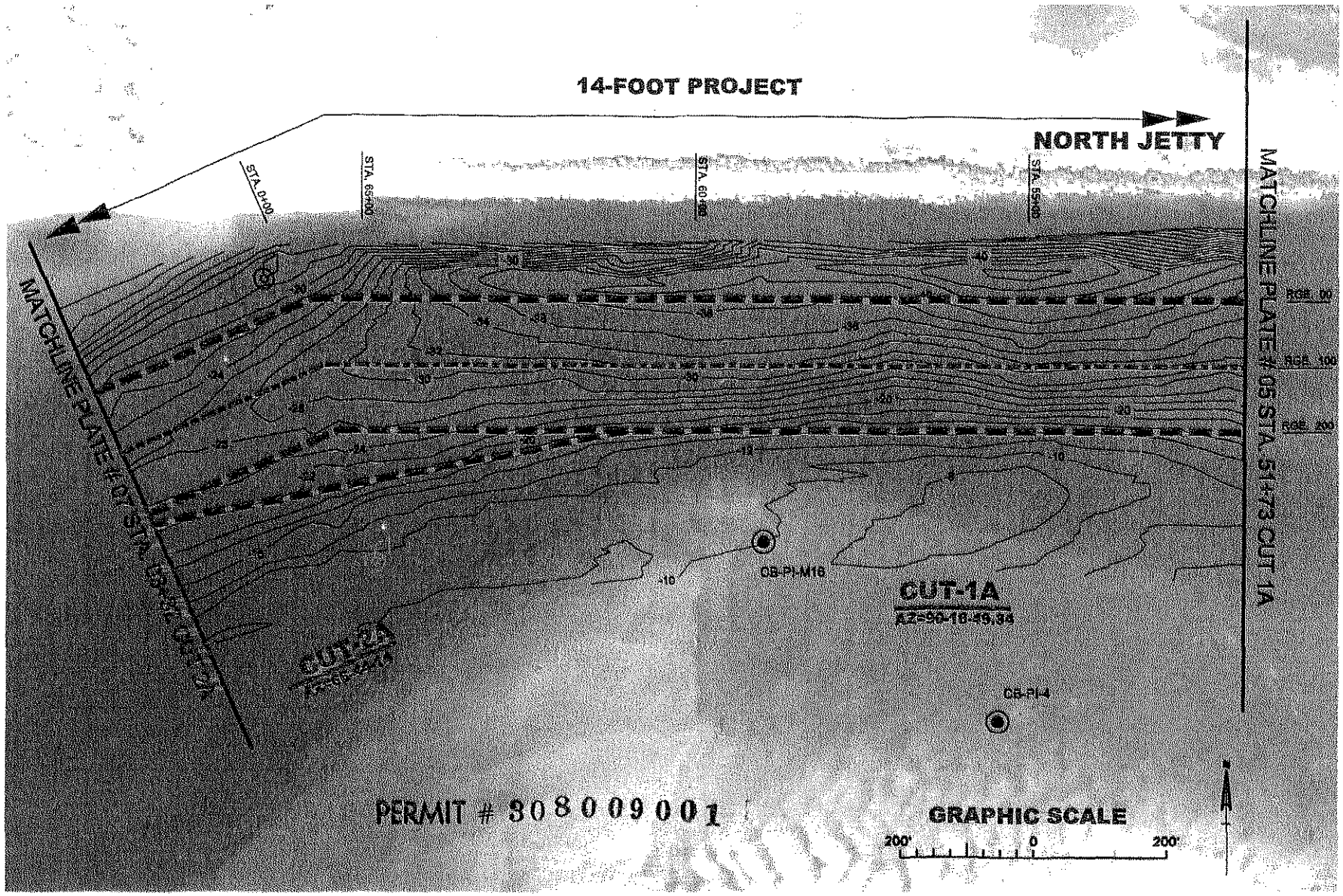

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	06
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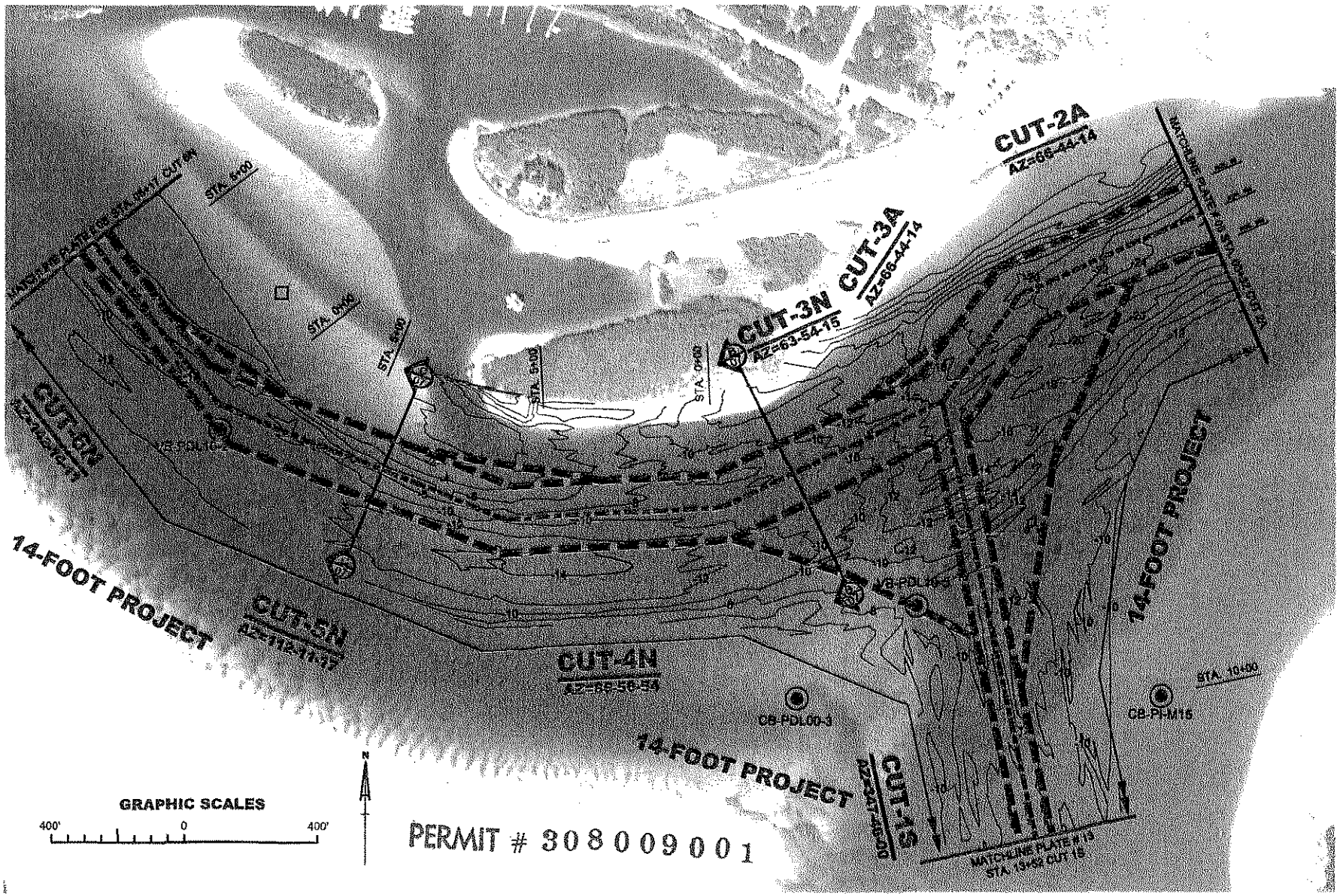

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	07
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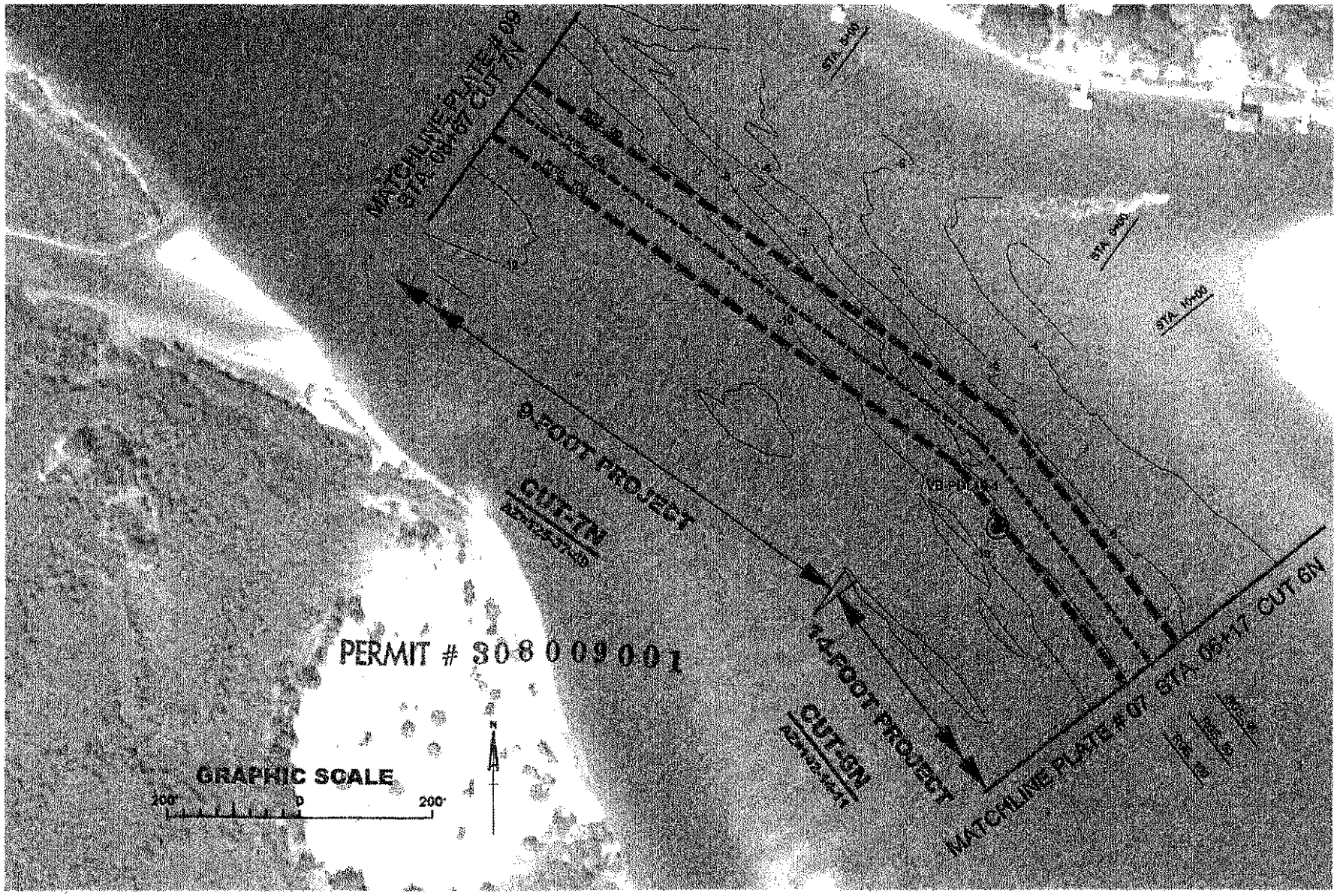

US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	FILE NAME:	DWN BY: GMK DSGN BY: GMK/SR CKD BY: SR	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL **MAINTENANCE DREDGING** **PONCE DE LEON INLET**	PLATE: **08**
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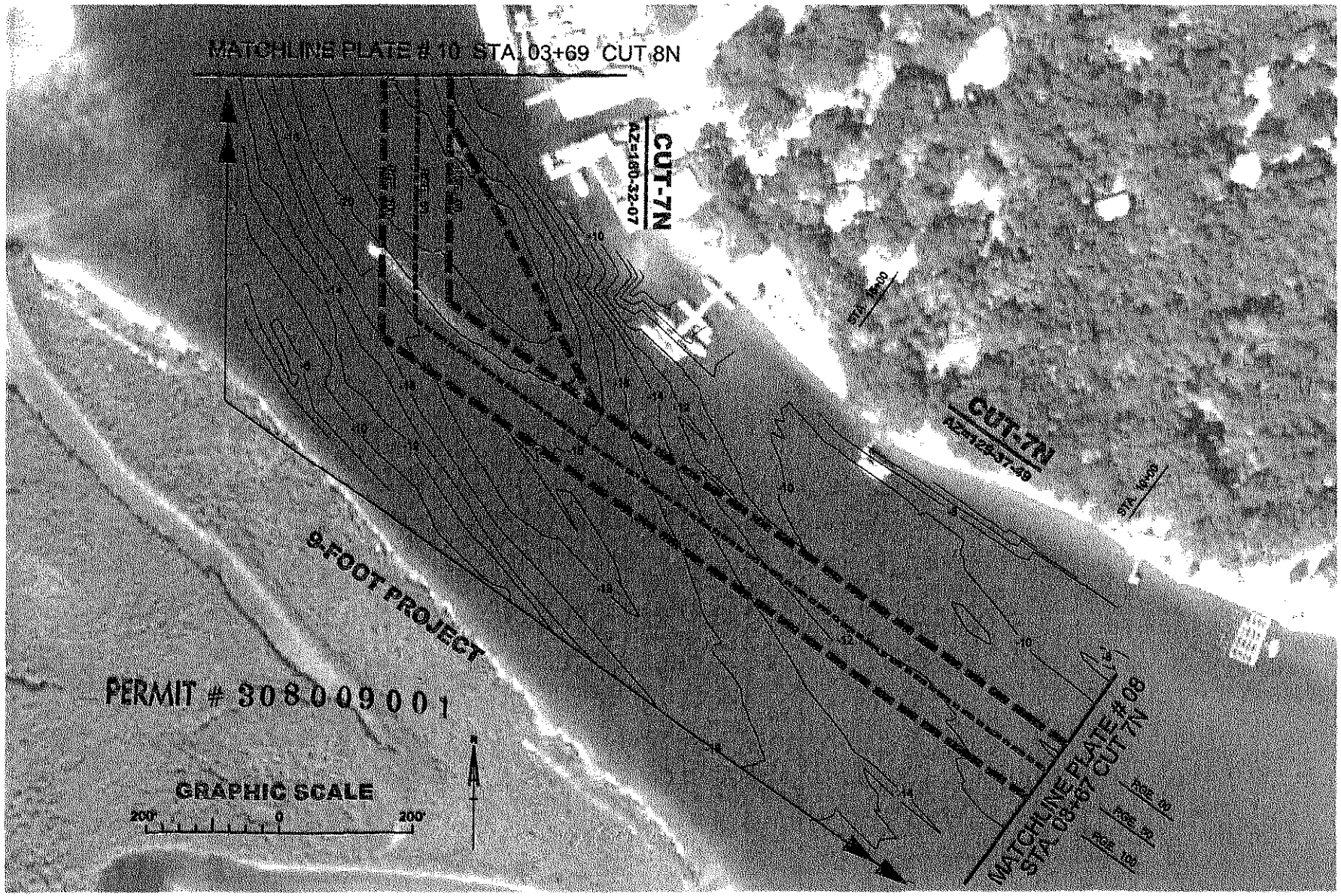

US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION	FILE NAME:	DWN BY: GMK	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL	PLATE:
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	09
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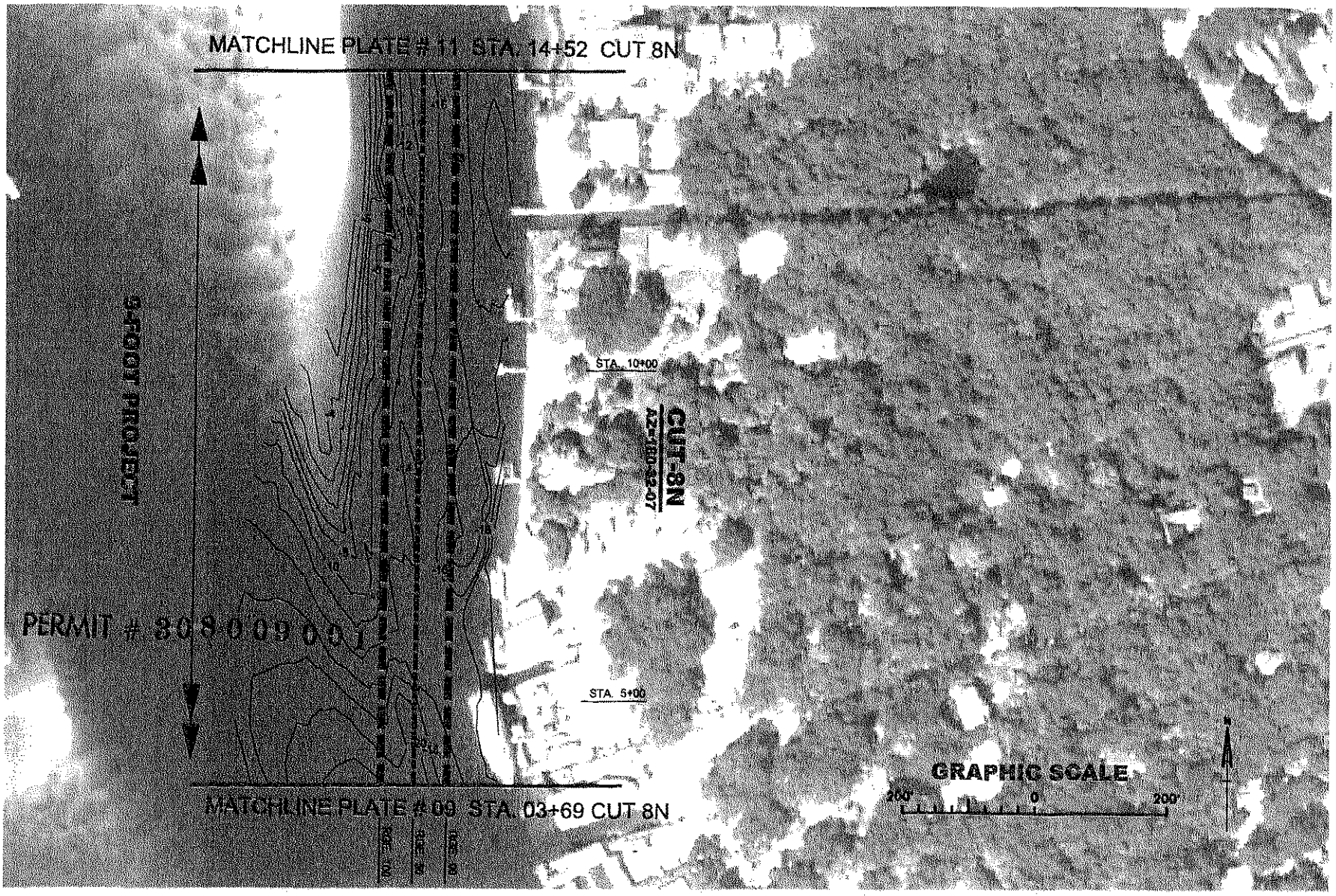

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	10
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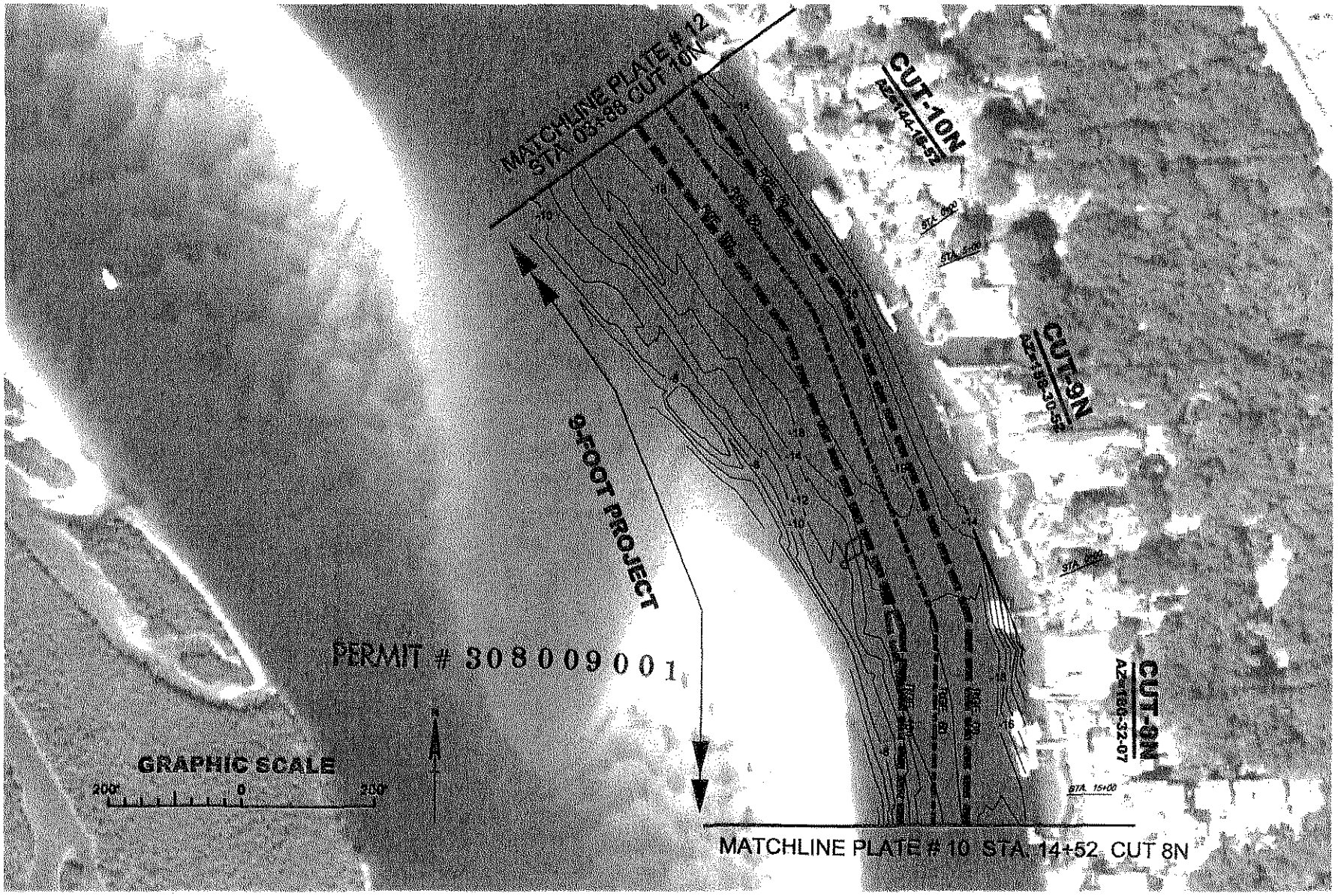

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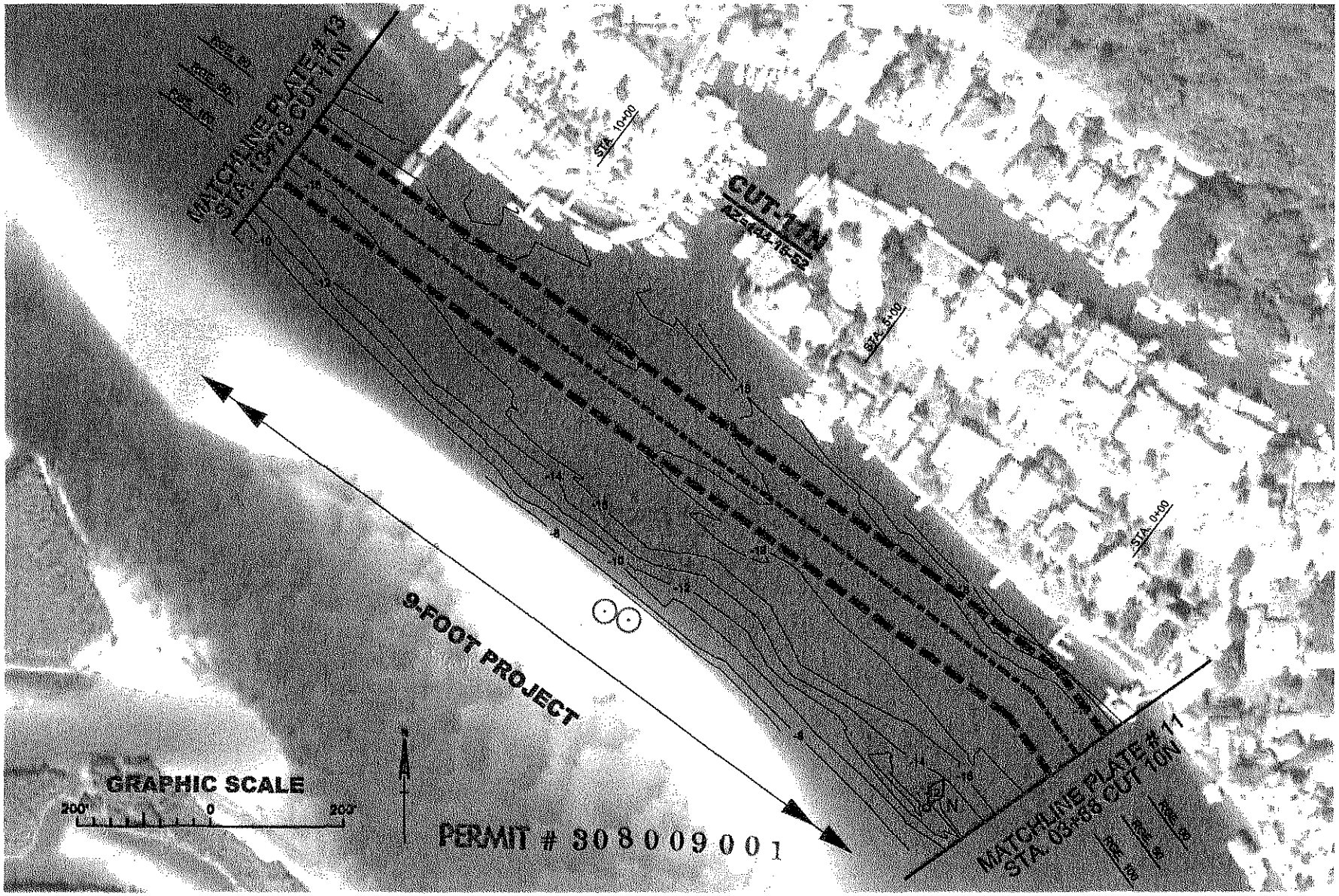

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	12
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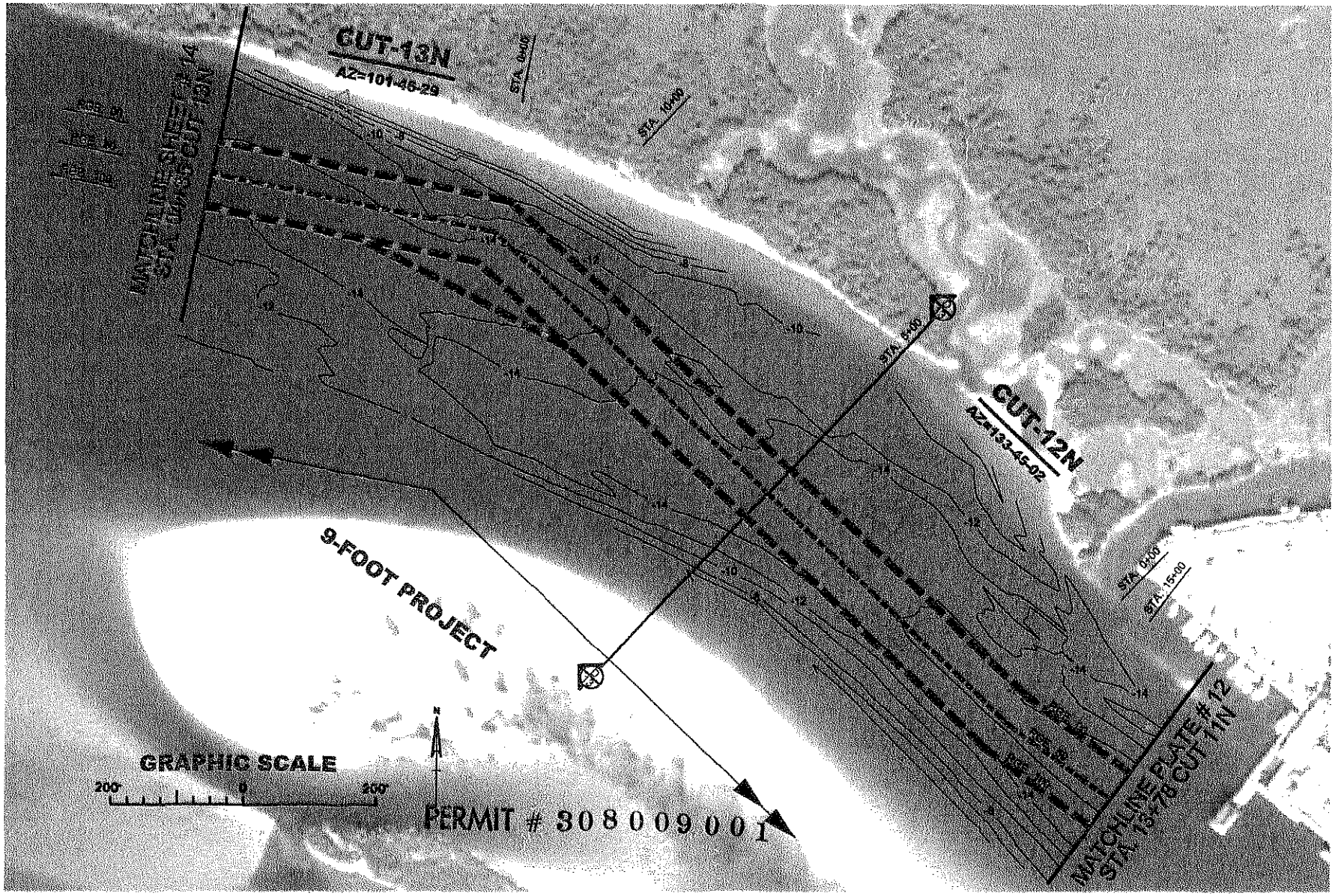

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	13
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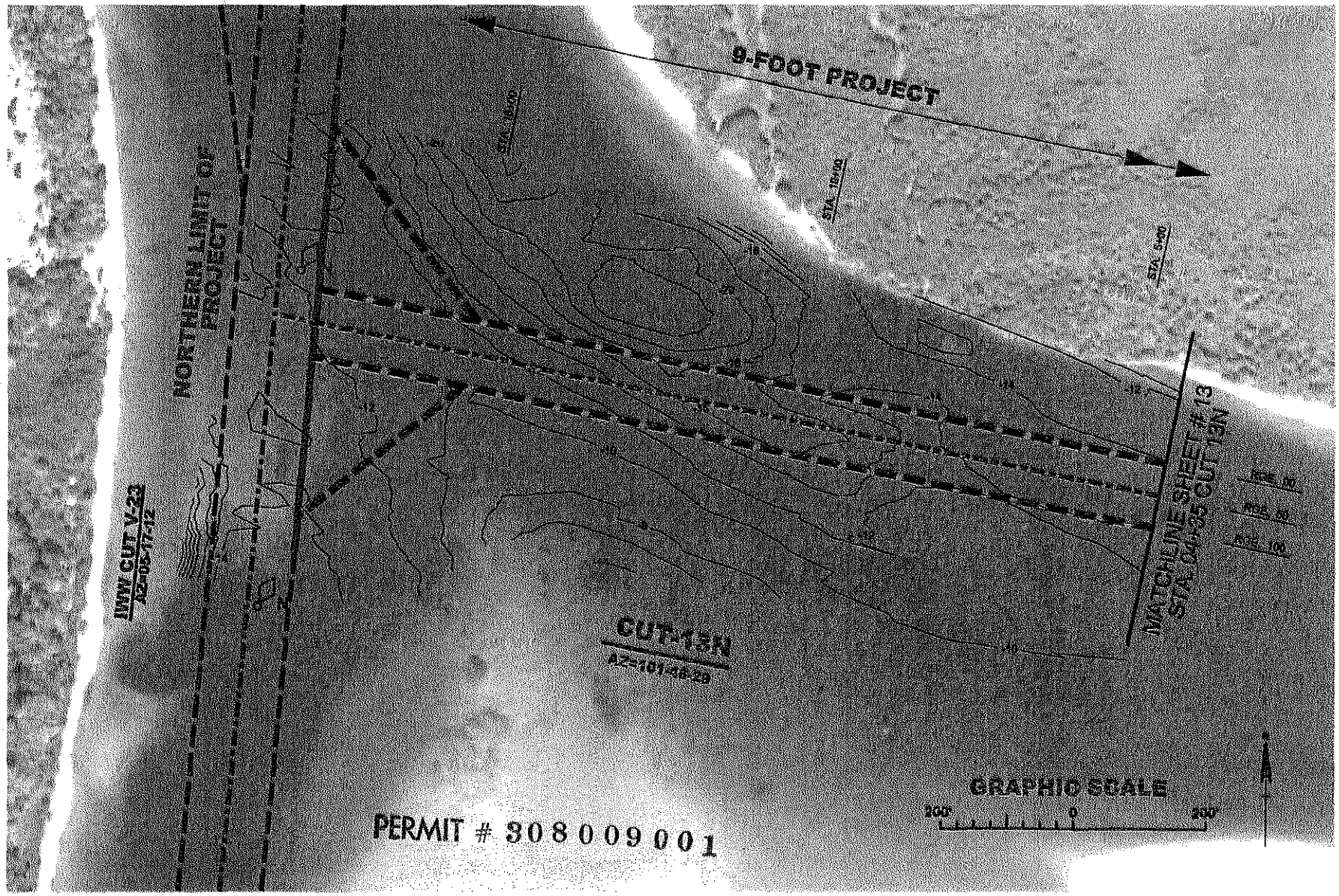

US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	FILE NAME:	DWN BY: GMK DSN BY: GMK/SR CKD BY: SR	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL **MAINTENANCE DREDGING PONCE DE LEON INLET**	PLATE: 14
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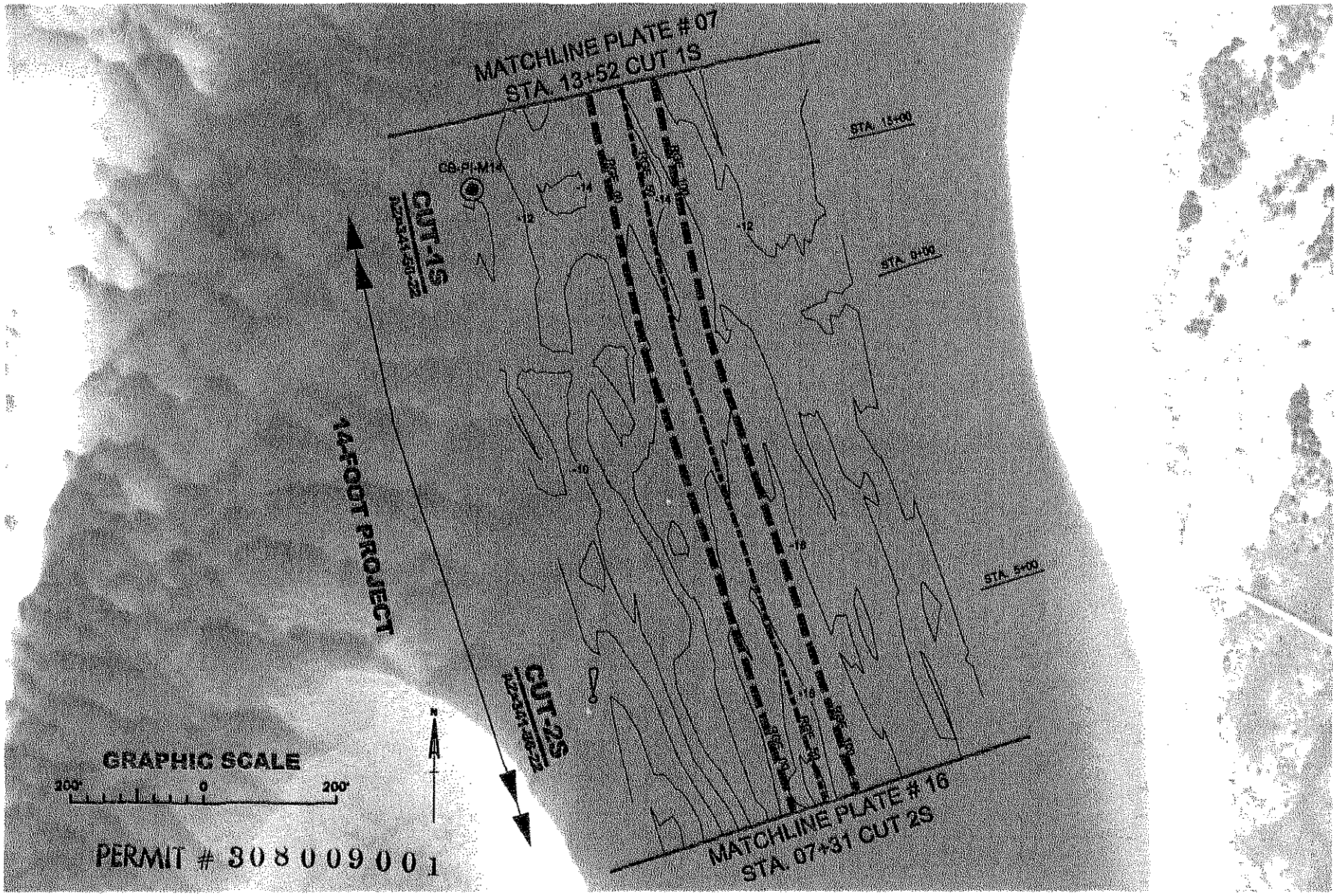

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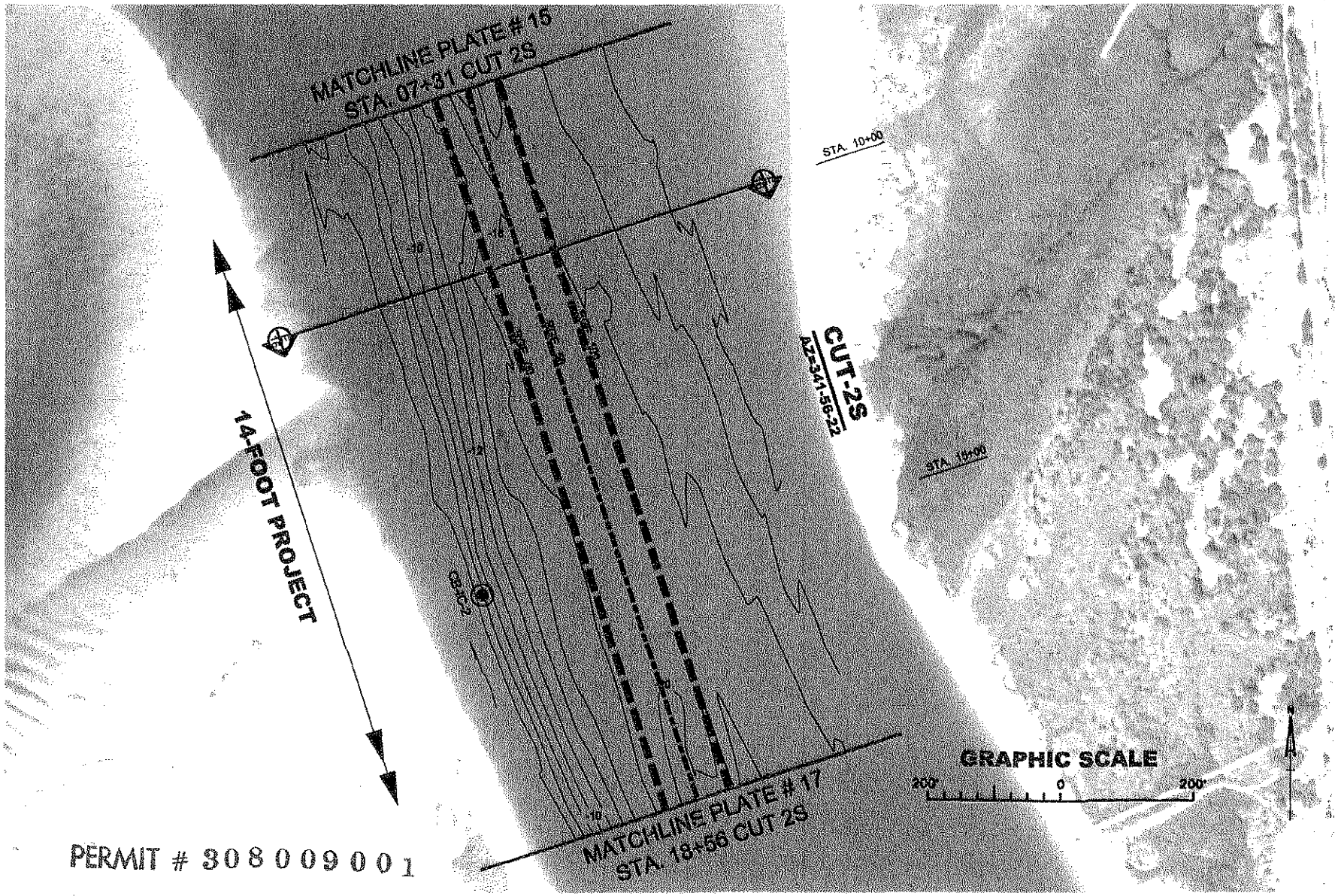

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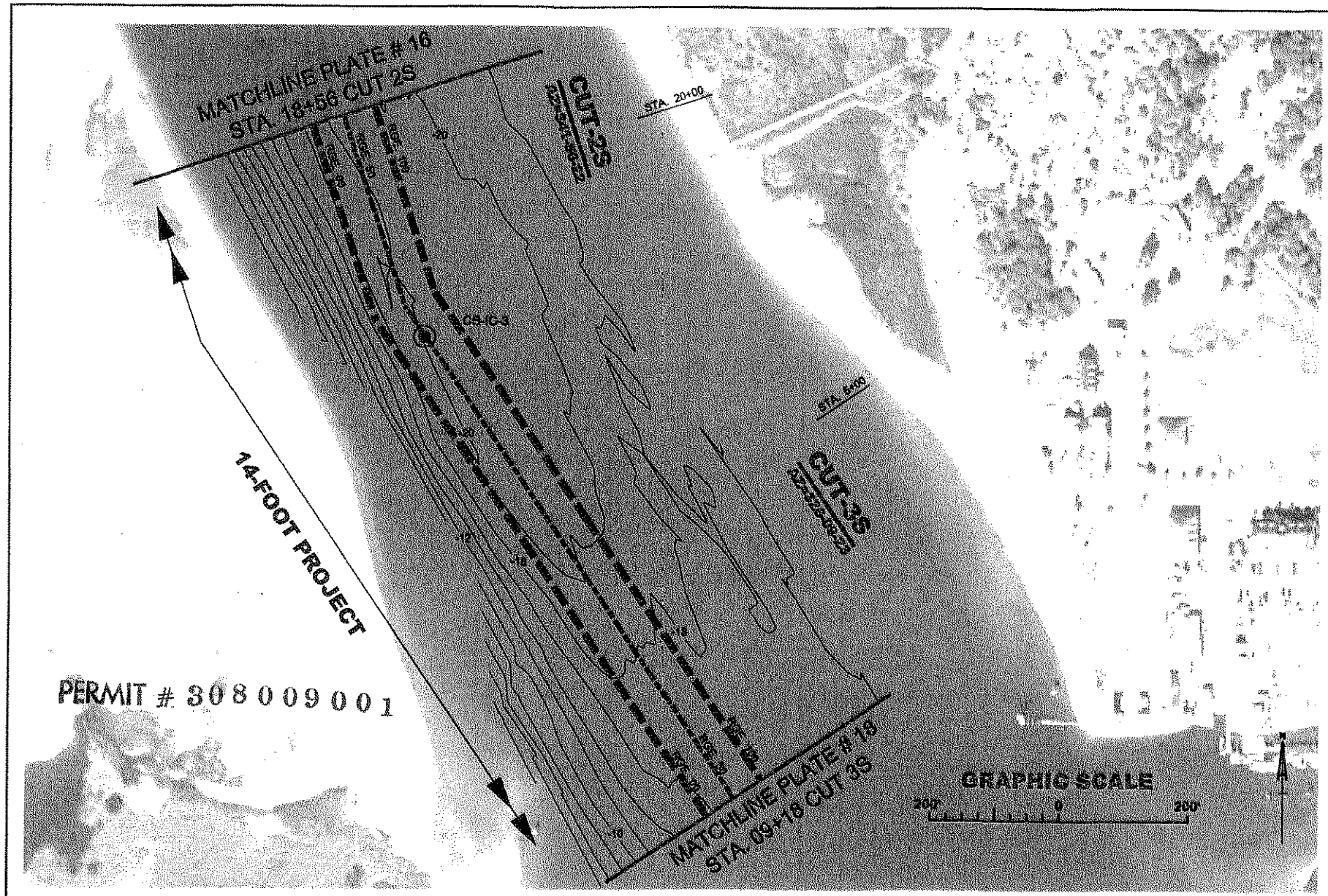

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	17
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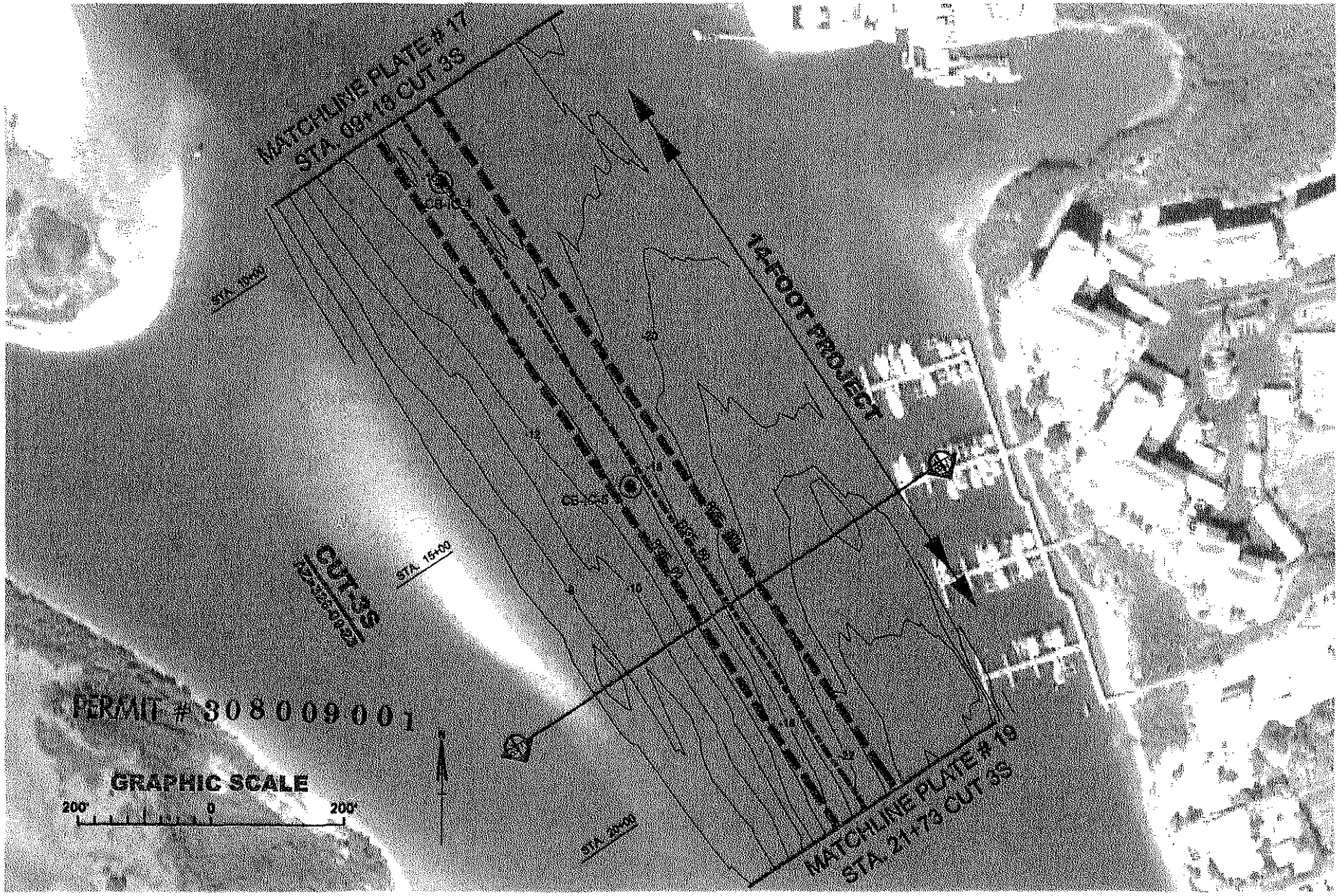

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	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	**18**
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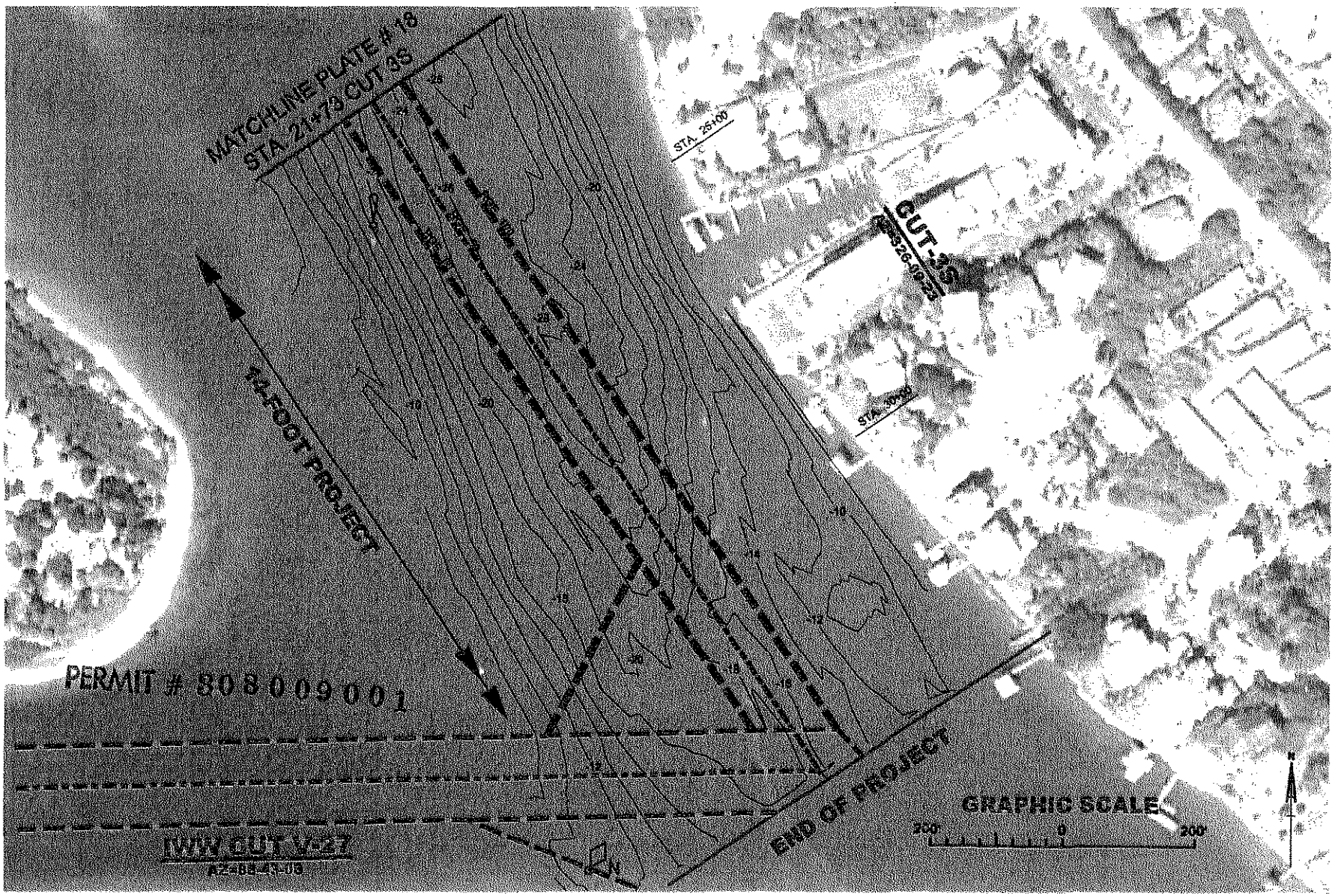

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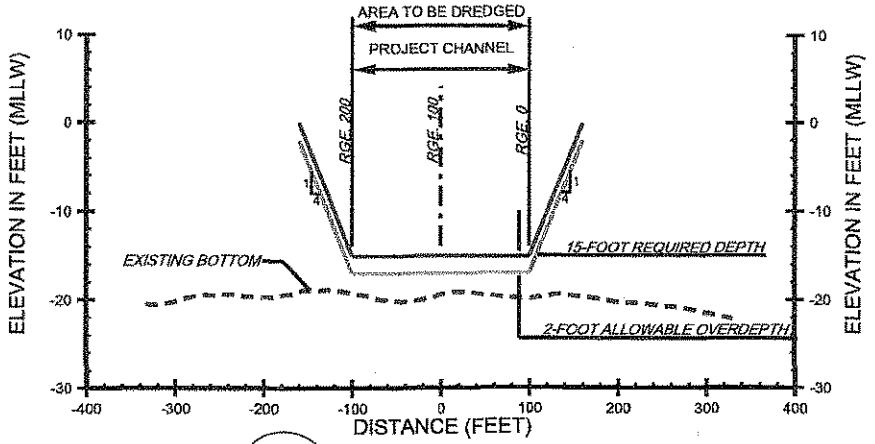
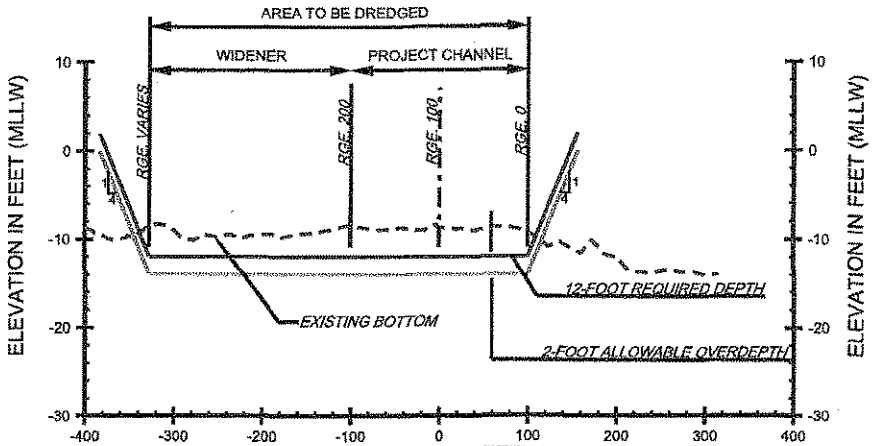


A 03 **CUT-1A 10+00**



B 07 **CUT-3N 5+00**

PERMIT # 308009001

GRAPHIC SCALE

HORIZONTAL 50' 0 50' 100'

VERTICAL 5' 0 5' 10'

US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	FILE NAME:	DWN BY: GMK DSN BY: GMK/SR CKD BY: SR	GENERAL NOTES:	VOLUSIA COUNTY, FL **MAINTENANCE DREDGING PONCE DE LEON INLET**	PLATE: **20**
		DATED: FEBRUARY 2012				
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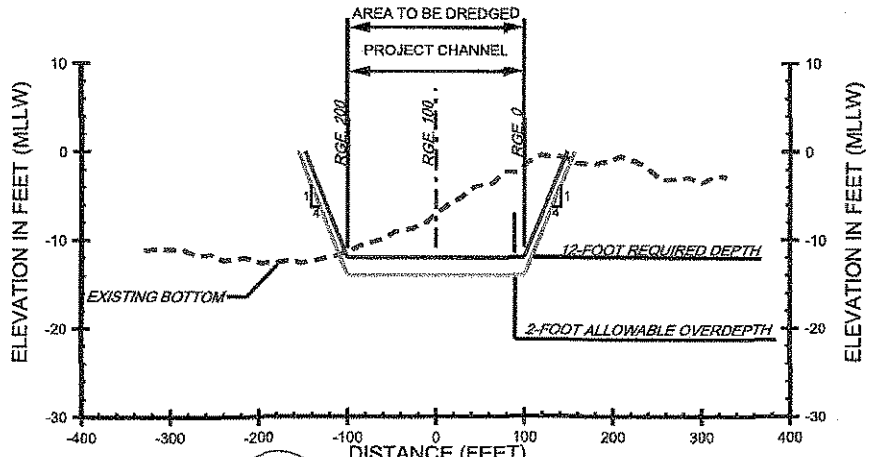

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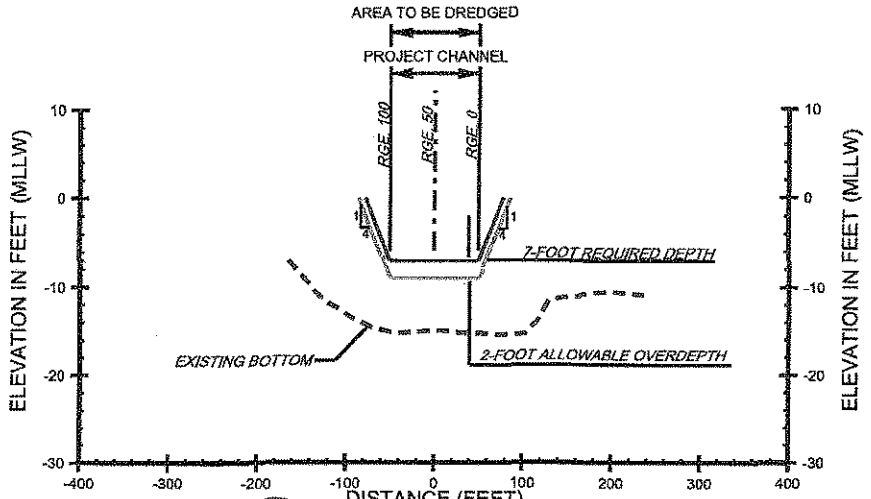

D / 13 **CUT-12N 5+00**

PERMIT # 308009001

GRAPHIC SCALE

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VERTICAL 5' 0 5' 10'

US Army Corps of Engineers Jacksonville District

WQC PLATES NOT FOR CONSTRUCTION	FILE NAME:	DWN BY: GMK	GENERAL NOTES:	VOLUSIA COUNTY, FL	PLATE:
DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	21
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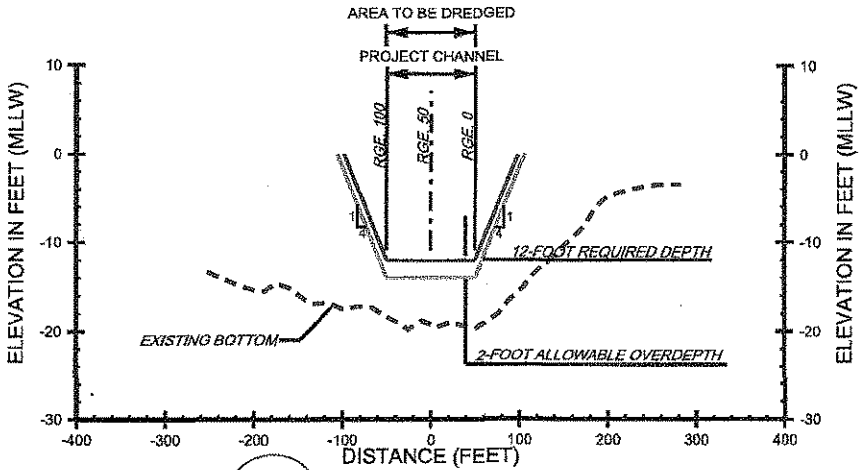
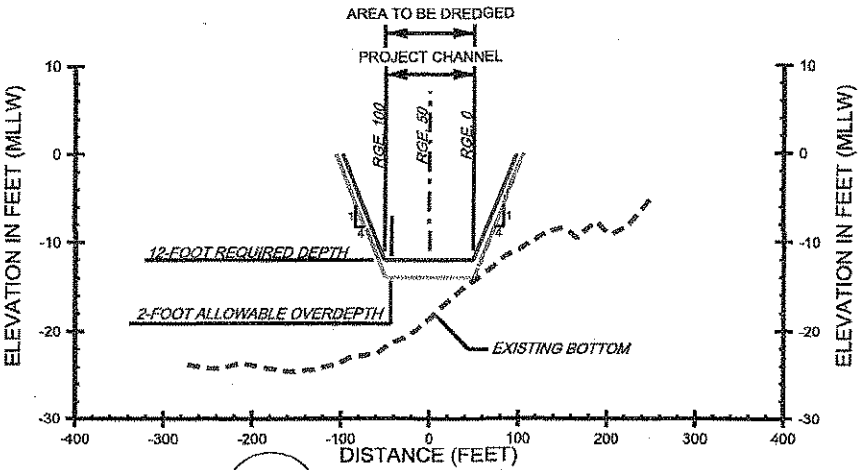


E / 16 **CUT-2S 10+00**



F / 18 **CUT-3S 18+00**

PERMIT # 308009001

GRAPHIC SCALE

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VERTICAL 5' 0 5' 10'

US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION	FILE NAME:	DWN BY: GMK	GENERAL NOTES:	VOLUSIA COUNTY, FL	PLATE:
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET**	22
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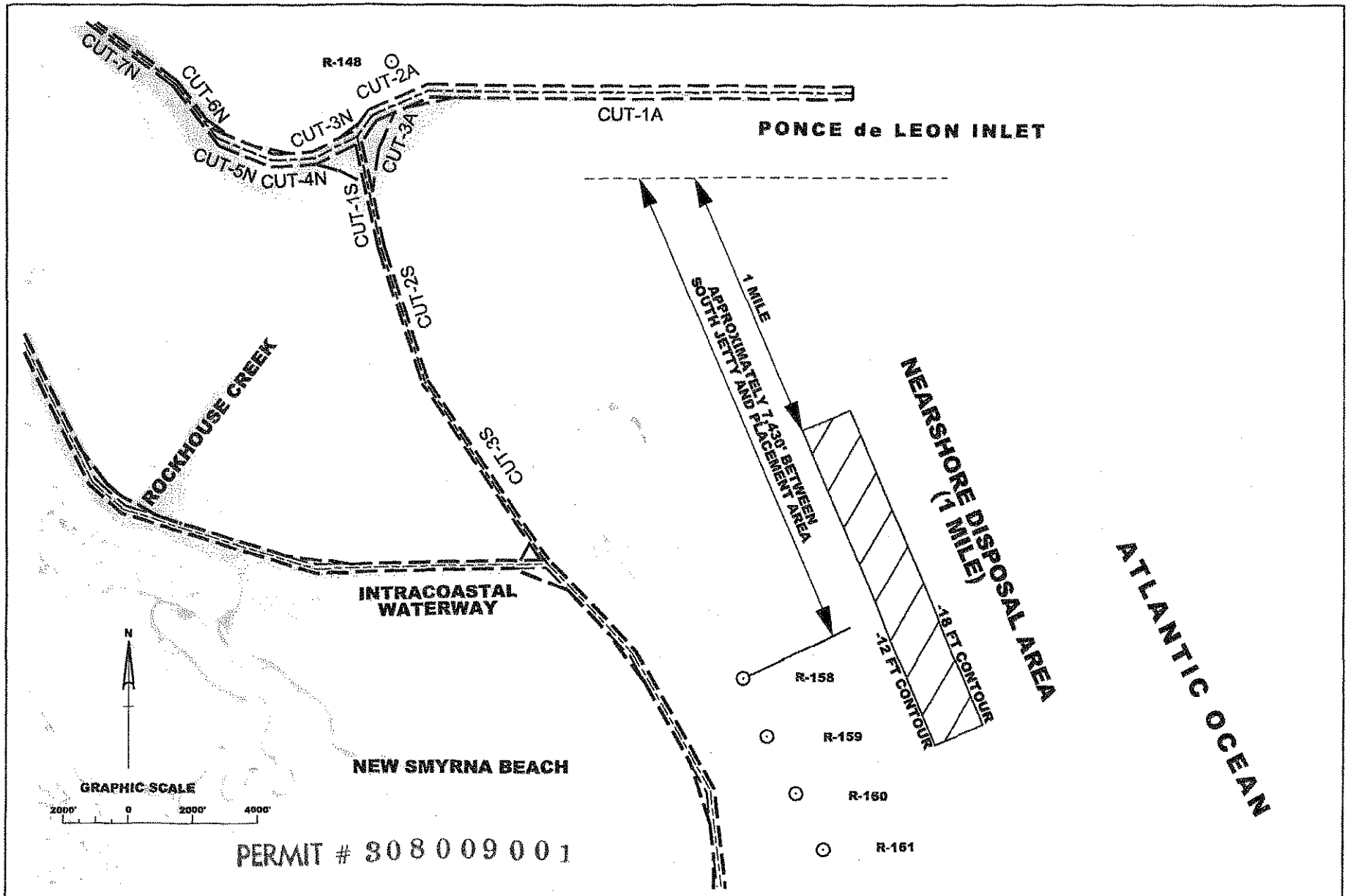

US Army Corps of Engineers Jacksonville District	**WQC PLATES** NOT FOR CONSTRUCTION	FILE NAME:	DWN BY: GMK	GENERAL NOTES: - CONTOURS SHOWN ARE AT 2 FOOT INTERVALS - RED CONTOURS ARE ABOVE PROJECT DEPTH - BLUE CONTOURS ARE BELOW PROJECT DEPTH	VOLUSIA COUNTY, FL	PLATE:
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	DATED: FEBRUARY 2012	DSN BY: GMK/SR		**MAINTENANCE DREDGING PONCE DE LEON INLET** NEARSHORE PLACEMENT AREA	23
		SCALE: AS SHOWN	CKD BY: SR			

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APPENDIX D –

PERTINENT CORRESPONDENCE

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U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Sector Jacksonville, Florida

4200 Ocean Street
Atlantic Beach, FL 32233
Phone: (904) 564-7500
Fax: (904) 564-7519

16114
March 24, 2008

Colonel Paul L. Grosskruger, P.E.
District Commander
U. S. Army Corps of Engineers
701 San Marco Blvd
Jacksonville, FL 32207-8175

Dear Colonel Grosskruger,

This letter is to formalize my concerns we discussed recently regarding severe shoaling that we are experiencing in Ponce Inlet, FL, and to request dredging of this area at your earliest availability.

This area has become a major hazard to navigation due to advanced shoaling between Buoy #8A and #7B as indicated in the attached photo. The condition has already had an economic impact in the New Smyrna Beach area as several commercial vessel operators (i.e. Sun Cruz, Pastime Princess) have been forced to relocate their vessels to other ports due to the water depths. The local charter fishing industry may soon have to look for other locations as well. The shoaling is also hindering the ability of my Station to respond to offshore Search and Rescue (SAR) cases with their 47' Motor Life Boat (MLB). I am concerned the MLB may accidentally run aground in this area, sustaining damage to the vessel or worse yet, restricting our ability to respond to maritime emergencies.

As you know, Ponce Inlet channel has experienced major shifting with the appearance of the shoaling. At one point, vessel traffic was able to navigate safely with plenty of water directly from Buoy #7 to Buoy #9 as indicated in the second attached photo. Over the past two years, the channel between these aids has shifted approximately 225 yards to the west, getting closer to the shoal on the west side of the channel known locally as "Disappearing Island." My Aids to Navigation Team (ANT) in Ponce Inlet has since added four additional temporary aids to mark a safe passage through this area (7A, 7B, 7C and 8A). The charted depth for mean low water is 10 feet, which is what is ideal to support navigation. We are experiencing a depth of approximately 6 feet, which is 2 feet below the shaft strut extensions on the MLB, allowing for safe passage. At other times, however, this channel has moved 30 yards to the east in just one week or even overnight, as weather and currents impact the area.

My Officer in Charge at Station in Ponce has conveyed his concern to your office and the Ponce Inlet Port Authority. We have scheduled routine flights of the area with Coast Guard Auxiliary aircraft to take photos of the changes and to help mark best water. Your recent survey of the area was very helpful but we are to the point where we need dredging. The Ponce inlet Port Authority has been working to extend the south jetty and get the area dredged but currently does not have the funds to do so.

Sincerely,

PAUL F. THOMAS
Captain, U.S. Coast Guard
Commander, Sector Jacksonville

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APPENDIX E –

AGENCY CONSULTATION

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

REPLY TO
ATTENTION OF

Planning and Policy Division
Environmental Branch

SEP 0 6 2012

Mr. Dave Hankla, Field Supervisor
U. S. Fish & Wildlife Service
North Florida Ecological Services Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517

Dear Mr. Hankla:

We are pursuing a beach placement project under the Statewide Programmatic Biological Opinion (SPBO). The Corps proposes to maintenance dredge the Ponce de Leon Inlet Entrance Channel and Interior Channels leading to the Intracoastal Waterway (IWW), in accordance with the attached plan sheets. The project is located in the vicinity of Ponce de Leon Inlet, from the Atlantic Ocean to the Indian River and Halifax River, Volusia County, Sections 32 and 37, Township 16 South, Range 34 East, Class III Waters.

Approximately 200,000 cubic yards of shoal material are expected to be removed every 4 years to maintain the Federal channel at its authorized project depths. The entrance channel across the ocean bar will be maintained to a depth of -15 ft. mean lower low water (MLLW), the inlet throat to a depth of -12 ft. MLLW, the southward channel to the Intracoastal Waterway to a depth of -12 ft. MLLW, channel Cut-3N, Cut-4N, Cut-5N, and 6N to a depth of -12 ft. MLLW, and remaining north channel to the IWW to a depth of -7 ft MLLW. For each cut, an allowable over-depth of 2 feet is authorized. The dredged material consists of fine grained sand with percent fines ranging from less than 1% to less than 20% passing through the #200 sieve. See the enclosed project maps/drawings and "Project Information and Screening Checklist" for additional details.

Please note the following with respect to the proposed action: There are four (4) potential placement areas for dredged material from the maintenance dredging of Ponce de Leon Inlet.

a. The northern beach placement area for beach quality material is located north of the north jetty and extends approximately 7,500' between monuments R-140 and R-148. The south end of this area is within 1 mile of Ponce Inlet and Volusia County Lighthouse Point Park.

b. The south beach placement area for beach quality material is located between R-158 and R-177. This area is more than 1.5 miles south of the inlet, not within 1 mile of piping plover critical habitat unit FL-34, and not located on park property.

c. The north nearshore placement area is located north of the north jetty adjacent to the shoreline from R-140 to R-148 at a depth of -12.0 MLLW to -18.0 MLLW. The approximate dimensions of the north near shore disposal area are 800' wide x 1.5 miles long.

d. The south nearshore placement area begins 1 mile south of the south jetty between contours -12' and -18' MLLW and extends 1 mile further south (approximately 1 mile long x 800' wide).

Nearshore placement will occur during emergency situations, when an insufficient quantity of material exists to justify the cost of beach placement, when the dredged material contains more than 10% fines, or if the necessary real estate easements for beach placement cannot be acquired. In all other respects, the activity would comply with the scope and terms and conditions of the SPBO of April 2011 (updated August 2011) and the Statewide Programmatic Biological Assessment of February 2011.

Since it involves placement of sand or other activity on or near the beach, the proposed activity may affect nesting sea turtles. Since all in-water activities will follow the standard Manatee protection measures and not occur within an Important Manatee Area, the proposed activity may affect but is not likely to adversely affect manatees. In addition, the proposed activity will not alter the on-going management of the shoreline, migratory bird protection measures will be observed during construction, and the channel areas to be dredged within designated critical habitat unit FL-34 contain no shorelines meeting the PCE's; therefore the piping plover is not likely to be adversely affected. Finally, the proposed action will not adversely affect Southeastern beach mice (SBM) because south beach placement would occur seaward of, and therefore not impact, beach mice habitat. In addition, please note that SBM have not been documented to occupy suitable habitat along the north beach placement area. Therefore, north beach placement is anticipated to have no effect on this species.

If you determine that the proposed activity falls within the scope of the SPBO, please consider this letter as the initiation of the 30-day coordination required by the SPBO. If you determine that the proposed activity does not fall within the scope of the SPBO, please consider this letter (along with the documents referenced and the enclosures herein) a biological assessment initiating consultation.

If you have any questions, please contact me at 904 232-1665 or the technical point of contact. The technical point of contact for this action is Mr. Paul DeMarco who can be reached at 904-232-1897.

Sincerely,

Eric P. Summa
Chief, Environmental Branch

Enclosures

CF:

Mr. Joe Nolin

Planning Division
Environmental Branch

Mr George Getsinger
National Marine Fisheries Service
C/O GTM NERR
741 Ocean Shore Blvd
St. Augustine, FL 32080

Dear Mr. Getsinger:

Pursuant to the National Environmental Policy Act (NEPA), enclosed for your review and comment is a copy of the draft Environmental Assessment (EA) for the Maintenance dredging of Ponce de Leon Inlet with Beach and Nearshore Placement, Volusia County, Florida. The U.S. Army Corps of Engineers (Corps) is the lead consulter on this action.

Included throughout the EA is information which constitutes the Essential Fish Habitat (EFH) Assessment as required by the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Sections 2.4; 3.3.8; 4.8; 5.15; and 5.18 of the enclosed NEPA document constitute our Essential Fish Habitat Assessment in accordance with procedures between out agencies as stated in the May 3, 1999 Statement of Findings. Based on the analysis discussed in the EA, the Corps has determined that the nearshore material placement of dredged material would not adversely affect the essential habitat of species managed under this Act. Based on this information, we request that you concur with this finding.

We request your comments pursuant to NEPA and the MSFCMA by Jan 31, 2013. If you have any questions, please contact Ms. Kathleen McConnell at (904) 232-3607 or by email at kathleen.k.mcconnell@usace.army.mil.

Sincerely,

Eric P. Summa
Chief, Environmental Branch

Enclosure

APPENDIX F –

SHOREBIRD MONITORING REPORT

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Mr. John Milio
U.S. Fish and Wildlife Service
6620 Southpoint Dr., South, Suite 310
Jacksonville, Florida 32216

October 20, 2010

RE: Piping Plover and Shorebird Monitoring Within Unit FL-34 and Rockhouse Creek Shoals, 2009-2010.

Dear Mr. Milio:

Ecological Associates, Inc. (EAI) was contracted by Volusia County to oversee implementation of shorebird permit compliance monitoring in support of the U.S. Army Corps of Engineer's south jetty extension project at Ponce de Leon Inlet. The project is located within federally-designated critical wintering habitat (Unit FL-34) of the piping plover (*Charadrius melodus*), a threatened species. In its amended Biological Opinion for the project (December 5, 2003), the U.S. Fish and Wildlife Service (USFWS) required the Corps to undertake a 5-year program to "monitor the use of the project area by piping plovers, as well as the status of critical and adjacent habitat, prior to, concurrent with, and following jetty construction."

The intent of the Biological Opinion was to have one year of pre-construction monitoring and four years of post-construction monitoring. However, due to unforeseen delays, the project has yet to be constructed. Nevertheless, Volusia County voluntarily agreed to conduct additional years of pre-construction monitoring, to ensure a representative characterization of baseline conditions. This report, prepared by EAI, represents the sixth and final year of pre-construction monitoring. It is not a requirement of the Terms and Conditions of the Biological Opinion (Condition 6.I.), but rather is submitted for informational purposes only.

Methods

During the final year of pre-construction monitoring, surveys of Unit FL-34 commenced in August 2009 and were conducted twice each month for two months. Thereafter, the surveys were conducted only once a month through May 2010, with one exception; no surveys were performed in October 2009. The Unit FL-34 shoreline was segmented into discrete survey locations, as described below, to permit assessment of the extent to which the plovers utilized different areas within designated critical habitat and to assess impacts potentially resulting from the project:

1. Atlantic Beaches – Ocean-facing beaches from the south jetty at Ponce Inlet south approximately 0.7-miles to the southern boundary of Unit FL-34.

2. Construction Staging and Storage Area (CSSA) – An approximately 13-acre area on the inlet spit west of the jetty and north of the toe of the existing dunes.
3. Inlet Beaches – The remaining south shore of Ponce Inlet from the Construction Staging and Storage Area west to the intersection of the inlet and Halifax River.
4. Halifax River Shoreline – The eastern shoreline of the Halifax River south from the intersection of the inlet and Halifax River to the north boundary of the U.S. Coast Guard Station in New Smyrna Beach.

In addition to monitoring within Unit FL-34, surveys were also performed on Rockhouse Creek (RC) Shoals. RC Shoals consists of two large flood shoals just interior of Ponce Inlet on the west side of the Halifax River. These surveys were undertaken to assess the significance of this non-designated habitat to piping plovers. During previous years, the surveys on RC Shoals were conducted twice a month during November and March. However, to provide a more temporally expanded characterization of bird utilization of RC Shoals, monitoring during the 2009/10 survey period was performed once a month from November through May. The overall survey area, including Unit FL-34 and RC Shoals, is shown in Figure 1.

All monitoring was performed by biologists with previous birding experience. Prior to November 2009, surveys were undertaken within a 2-hour window on either side of the predicted low tide, a period when plovers would most likely be foraging and would be most conspicuous. However, from November 2009 onward, surveys were performed at high tide when birds tend to be more concentrated in roosting flocks. It was felt that this change in procedure would maximize sightings, particularly on the more expansive RC Shoals.

Throughout the survey area, all habitat from the intertidal zone to the toe of the dune or line of permanent vegetation was visually inspected. Surveys were only performed when visibility was good and winds were light (typically less than 10 mph). There were no surveys conducted during 2009/10 when winds within the survey area exceeded 15 mph. As many as eight observers participated in some surveys. This allowed the observers to fan out over the entire shoreline to maximize the likelihood of sighting birds both high and low on the beach. Photographs depicting beach conditions within each survey segment during the 2009/10 monitoring period are provided in Appendix 1.

During each monitoring event, standard field data forms were completed to document survey participants, the time of the survey, tide and weather conditions, number and location of plovers, activity of the plovers at the time of observation, presence of bands, and extent of human use of the beach. During each survey, the number of all other shorebirds observed was also recorded.

Results

Piping Plovers – Unit FL-34

A summary of general survey information for Unit FL-34 and RC Shoals is provided in Table 1 and specific information on each piping plover sighting is given in Tables 2 (Unit FL-34) and 3 (RC Shoals). During the surveys, a total of 18 plover sightings were documented in Unit FL-34 (Table 4). Half of those were sighted along the Atlantic coast beaches (50.0%), with the remaining birds being distributed, as follows, among the other survey segments: CSSA (38.9%), south shore of the inlet (5.6%), and the Halifax River shoreline (5.6%).

Piping plovers were observed on 5 of the 11 surveys conducted in Unit FL-34 during the 2009/10 monitoring period. The first plover was observed during the August 28, 2009 survey, and the last were sighted during the December 17, 2009 survey. Surprisingly there were no piping plover sightings during the remainder of the survey period (January through May 2010). Typically, they were present as solitary individuals, but occasionally occurred in groups of six individuals (Table 2). The majority of plovers observed in Unit FL-34 were resting in the mid to lower beach. Three were banded.

The total number of piping plovers sighted in Unit FL-34 during the 2009/10 surveys (18) was the lowest since surveys began in 2004/05 (Table 5). However, this is due in large part to a decrease in the number of surveys performed during 2009/10 (only 11 surveys versus 20 in previous years). The most plovers sighted during any survey period was 62 in 2005/06.

For all survey years combined, birds were typically present in relatively high numbers in Unit FL-34 from September through March, with the highest average number of sightings per survey (4.4) occurring in September (Figure 2; Table 6). Relatively few plovers were present in August, April, and May. The earliest sighting during the dedicated surveys occurred on August 7 (2006) and the latest on May 14 (2007). The maximum number of sightings recorded during a single survey over the entire period of monitoring was 22 on February 18, 2009. Although this may include some migrants intermingling with local overwintering birds in advance of their return to northern breeding grounds, it approximates the upper range of the overwintering population. Throughout the period of monitoring, plovers were most often sighted as solitary individuals (64% of all sightings) or in groups of 2-4 individuals (31% of all sightings). The largest group of plovers sighted in Unit FL-34 during any survey consisted of 13 individual birds (February 18, 2009), which approximates the lower range of the overwintering population. Thus, it appears that the population of piping plovers overwintering in the vicinity of Ponce Inlet is within a range of about 13-22 individuals.

Piping Plovers – Rockhouse Creek Shoals

In addition to those piping plovers sighted within Unit FL-34, 72 individuals were documented during six of the seven surveys conducted on RC shoals during 2009/10 (Table 3). This equates to 10.29 individual sightings per survey, which was considerably higher than the 1.64 plovers counted per survey in Unit FL-34 (Table 4). The plovers were present from November 2009, when the first survey was performed, through April 2010; no plovers were sighted in May 2010. The largest aggregation consisted of 20 individual birds. Plovers on RC Shoals were engaged in both resting and foraging behavior primarily within the intertidal zone. Ten (10) of the 72 piping plovers sighted during 2009/10 were banded.

Prior to 2009/10, the only data available for nearby RC Shoals came from the two surveys conducted in November and February each year. The most birds sighted during a single survey over the entire period of monitoring was the 20 observed in February 2010, and all were in a single group. As noted for Unit FL-34, this number may include some migrants as well as resident birds but falls within the range of 13-22 individuals established above for the overwintering Ponce Inlet population. As is typical, most of the plovers observed on RC Shoals during the 2009/10 surveys occurred as solitary individuals (35%) or within small groups of 2-4 individuals (42%).

Banded Piping Plovers

Since October 2004, 56 sightings of banded piping plovers have been documented during surveys of Unit FL-34 and RC Shoals. Based on unique combinations of right and left leg bands, the breeding populations of at least eight individual birds could be determined; six were from the Great Lakes population, while one each originated from nesting colonies along the Missouri River (Northern Great Plains population) and in the Atlantic Maritime Provinces of Canada (Atlantic Coast population). Several other plovers may also have been banded in Canada, although that could not be determined with confidence. Based on these data, it is evident that all three North American breeding populations of piping plovers regularly, or at least occasionally, overwinter in the vicinity of Ponce Inlet.

The majority of banded plovers observed since 2004 were foraging in the intertidal zone on RC Shoals. However, banded birds were also observed in Unit FL-34. One of the six birds positively linked to the Great Lakes population was banded in 2008 and spent the overwintering periods of 2008/09 and 2009/10 in and around Ponce Inlet and along the Atlantic beaches south of the Inlet, respectively. It was observed on beaches within Unit FL-34 (Inlet Beaches, Halifax River shoreline, and Atlantic Beaches) as well as on RC Shoals, providing evidence that the birds move back and forth between these two habitats and perhaps others.

Three of the eight individual birds positively identified were observed during two consecutive overwintering periods. One was from the Northern Great Plains population. It was banded in June 2006 below the Gavins Point Dam on the Missouri River and was

subsequently observed on RC Shoals during both the 2006/07 and 2007/08 overwintering periods. The other two individuals were both from the Great Lakes population. One hatched in 2001 at Beaver Island, Michigan and was observed during 2004/05 and 2005/06. The other was banded in Gulliver, Michigan and observed during the 2008/09 and 2009/10 overwintering periods.

Other Shorebirds Sighted During 2009-2010

Including the piping plovers, approximately 12,000 birds, representing 51 different species, were sighted during the surveys of Unit FL-34 and RC Shoals between August 2009 and May 2010 (Tables 7-11). The largest numbers of sightings (9,511) and species (43) occurred on RC Shoals. Considering that there were only seven surveys conducted at this location, this attests to its importance as a bird resting and foraging area. Within Unit FL-34, the largest number of bird sightings (1,438) occurred along Atlantic Beaches. Moderate numbers of shorebirds (644) were also observed within the CSSA west of the jetty and along the south shore of the inlet (289). The fewest sightings (118) occurred along the Halifax River shoreline.

On the Atlantic Beaches, large flocks of shorebirds often congregated in the intertidal zone just south of the inlet jetty. Some species were present throughout the period of monitoring while others were present only once or twice (Table 7). Laughing gulls, royal terns, sanderlings, ruddy turnstones, and sandwich terns accounted for over 90 percent of all individuals counted on Atlantic Beaches (Table 12). Herring gulls, ring-billed gulls, ruddy turnstones, and sanderlings were the most ubiquitous, each being present on at least 70% of all surveys.

Within the CSSA, eight species accounted for over 90 percent of all shorebird sightings (Table 12). Ruddy turnstones, sanderlings, and dunlin were the most abundant, accounting for 68 percent of the sightings. Ruddy turnstones, sanderlings, and snowy egrets were the most ubiquitous within the CSSA, being sighted on at least 60 percent of all surveys; ruddy turnstones were present during every survey except one (Table 8).

Along the Inlet Beaches west of the CSSA, moderate numbers of species were documented (16), but most were present during only a few surveys (Table 9). Sanderlings, which accounted for the majority of individuals (110), were the exception, as they were present on at least 80% of all surveys (Table 12). Sanderlings, Forster's terns, and ruddy turnstones accounted for 80 percent of all sightings on the Inlet Beaches.

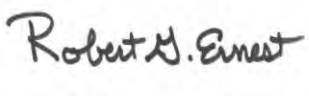
As for the Inlet Beaches, relatively few birds were documented along the Halifax River Shoreline (Table 10). Sanderlings were the most frequently sighted shorebird (52) and were present during half of all surveys (Table 12). Snowy egrets were the second most abundant species (31) and were present on 70 percent of the surveys.

All but eight (8) of the 51 species documented during the 2009/10 surveys were sighted on RC Shoals (Table 11). Thirteen (13) of those species accounted for over 90 percent of all individuals counted (Table 12). The laughing gull was the most abundant of these

(1,996) and together with herring gulls, black skimmers, and royal terns accounted for nearly 60 percent of all sightings. The largest bird count for RC Shoals (2,669) occurred during the February 5, 2010 survey.

Should you have any questions regarding the content of this report or require any additional supporting information, I can be reached at (772) 334-3729.

Sincerely,



Robert G. Ernest
President

RGE/re
enclosures

c: Jennifer Winters/Volusia County Environmental Management
Joe Nolin/Ponce de Leon Inlet & Port District

Ponce de Leon Inlet

January 2003

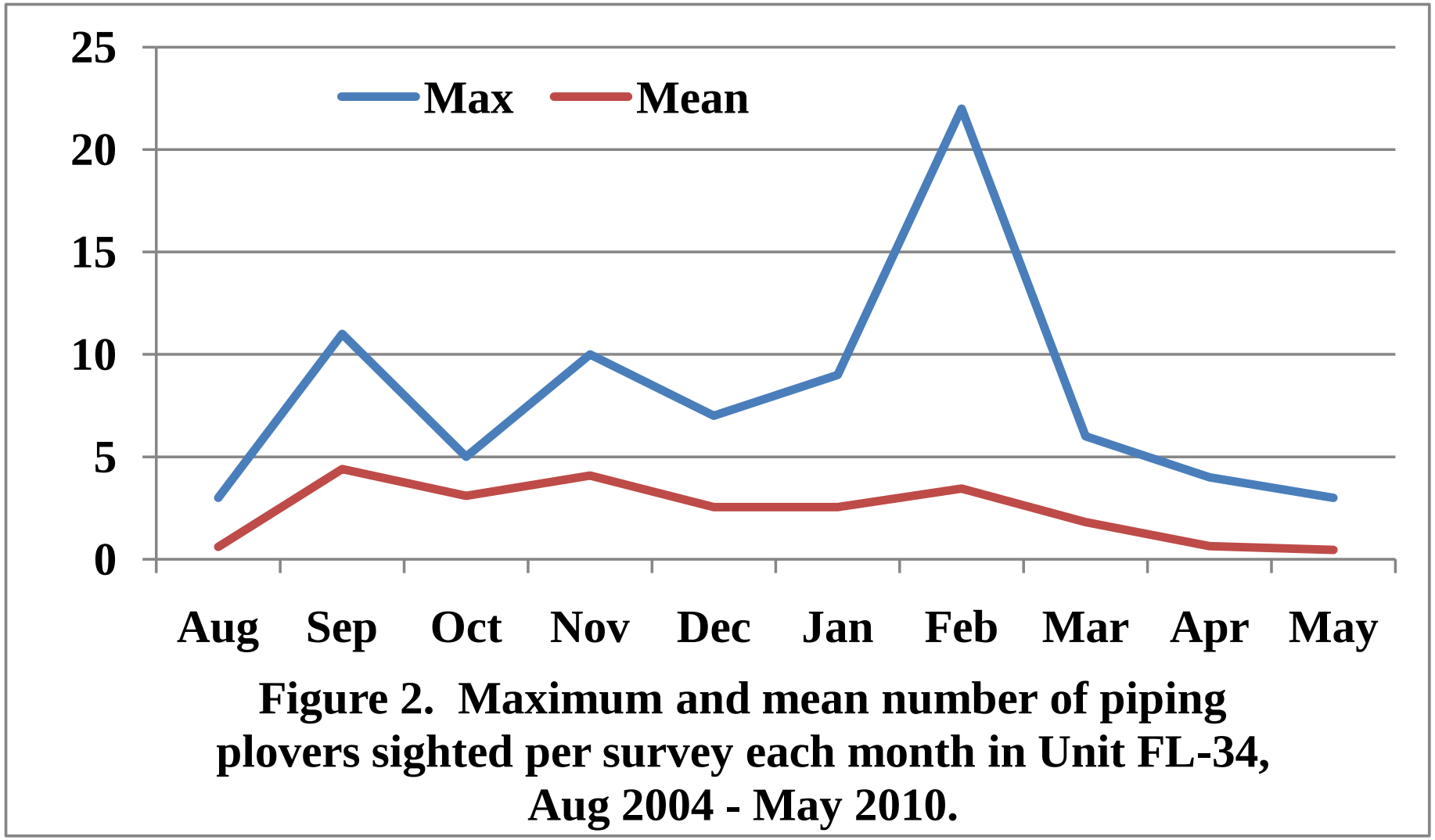


Figure 2. Maximum and mean number of piping plovers sighted per survey each month in Unit FL-34, Aug 2004 - May 2010.

Table 1

General Information for Piping Plover and Shorebird Surveys
Unit FL-34 and Rockhouse Creek Shoals
August 2009-May 2010

Survey Date	Survey Segment	Start Time	End Time	Observers	Sky Conditions	Wind Dir	Wind Speed	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Survey Method	Human Activity Level	Human Activity	Total No. Species	Total No. Birds
8/4/2009	Atlantic Beaches	13:57	14:10	J. Winters, S. Bell	Partly Cloudy	SE	1-5	7:59	14:25	20:36	Auto	High	20 moving vehicles, 168 parked vehicles, 11 sunbathers, 45 pedestrian traffic	6	31
8/4/2009	Construction Staging & Storage Area	14:40	14:45	J. Winters, S. Bell	Cloudy	SE	1-5	7:59	14:25	20:36	Auto	Low	2 sunbathers, 9 pedestrian traffic, 6 fishermen	4	21
8/4/2009	Inlet Beaches	14:35	14:39	J. Winters, S. Bell	Cloudy	SE	1-5	7:59	14:25	20:36	Auto	Low	2 sunbathers, 4 pedestrian traffic	1	5
8/4/2009	Halifax Shoreline	14:26	14:34	J. Winters, S. Bell	Cloudy	SE	1-5	7:59	14:25	20:36	Auto	Low	1 sunbather, 10 pedestrian traffic, 5 fishermen, 3 dogs on leash	2	3
8/28/2009	Construction Staging & Storage Area	9:38	9:48	J. Winters, A. Bridges	Cloudy	SE	1-5	2:55	9:45	15:53	ATV	Low	1 sunbather, 3 pedestrian traffic, 7 fishermen, 1 dog on leash	5	23
8/28/2009	Inlet Beaches	9:30	9:37	A. Bridges, J. Winters	Cloudy	SE	Calm	2:55	9:45	15:53	ATV	Low	1 pedestrian traffic, 1 dog on leash	3	6
8/28/2009	Halifax Shoreline	9:10	9:30	A. Bridges, J. Winters, M. Brothers	Partly Cloudy	SE	Calm	2:55	9:45	15:53	ATV	Low	3 sunbathers, 3 pedestrian traffic, 3 fishermen, 3 dogs on leash	6	10
8/28/2009	Atlantic Beaches	6:48	7:04	J. Winters, A. Bridges	Partly Cloudy	SE	1-5	2:55	9:45	15:53	Auto	Low	5 pedestrian traffic, 2 bicyclists	7	337
9/14/2009	Halifax Shoreline	10:46	11:15	M. Brothers, J. Winters	Partly Cloudy	SE	1-5	4:42	11:14	17:33	Foot	Low	4 sunbathers, 5 pedestrian traffic, 4 fishermen, 4 dogs on leash	1	1
9/14/2009	Inlet Beaches	11:15	11:25	M. Brothers, J. Winters	Partly Cloudy	NE	5-10	4:42	11:14	17:33	Foot	Low	7 pedestrian traffic, 1 dog on leash	1	11
9/14/2009	Construction Staging & Storage Area	11:25	11:36	M. Brothers, J. Winters	Partly Sunny	NE	5-10	4:42	11:14	17:33	Foot	Low	10 sunbathers, 2 pedestrian traffic, 4 fishermen, 4 bicyclists, 1 dog on leash	7	74
9/14/2009	Atlantic Beaches	11:45	12:18	M. Brothers, J. Winters	Partly Cloudy	NE	5-10	4:42	11:14	17:33	Foot	Moderate	21 moving vehicles, 74 parked vehicles, 2 gator/atv, 19 sunbathers, 16 pedestrian traffic, 8 bicyclists	8	104
9/28/2009	Halifax Shoreline	10:18	10:29	J. Winters, A. Bridges	Sunny	NW	5-10	4:23	11:08	17:07	ATV	Low	1 sunbather, 3 pedestrian traffic, 4 fishermen, 1 dog on leash	1	1
9/28/2009	Inlet Beaches	10:30	10:38	J. Winters, A. Bridges	Sunny	NW	5-10	4:23	11:08	17:07	ATV	Low	5 pedestrian traffic, 1 dog on leash	2	7
9/28/2009	Construction Staging & Storage Area	10:39	10:47	A. Bridges, J. Winters	Sunny	NW	5-10	4:23	11:08	17:07	ATV	Low	2 pedestrian traffic, 16 fishermen	2	34
9/28/2009	Atlantic Beaches	10:48	11:37	J. Winters, A. Bridges	Sunny	NW	5-10	4:23	11:08	17:07	ATV	High	60 moving vehicles, 136 parked vehicles, 45 sunbathers, 31 pedestrian traffic, 1 fisherman, 3 bicyclists	13	791

Table 1

General Information for Piping Plover and Shorebird Surveys
Unit FL-34 and Rockhouse Creek Shoals
August 2009-May 2010

Survey Date	Survey Segment	Start Time	End Time	Observers	Sky Conditions	Wind Dir	Wind Speed	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Survey Method	Human Activity Level	Human Activity	Total No. Species	Total No. Birds
11/23/2009	Halifax Shoreline	14:48	15:30	A. Bridges, S. Bell, P. Hunter, K. Hunter	Cloudy	E	5-10	12:07	6:34	12:39	Foot	Low	7 pedestrian traffic, 3 fishermen, 2 dogs on leash	3	12
11/23/2009	Inlet Beaches	14:35	14:47	A. Bridges, S. Bell, P. Hunter, K. Hunter	Cloudy	E	5-10	12:07	6:34	12:39	Foot	Low	4 pedestrian traffic, 7 fishermen	8	37
11/23/2009	Construction Staging & Storage Area	13:35	14:34	A. Bridges, S. Bell, P. Hunter, K. Hunter	Partly Sunny	E	5-10	12:07	6:34	12:39	Foot	Low	13 sunbathers, 16 pedestrian traffic, 3 fishermen, 2 dogs on leash, 2 dogs off leash	13	124
11/23/2009	Atlantic Beaches	12:52	13:34	A. Bridges, S. Bell, P. Hunter, K. Hunter	Partly Cloudy	E	5-10	12:07	6:34	12:39	Foot	Low	2 moving vehicles, 9 parked vehicles, 2 sunbathers, 20 pedestrian traffic	9	55
11/23/2009	Rockhouse Creek North Shoal	14:53	16:14	J. Winters, M. Brothers, S. Gann, D. Oddy	Partly Sunny	NE	5-10	12:07	6:34	12:39	Foot	Low	8 pedestrian traffic, 4 boats on shore (2 people in boat), 3 dogs off leash	26	2407
11/23/2009	Rockhouse Creek South Shoal	16:18	16:23	J. Winters, M. Brothers, S. Gann, D. Oddy	Partly Cloudy	NE	1-5	12:07	6:34	12:39	Boat	Low	1 boat on shore	10	110
12/17/2009	Atlantic Beaches	9:20	9:50	J. Winters, A. Fulton, K. Hunter, P. Hunter	Partly Sunny	NE	5-10	8:50	15:02	20:51	Foot	Low	2 pedestrian traffic (one walking a bike)	10	25
12/17/2009	Construction Staging & Storage Area	9:51	10:35	J. Winters, A. Fulton, K. Hunter, P. Hunter	Cloudy	NE	10-15	8:50	15:02	20:51	Foot	None	NA	11	257
12/17/2009	Inlet Beaches	10:35	10:55	J. Winters, A. Fulton, K. Hunter, P. Hunter	Cloudy	NE	10-15	8:50	15:02	20:51	Foot	Low	2 pedestrian traffic, 4 fishermen	7	36
12/17/2009	Halifax Shoreline	10:55	11:30	J. Winters, A. Fulton, K. Hunter, P. Hunter	Cloudy	NE	10-15	8:50	15:02	20:51	Foot	Low	4 pedestrian traffic, 3 fishermen	7	23
12/17/2009	Rockhouse Creek South Shoal	11:53	12:28	A. Bridges, N. Desjardin, S. Bell	Cloudy	NE	10-15	8:50	15:02	20:51	Boat	None	NA	20	89
12/17/2009	Rockhouse Creek North Shoal	12:36	14:04	A. Bridges, N. Desjardin, S. Bell	Cloudy	NE	10-15	8:50	15:02	20:51	Foot	None	NA	26	555
1/15/2010	Rockhouse Creek North Shoal	10:16	11:35	J. Winters, A. Bridges, M. Brothers, S. Bell	Partly Cloudy	N	1-5	8:27	14:42	20:33	Foot	None	NA	24	673
1/15/2010	Halifax Shoreline	9:32	9:43	J. Winters, A. Bridges	Partly Cloudy	N	1-5	8:27	14:42	20:33	Boat	Low	4 pedestrian traffic	6	25
1/15/2010	Rockhouse Creek South Shoal	9:46	9:54	J. Winters, A. Bridges	Partly Cloudy	N	1-5	8:27	14:42	20:33	Boat	None	NA	2	5

Table 1

General Information for Piping Plover and Shorebird Surveys
Unit FL-34 and Rockhouse Creek Shoals
August 2009-May 2010

Survey Date	Survey Segment	Start Time	End Time	Observers	Sky Conditions	Wind Dir	Wind Speed	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Survey Method	Human Activity Level	Human Activity	Total No. Species	Total No. Birds
1/15/2010	Construction Staging & Storage Area	9:16	9:34	M. Brothers, S. Bell	Sunny	N	1-5	8:27	14:42	20:33	Foot	Low	9 pedestrian traffic, 2 fishermen, 3 dogs on leash	3	29
1/15/2010	Atlantic Beaches	9:01	9:15	M. Brothers, S. Bell	Sunny	N	1-5	8:27	14:42	20:33	Foot	Low	3 moving vehicles, 6 parked vehicles, 1 sunbather, 5 pedestrian traffic	4	13
1/15/2010	Inlet Beaches	9:35	9:46	M. Brothers, S. Bell	Sunny	N	1-5	8:27	14:42	20:33	Foot	None	NA	5	38
2/5/2010	Atlantic Beaches	11:24	11:53	M. Brothers, A. Kropp, G. Adair, J. Winters	Cloudy	SE	5-10	1:00	7:19	13:09	Foot	Low	2 moving vehicles, 1 parked vehicle, 18 pedestrian traffic	11	61
2/5/2010	Construction Staging & Storage Area	11:54	12:06	M. Brothers, A. Kropp, G. Adair, J. Winters	Cloudy	SE	5-10	1:00	7:19	13:09	Foot	Low	5 pedestrian traffic, 1 fisherman, 1 dog on leash	4	29
2/5/2010	Inlet Beaches	12:07	12:14	M. Brothers, A. Kropp, G. Adair, J. Winters	Cloudy	SE	5-10	1:00	7:19	13:09	Foot	Low	3 pedestrain traffic	4	137
2/5/2010	Halifax Shoreline	12:15	12:37	M. Brothers, A. Kropp, G. Adair, J. Winters	Cloudy	SE	5-10	1:00	7:19	13:09	Foot	Low	2 pedestrian traffic, 3 fishermen, 1 dog on leash, 1 boat on shore	1	27
2/5/2010	Rockhouse Creek North Shoal	13:00	14:30	M. Brothers, A. Kropp, G. Adair, J. Winters	Cloudy	S	5-10	1:00	7:19	13:09	Foot	None	NA	27	2669
2/5/2010	Rockhouse Creek South Shoal	14:40	14:40	M. Brothers, A. Kropp, G. Adair, J. Winters	Cloudy	S	10-15	1:00	7:19	13:09	Boat	None	NA	0	
3/19/2010	Atlantic Beaches	11:40	11:49	A. Bridges, D. Picard, N. White	Sunny	NW	5-10	11:22	17:37	23:59	Auto	Moderate	3 moving vehicles, 106 parked vehicles, 12 sunbathers, 78 pedestrian traffic	3	4
3/19/2010	Construction Staging & Storage Area	11:45	12:02	A. Bridges, D. Picard, N. White	Sunny	NW	5-10	11:22	17:37	23:59	Foot	Low	5 sunbathers, 10 pedestrian traffic, 9 fishermen, 3 dogs on leash	1	31
3/19/2010	Inlet Beaches	12:03	12:08	A. Bridges, D. Picard, N. White	Sunny	NW	5-10	11:22	17:37	23:59	Foot	Low	2 sunbathers	0	
3/19/2010	Halifax Shoreline	11:40	11:52	S. Bell, M. Brothers, D. Hartgrove, K. Hunter, P. Hunter	Sunny	NW	5-10	11:22	17:37	23:59	Boat	Low	2 sunbathers, 9 pedestrian traffic, 6 dogs on leash	3	5
3/19/2010	Rockhouse Creek South Shoal	11:58	12:30	S. Bell, M. Brothers, D. Hartgrove, K. Hunter, P. Hunter	Sunny	NW	5-10	11:22	17:37	23:59	Boat	None	NA	9	28

Table 1

General Information for Piping Plover and Shorebird Surveys
Unit FL-34 and Rockhouse Creek Shoals
August 2009-May 2010

Survey Date	Survey Segment	Start Time	End Time	Observers	Sky Conditions	Wind Dir	Wind Speed	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Survey Method	Human Activity Level	Human Activity	Total No. Species	Total No. Birds
3/19/2010	Rockhouse Creek North Shoal	12:31	14:35	S. Bell, M. Brothers, D. Hartgrove, K. Hunter, P. Hunter, A. Bridges, D. Picard, N. White	Sunny	NW	5-10	11:22	17:37	23:59	Foot	Low	6 sunbathers, 11 pedestrian traffic, 1 dog on leash, 5 dogs off leash, 7 boats on shore	31	1419
4/19/2010	Rockhouse Creek South Shoal	13:49	14:00	M. Brothers, J. Winters, A. Bridges, S. Bell	Cloudy	NE	1-5	12:32	18:37	12:37	Boat	None	NA	10	186
4/19/2010	Atlantic Beaches	12:40	13:04	M. Brothers, J. Winters, A. Bridges, S. Bell	Cloudy	NE	Calm	12:32	18:37	12:37	Foot	Low	3 moving vehicles, 45 parked vehicles, 26 sunbathers, 15 pedestrian traffic, 1 bicyclist	4	12
4/19/2010	Construction Staging & Storage Area	12:27	12:39	M. Brothers, J. Winters, A. Bridges, S. Bell	Cloudy	NE	1-5	12:32	18:37	12:37	Foot	Low	4 sunbathers, 8 pedestrian traffic, 12 fishermen	4	17
4/19/2010	Inlet Beaches	12:18	12:26	M. Brothers, J. Winters, A. Bridges, S. Bell	Cloudy	NE	1-5	12:32	18:37	12:37	Foot	None	NA	1	1
4/19/2010	Halifax Shoreline	12:00	12:17	M. Brothers, J. Winters, A. Bridges, S. Bell	Cloudy	NE	Calm	12:32	18:37	12:37	Boat	Low	5 pedestrian traffic, 1 bicyclist, 1 dog on leash, 1 dog off leash	2	5
4/19/2010	Rockhouse Creek North Shoal	13:08	14:10	M. Brothers, J. Winters, A. Bridges, S. Bell	Cloudy	NE	5-10	12:32	18:37	12:37	Foot	None	NA	24	1046
5/14/2010	Atlantic Beaches	10:24	10:30	J. Winters, M. Mitry-Hana	Sunny	SE	5-10	9:16	15:32	21:57	ATV	Moderate	4 moving vehicles, 52 parked vehicles, 25 sunbathers, 27 pedestrian traffic	4	5
5/14/2010	Inlet Beaches	10:01	10:12	J. Winters, M. Mitry-Hana	Sunny	SE	1-5	9:16	15:32	21:57	ATV	Low	4 pedestrian traffic, 2 dogs on leash	7	11
5/14/2010	Construction Staging & Storage Area	10:12	10:22	J. Winters, M. Mitry-Hana	Sunny	SE	1-5	9:16	15:32	21:57	ATV	Low	1 boat on shore (kayak), 1 pedestrian traffic, 15 fishermen, 2 bicyclists	3	5
5/14/2010	Halifax Shoreline	9:46	9:58	M. Brothers, S. Bell	Partly Cloudy	SE	1-5	9:16	15:32	21:57	Boat	Low	2 sunbathers, 3 pedestrian traffic, 3 fishermen, 3 dogs on leash, 1 dog off leash	3	6
5/14/2010	Rockhouse Creek South Shoal	10:05	11:00	M. Brothers, S. Bell	Partly Sunny	SE	1-5	9:16	15:32	21:57	Foot	None	NA	18	136
5/14/2010	Rockhouse Creek North Shoal	11:22	12:11	M. Brothers, J. Winters, S. Bell	Partly Cloudy	SE	5-10	9:16	15:32	21:57	Foot	Low	1 sunbather, 9 pedestrian traffic, 5 boats on shore, 1 dog off leash	17	188

[1] Tides are from NOAA Tide Predictions for Ponce de Leon Inlet, Florida

Table 2

Listing of all Piping Plover Sightings and Supporting Information, Unit FL - 34
August 2009- May 2010

Survey Date	Survey Segment	Sky Conditions	Wind Direction	Wind Speed	Start Time	End Time	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Human Activity Level	Number of Birds	Observed Activity	Beach Location	Latitude Degrees	Longitude Degrees	Bands Present	Notes
8/28/2009	Halifax Shoreline	Partly Cloudy	SE	Calm	9:10	9:30	2:55	9:45	15:53	Low	1	Foraging	Water's edge	29.06499307	80.91651615	No	
9/14/2009	Atlantic Beaches	Partly Cloudy	NE	5-10	11:45	12:18	4:42	11:14	17:33	Moderate	1	Foraging	Intertidal habitat[2]	29.07193492	80.91131461	Yes	Left: Short metal or grey plastic (below)/ Right: Long metal or grey plastic (below)
9/28/2009	Atlantic Beaches	Sunny	NW	5-10	10:48	11:37	4:23	11:08	17:07	High	1	Foraging	Lower beach[3]	29.06540085	80.90778602	No	
11/23/2009	Atlantic Beaches	Partly Cloudy	E	5-10	12:52	13:34	12:07	6:34	12:39	Low	1	Foraging	Water's edge	29.07296097	80.91217467	Yes	Left: Metal band (above)/ green band (below)/ Right: Orange flag (above)/ yellow over green band (below) (Great Lakes Bird)
11/23/2009	Atlantic Beaches	Partly Cloudy	E	5-10	12:52	13:34	12:07	6:34	12:39	Low	6	Resting	Mid beach	29.07310119	80.91255011	No	
11/23/2009	Construction Staging & Storage Area	Partly Sunny	E	5-10	13:35	14:34	12:07	6:34	12:39	Low	1	Resting	Mid beach	29.07364912	80.91509685	No	
12/17/2009	Inlet Beaches	Cloudy	NE	10-15	10:35	10:55	8:50	15:02	20:51	Low	1	Resting	Lower beach	29.07371134	80.9159457	Yes	Left: Short metal (below)/ Right: Long metal (below)
12/17/2009	Construction Staging & Storage Area	Cloudy	NE	10-15	9:51	10:35	8:50	15:02	20:51	None	6	Resting	Lower beach	29.07371503	80.91516519	No	

[1] Tides are from NOAA Tide Predictions for Ponce de Leon Inlet, Florida
[2] Intertidal habitat = below most recent high tide line
[3] Above tide line

Table 3

Listing of all Piping Plover Sightings and Supporting Information, Rockhouse Creek Shoals
August 2009 - May 2010

Survey Date	Sky Conditions	Wind Direction	Wind Speed	Start Time	End Time	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Human Activity Level	Number of Birds	Observed Activity	Beach Location	Latitude Degrees	Longitude Degrees	Bands Present	Notes
11/23/2009	Partly Sunny	NE	5-10	14:53	16:14	12:07	6:34	12:39	Low	1	Foraging	Intertidal habitat[2]	29.068588	80.924603	No	
11/23/2009	Partly Sunny	NE	5-10	14:53	16:14	12:07	6:34	12:39	Low	4	Foraging	Intertidal habitat	29.069693	80.925069	Yes	Left Leg- metal band (above)/ green band (below): Right leg: orange flag (above)/ yellow over green band (below) (Great Lakes Bird) (same bird seen on Atlantic Shore)
11/23/2009	Partly Cloudy	NE	1-5	16:18	16:23	12:07	6:34	12:39	Low	1	Foraging	Water's edge			No	
12/17/2009	Cloudy	NE	10-15	12:36	14:04	8:50	15:02	20:51	None	1	Foraging	Water's edge	29.067391	80.924532	No	
12/17/2009	Cloudy	NE	10-15	12:36	14:04	8:50	15:02	20:51	None	1	Foraging	Water's edge	29.073328	80.930056	No	
12/17/2009	Cloudy	NE	10-15	12:36	14:04	8:50	15:02	20:51	None	2	Foraging	Intertidal habitat	29.068469	80.925197	Yes	Left Leg- metal band (above)/ green band (below): Right leg: orange flag (above)/ yellow over green band (below)
12/17/2009	Cloudy	NE	10-15	12:36	14:04	8:50	15:02	20:51	None	7	Foraging	Intertidal habitat	29.066713	80.925346	No	
1/15/2010	Partly Cloudy	N	1-5	10:16	11:35	8:27	14:42	20:33	None	14	Resting	Mid beach	29.067174	80.924176	Yes	3 birds banded: 1) Left: Light blue (below)/ Right: Light blue (below) 2) Left: Short metal (below)/ Right: Long metal (below) 3) Left: Metal band (above)/ green band (below)/ Right: Orange flag (above)/ yellow over green band (below)

Table 3

Listing of all Piping Plover Sightings and Supporting Information, Rockhouse Creek Shoals
August 2009 - May 2010

Survey Date	Sky Conditions	Wind Direction	Wind Speed	Start Time	End Time	Last High Tide[1]	Low Tide[1]	Next High Tide[1]	Human Activity Level	Number of Birds	Observed Activity	Beach Location	Latitude Degrees	Longitude Degrees	Bands Present	Notes
2/5/2010	Cloudy	S	5-10	13:00	14:30	1:00	7:19	13:09	None	20	Resting	Intertidal habitat	29.068594	80.925088	Yes	Two banded, both banding observations unclear: 1) Right: Orange flag (above)/ light blue (below) (left leg never visible, probable lower left leg was light blue - Great Lakes bird observed on 1/15/2010) 2) Left: orange over green (below): Right: unknown
3/19/2010	Sunny	NW	5-10	12:31	14:35	11:22	17:37	23:59	Low	1	Foraging	Lower beach[3]	29.069719	80.927934	Yes	Left: Light blue (lower)/ Right: Light blue (lower)
3/19/2010	Sunny	NW	5-10	12:31	14:35	11:22	17:37	23:59	Low	2	Foraging	Intertidal habitat	29.070396	80.925579	No	
3/19/2010	Sunny	NW	5-10	12:31	14:35	11:22	17:37	23:59	Low	5	Foraging	Intertidal habitat	29.068987	80.925655	No	
3/19/2010	Sunny	NW	5-10	12:31	14:35	11:22	17:37	23:59	Low	8	Foraging	Intertidal habitat	29.069389	80.926209	Yes	Left: Short metal (below)/ Right: Long metal (below)
4/19/2010	Cloudy	NE	5-10	13:08	14:10	12:32	18:37	12:37	None	5	Foraging	Water's edge	29.070061	80.924850	Yes	One banded, but flew away - Left: Orange flag (above)/ unknown

[1] Tides are from NOAA Tide Predictions for Ponce de Leon Inlet, Florida

[2] Intertidal habitat = below most recent high tide line

[3] Above tide line

Table 4

Summary of Piping Plovers Sighted by Survey Segment, Unit FL-34 and Rockhouse Creek Shoals
August 2009 - May 2010

Critical Wintering Habitat	Survey Location	Number of Surveys	Number of Surveys With Sightings	Number of Months With Sightings	Total Number of Sightings	Total Number of Birds Sighted	Average Number Per Sighting	Average Number Per Survey
Unit FL-34	Atlantic Beaches	11	3	2	4	9	2.25	0.82
	Construction Staging & Storage Area	11	2	2	2	7	3.50	0.64
	Inlet Beaches	11	1	1	1	1	1.00	0.09
	Halifax Shoreline	11	1	1	1	1	1.00	0.09
	TOTAL	11	5	4	8	18	2.25	1.64
NA	Rockhouse Creek Shoals	7	7	6	14	72	5.14	10.29

Table 5

Mininum, Maximum, and Mean Number of Piping Plovers Sighted per Survey, Unit FL-34
October 2004 - May 2010

Parameter	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Number of Surveys	16	20	20	20	20	11
Number of Surveys with Sightings	13	14	15	10	15	5
Total Birds Sighted for All Surveys	47	62	40	26	61	18
Min. No. Birds Sighted Per Survey	0	0	0	0	0	0
Max. No. Birds Sighted Per Survey	9	10	5	6	22	8
Mean No. Birds Sighted Per Survey	2.9	3.1	2.0	1.3	3.1	0.9
Standard Deviation	2.67	2.90	1.72	2.00	5.17	2.29

Table 6

Minimum, Maximum, and Mean Number of Piping Plovers Sighted per Survey by Month, Unit Fl-34
October 2004 - May 2010

Parameter	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Total No. Surveys	10	10	10	11	11	11	11	11	11	11
No. Surveys with Sightings	5	10	10	10	8	8	6	8	3	3
% of Surveys with Sightings	50.0	100.0	100.0	90.9	72.7	72.7	54.5	72.7	27.3	27.3
Total Birds Sighted for All Surveys	8	44	31	45	28	28	38	20	7	5
Min. No. Birds Sighted Per Survey	0	1	1	0	0	0	0	0	0	0
Max. No. Birds Sighted Per Survey	3	11	5	10	7	9	22	6	4	3
Mean No. Birds Sighted Per Survey	0.8	4.4	3.1	4.1	2.5	2.5	3.5	1.8	0.6	0.5
Standard Deviation	1.03	3.57	1.52	3.18	2.42	2.58	6.46	2.04	1.29	0.93

Table 7

Total Number of Shorebird Sightings Each Month
Atlantic Coast Beaches, Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Bald Eagle											**0**
Belted Kingfisher											**0**
Black Skimmer											**0**
Black Vulture					2						**2**
Black-bellied Plover											**0**
Boat-tailed Grackle											**0**
Bonaparte's Gull							6				**6**
Brown Pelican											**0**
Caspian Tern											**0**
Clapper Rail											**0**
Common Tern		1									**1**
Crow									2		**2**
Double-crested Cormorant											**0**
Dunlin											**0**
Forster's Tern		4					7				**11**
Glaucous Gull											**0**
Great Egret											**0**
Greater Black-backed Gull	1	2		3	1	1	1				**9**
Greater Yellowlegs											**0**
Herring Gull	6	4			3	1	5		1		**20**
Laughing Gull	306	667		5			1	2			**981**
Least Sandpiper											**0**
Least Tern											**0**
Lesser Black-backed Gull											**0**
Lesser Yellowlegs											**0**
Little Blue Heron											**0**
Loggerhead Shrike					1						**1**
Osprey											**0**
Palm Warbler											**0**
Piping Plover		2		7							**9**
Purple Sandpiper											**0**
Red Knot											**0**
Red-winged Blackbird											**0**

Table 7

Total Number of Shorebird Sightings Each Month
Atlantic Coast Beaches, Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Reddish Egret											**0**
Ring-billed Gull	3	3			8	10	15	1	8		**48**
Royal Tern	6	81			3		3				**93**
Ruddy Turnstone	12	48		17	2	1	2		1	1	**84**
Sanderling	30	33		15	1		7			2	**88**
Sandwich Tern	3	48									**51**
Semipalmated Plover	1	1		4							**6**
Semipalmated Sandpiper											**0**
Short-billed Dowitcher											**0**
Snowy Egret							13	1		1	**15**
Spotted Sandpiper											**0**
Tricolored Heron											**0**
Turkey Vulture					3						**3**
Western Sandpiper				2							**2**
White Ibis											**0**
White Pelican											**0**
Willet		1		2	1		1			1	**6**
Wilson's Plover											**0**
Total Species	**9**	**13**	**0**	**8**	**10**	**4**	**11**	**3**	**4**	**4**	**20**
Total Number	**368**	**895**	**0**	**55**	**25**	**13**	**61**	**4**	**12**	**5**	**1,438**

[1]Surveys conducted twice per month in August and September and once per month from November through May. No surveys performed during October.

Table 8

Total Number of Shorebird Sightings Each Month
Ponce Inlet Construction Staging and Storage Area, Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Bald Eagle											**0**
Belted Kingfisher											**0**
Black Skimmer											**0**
Black Vulture											**0**
Black-bellied Plover											**0**
Boat-tailed Grackle											**0**
Bonaparte's Gull											**0**
Brown Pelican									3		**3**
Caspian Tern					1						**1**
Clapper Rail											**0**
Common Tern		1									**1**
Crow											**0**
Double-crested Cormorant											**0**
Dunlin				5	100						**105**
Forster's Tern											**0**
Glaucous Gull											**0**
Great Egret										1	**1**
Greater Black-backed Gull									1		**1**
Greater Yellowlegs											**0**
Herring Gull											**0**
Laughing Gull	3	9		1							**13**
Least Sandpiper				6	1						**7**
Least Tern											**0**
Lesser Black-backed Gull											**0**
Lesser Yellowlegs											**0**
Little Blue Heron											**0**
Loggerhead Shrike											**0**
Osprey											**0**
Palm Warbler											**0**
Piping Plover				1	6						**7**
Purple Sandpiper				1	1	2	2				**6**
Red Knot											**0**
Red-winged Blackbird											**0**

Table 8

Total Number of Shorebird Sightings Each Month
Ponce Inlet Construction Staging and Storage Area, Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Reddish Egret	1										**1**
Ring-billed Gull				3	4						**7**
Royal Tern		27									**27**
Ruddy Turnstone	25	31		15	29	26	19	31	12		**188**
Sanderling	13	8		28	91		5				**145**
Sandwich Tern		31									**31**
Semipalmated Plover	1			33	18						**52**
Semipalmated Sandpiper											**0**
Short-billed Dowitcher											**0**
Snowy Egret	1	1		1	2		3		1	3	**12**
Spotted Sandpiper											**0**
Tricolored Heren											**0**
Turkey Vulture						1					**1**
Western Sandpiper				19							**19**
White Ibis											**0**
White Pelican											**0**
Willet				1							**1**
Wilson's Plover				10	4					1	**15**
Total Species	**6**	**7**	**0**	**13**	**11**	**3**	**4**	**1**	**4**	**3**	**22**
Total Number	**44**	**108**	**0**	**124**	**257**	**29**	**29**	**31**	**17**	**5**	**644**

[1]Surveys conducted twice per month in August and September and once per month from November through May. No surveys performed during October.

Table 9

Total Number of Shorebird Sightings Each Month
Ponce Inlet South Shore (Excluding Construction Staging and Storage Area), Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Bald Eagle											**0**
Belted Kingfisher											**0**
Black Skimmer											**0**
Black Vulture											**0**
Black-bellied Plover						2				1	**3**
Boat-tailed Grackle											**0**
Bonaparte's Gull							25				**25**
Brown Pelican											**0**
Caspian Tern											**0**
Clapper Rail											**0**
Common Tern											**0**
Crow											**0**
Double-crested Cormorant											**0**
Dunlin											**0**
Forster's Tern							64				**64**
Glaucous Gull											**0**
Great Egret										1	**1**
Greater Black-backed Gull											**0**
Greater Yellowlegs											**0**
Herring Gull				1							**1**
Laughing Gull				3	1						**4**
Least Sandpiper											**0**
Least Tern										2	**2**
Lesser Black-backed Gull											**0**
Lesser Yellowlegs											**0**
Little Blue Heron											**0**
Loggerhead Shrike											**0**
Osprey											**0**
Palm Warbler											**0**
Piping Plover					1						**1**
Purple Sandpiper											**0**
Red Knot											**0**
Red-winged Blackbird											**0**

Table 9

Total Number of Shorebird Sightings Each Month
Ponce Inlet South Shore (Excluding Construction Staging and Storage Area), Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Reddish Egret											**0**
Ring-billed Gull				2	1						**3**
Royal Tern											**0**
Ruddy Turnstone	2			15	5	12	19			4	**57**
Sanderling	8	17		9	26	20	29			1	**110**
Sandwich Tern											**0**
Semipalmated Plover				3							**3**
Semipalmated Sandpiper											**0**
Short-billed Dowitcher											**0**
Snowy Egret				3	1	3			1		**8**
Spotted Sandpiper											**0**
Tricolored Heren											**0**
Turkey Vulture		1									**1**
Western Sandpiper											**0**
White Ibis											**0**
White Pelican											**0**
Willet	1			1	1	1				1	**5**
Wilson's Plover										1	**1**
Total Species	**3**	**2**	**0**	**8**	**7**	**5**	**4**	**0**	**1**	**7**	**16**
Total Number	**11**	**18**	**0**	**37**	**36**	**38**	**137**	**0**	**1**	**11**	**289**

[1]Surveys conducted twice per month in August and September and once per month from November through May. No surveys performed during October.

Table 10

Total Number of Shorebird Sightings Each Month
Halifax River Shoreline, Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Bald Eagle											**0**
Belted Kingfisher					1						**1**
Black Skimmer											**0**
Black Vulture											**0**
Black-bellied Plover						1					**1**
Boat-tailed Grackle									3		**3**
Bonaparte's Gull					2						**2**
Brown Pelican											**0**
Caspian Tern											**0**
Clapper Rail											**0**
Common Tern											**0**
Crow											**0**
Double-crested Cormorant											**0**
Dunlin											**0**
Forster's Tern											**0**
Glaucous Gull											**0**
Great Egret	1	2								1	**4**
Greater Black-backed Gull											**0**
Greater Yellowlegs											**0**
Herring Gull											**0**
Laughing Gull											**0**
Least Sandpiper											**0**
Least Tern											**0**
Lesser Black-backed Gull											**0**
Lesser Yellowlegs											**0**
Little Blue Heron	1										**1**
Loggerhead Shrike											**0**
Marbled Godwit											**0**
Osprey											**0**
Piping Plover	1										**1**
Purple Sandpiper											**0**
Red Knot											**0**
Red-winged Blackbird											**0**

Table 10

Total Number of Shorebird Sightings Each Month
Halifax River Shoreline, Unit FL-34
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Reddish Egret											**0**
Ring-billed Gull					4						**4**
Royal Tern											**0**
Ruddy Turnstone					3	2		1			**6**
Sanderling	6			9	5	5	27				**52**
Sandwich Tern											**0**
Semipalmated Plover	2									1	**3**
Semipalmated Sandpiper											**0**
Short-billed Dowitcher											**0**
Snowy Egret	2			2	6	14		1	2	4	**31**
Spotted Sandpiper											**0**
Tricolored Heron											**0**
Turkey Vulture				1		2		3			**6**
Western Sandpiper											**0**
White Ibis											**0**
White Pelican											**0**
Willet					2	1					**3**
Wilson's Plover											**0**
Total Species	**6**	**1**	**0**	**3**	**7**	**6**	**1**	**3**	**2**	**3**	**14**
Total Number	**13**	**2**	**0**	**12**	**23**	**25**	**27**	**5**	**5**	**6**	**118**

[1]Surveys conducted twice per month in August and September and once per month from November through May. No surveys performed during October.

Table 11

Total Number of Shorebird Sightings Each Month
Rockhouse Creek Shoals
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Bald Eagle					4						**4**
Belted Kingfisher											**0**
Black Skimmer				96	17	204	594	410	3	4	**1,328**
Black Vulture											**0**
Black-bellied Plover				6	14	31	3	64	41	49	**208**
Boat-tailed Grackle											**0**
Bonaparte's Gull					1	1	25	2			**29**
Brown Pelican				25	19	83	1		11		**139**
Caspian Tern				3		3	5	16	17	2	**46**
Clapper Rail								1		1	**2**
Common Tern											**0**
Crow											**0**
Double-crested Cormorant				1	7	12	174	8	6		**208**
Dunlin				151	142	49	211	82	28	7	**670**
Forster's Tern				5	7	60	92	228			**392**
Glaucous Gull				1							**1**
Great Egret				1	5	1			1	2	**10**
Greater Black-backed Gull				3	1	16	9	1	1		**31**
Greater Yellowlegs				2	4	1	2	19	2	1	**31**
Herring Gull				69	65	11	1,108	141	4		**1,398**
Laughing Gull				1,738	135	42	47	11	18	5	**1,996**
Least Sandpiper				10	6	6	3	9	52	38	**124**
Least Tern									59	34	**93**
Lesser Black-backed Gull				7			3		4		**14**
Lesser Yellowlegs					1						**1**
Little Blue Heron											**0**
Loggerhead Shrike											**0**
Marbled Godwit							8				**8**
Osprey						1				1	**2**
Piping Plover				6	11	14	20	16	5		**72**
Purple Sandpiper											**0**
Red Knot						5	122	30	2		**159**
Red-winged Blackbird										2	**2**

Table 11

Total Number of Shorebird Sightings Each Month
Rockhouse Creek Shoals
August 2009 - May 2010[1]

Species	Aug 2009	Sept 2009	Oct 2009	Nov 2009	Dec 2009	Jan 2010	Feb 2010	Mar 2010	Apr 2010	May 2010	TOTAL
Reddish Egret				2	3		1	1			**7**
Ring-billed Gull				31	2	41	2	18	6		**100**
Royal Tern				110	15	10	32	118	493	59	**837**
Ruddy Turnstone				5	7		1	2	41	1	**57**
Sanderling				151	96	15	138	140	142	34	**716**
Sandwich Tern				29	7			19	50		**105**
Semipalmated Plover				2	48	48	32	84	225	49	**488**
Semipalmated Sandpiper										20	**20**
Short-billed Dowitcher									1		**1**
Snowy Egret					6	1	2	6		1	**16**
Spotted Sandpiper										1	**1**
Tricolored Heron					1			2			**3**
Turkey Vulture						7					**7**
Western Sandpiper				31	9	7		10	2	1	**60**
White Ibis					10		10	1		1	**22**
White Pelican				1							**1**
Willet				4	1		15	4	15	6	**45**
Wilson's Plover				27		9	9	4	3	5	**57**
Total Species	**0**	**0**	**0**	**27**	**28**	**25**	**27**	**28**	**26**	**23**	**43**
Total Number	**0**	**0**	**0**	**2,517**	**644**	**678**	**2,669**	**1,447**	**1,232**	**324**	**9,511**

[1]Surveys conducted once per month from November through May.

Table 12

Relative Abundance of Shorebird Species Constituting 90 Percent of Total Sightings by Survey Location, Unit FL-34 and Rockhouse Creek Shoals, August 2009- May 2010

Survey Location	Species	Percent of Surveys	No. Individuals	Percent of Total Number
Atlantic Coast Beaches[1]	Laughing Gull	63.6	981	68.22
	Royal Tern	36.4	93	6.47
	Sanderling	72.7	88	6.12
	Ruddy Turnstone	90.9	84	5.84
	Sandwich Tern	27.3	51	3.55
	TOTAL		**1,297**	**90.19**
Ponce Inlet Construction Staging and Storage Area[1]	Ruddy Turnstone	90.9	188	29.19
	Sanderling	63.6	145	22.52
	Dunlin	18.2	105	16.30
	Semipalmated Plover	27.3	52	8.07
	Sandwich Tern	9.1	31	4.81
	Royal Tern	9.1	27	4.19
	Western Sandpiper	9.1	19	2.95
	Wilson's Plover	27.3	15	2.33
	TOTAL		**582**	**90.37**
Inlet Beaches[1]	Sanderling	81.8	110	38.06
	Forster's Tern	9.1	64	22.15
	Ruddy Turnstone	54.5	57	19.72
	Bonaparte's Gull	9.1	25	8.65
	Snowy Egret	36.4	8	2.77
	TOTAL		**264**	**91.35**
Halifax River Shoreline[1]	Sanderling	54.5	52	44.07
	Snowy Egret	72.7	31	26.27
	Ruddy Turnstone	27.3	6	5.08
	Turkey Vulture	27.3	6	5.08
	Great Egret	36.4	4	3.39
	Ring-billed Gull	9.1	4	3.39
	Boat-tailed Grackle	9.1	3	2.54
	Semipalmated Plover	18.2	3	2.54
	TOTAL		**109**	**92.37**

Table 12

Relative Abundance of Shorebird Species Constituting 90 Percent of Total Sightings by Survey Location, Unit FL-34 and Rockhouse Creek Shoals, August 2009- May 2010

Survey Location	Species	Percent of Surveys	No. Individuals	Percent of Total Number
Rockhouse Creek Shoals[2]	Laughing Gull	100.0	1,996	20.99
	Herring Gull	85.7	1,398	14.70
	Black Skimmer	100.0	1,328	13.96
	Royal Tern	100.0	837	8.80
	Sanderling	100.0	716	7.53
	Dunlin	100.0	670	7.04
	Semipalmated Plover	100.0	488	5.13
	Forster's Tern	71.4	392	4.12
	Black-bellied Plover	100.0	208	2.19
	Double Crested Cormarant	85.7	208	2.19
	Red Knot	57.1	159	1.67
	Brown Pelican	71.4	139	1.46
	Least Sandpiper	100.0	124	1.30
	TOTAL		**8,663**	**91.08**

[1]Surveys conducted twice per month in August and September and once per month from November through May. No surveys performed during October.

[2]Surveys conducted once per month from November through May.

APPENDIX 1

PHOTOS DEPICTING REPRESENTATIVE BEACH CONDITIONS WITHIN EACH SURVEY SEGMENT USED TO MONITOR UNIT FL-34 AND ROCKHOUSE CREEK SHOALS

PHOTOS TAKEN APRIL 2010

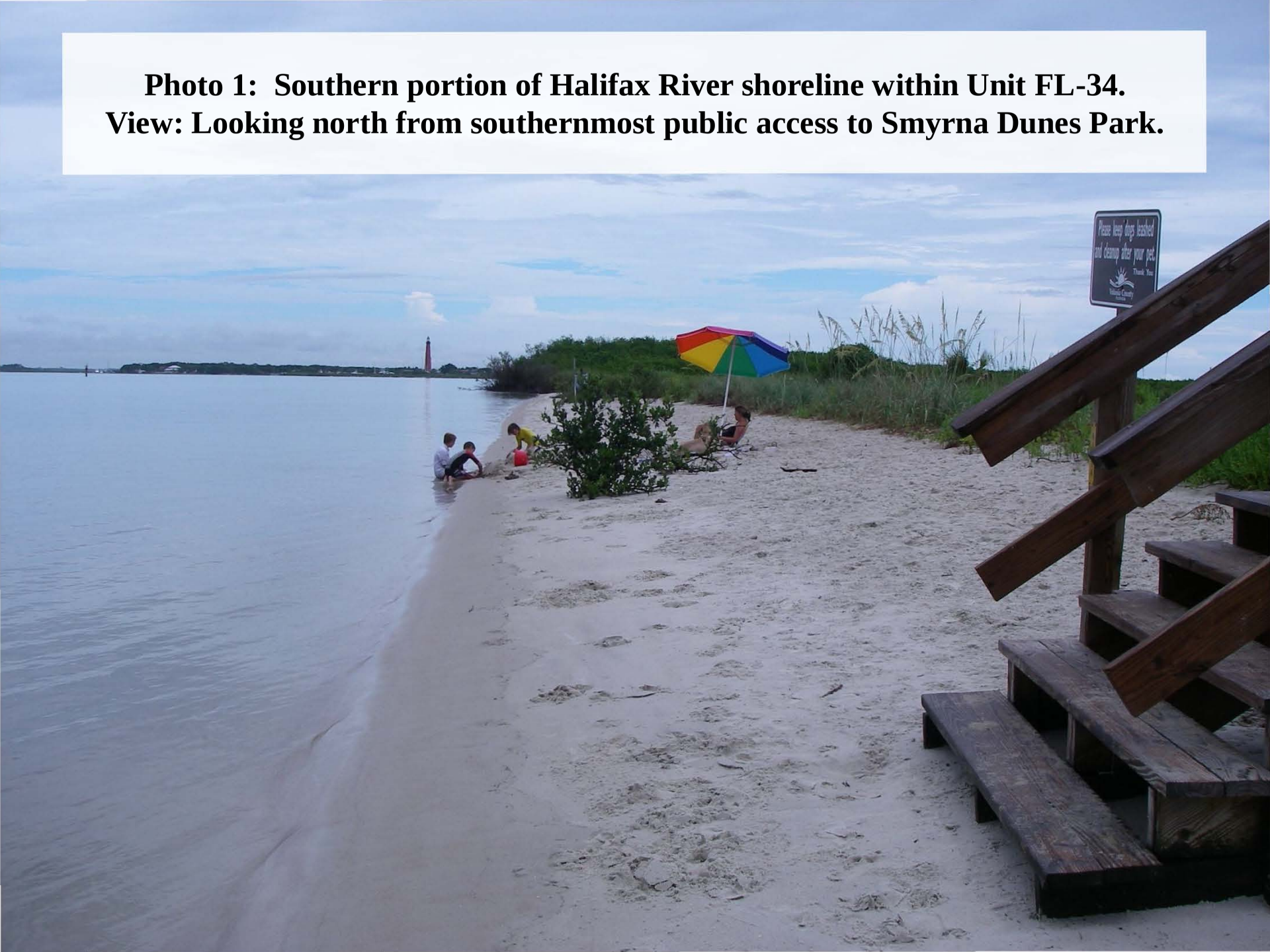


Photo 1: Southern portion of Halifax River shoreline within Unit FL-34.
View: Looking north from southernmost public access to Smyrna Dunes Park.

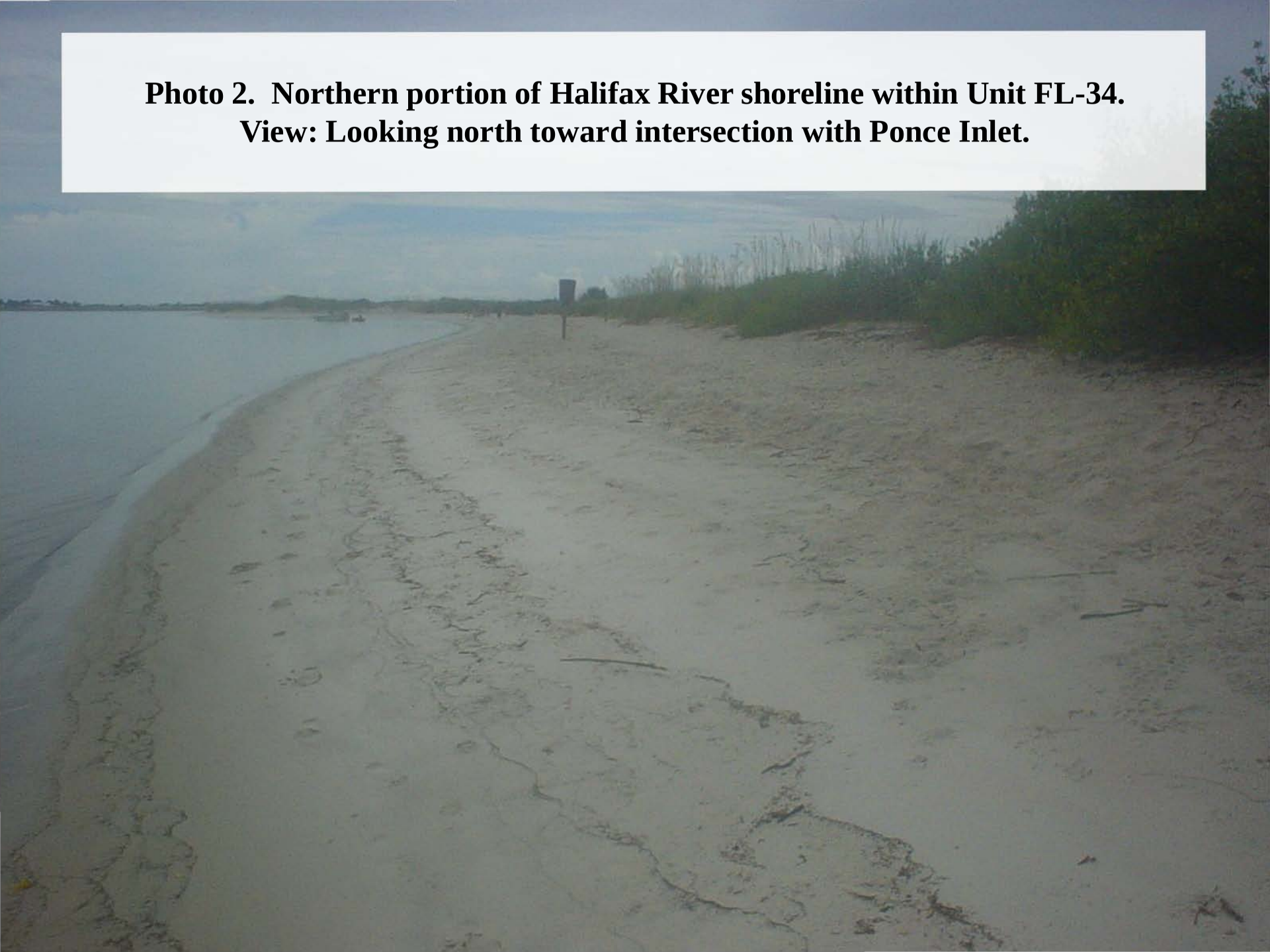


Photo 2. Northern portion of Halifax River shoreline within Unit FL-34. View: Looking north toward intersection with Ponce Inlet.

Photo 3. . Northern portion of Halifax River shoreline within Unit FL-34. View: Looking south along shoreline from intersection with Ponce Inlet.

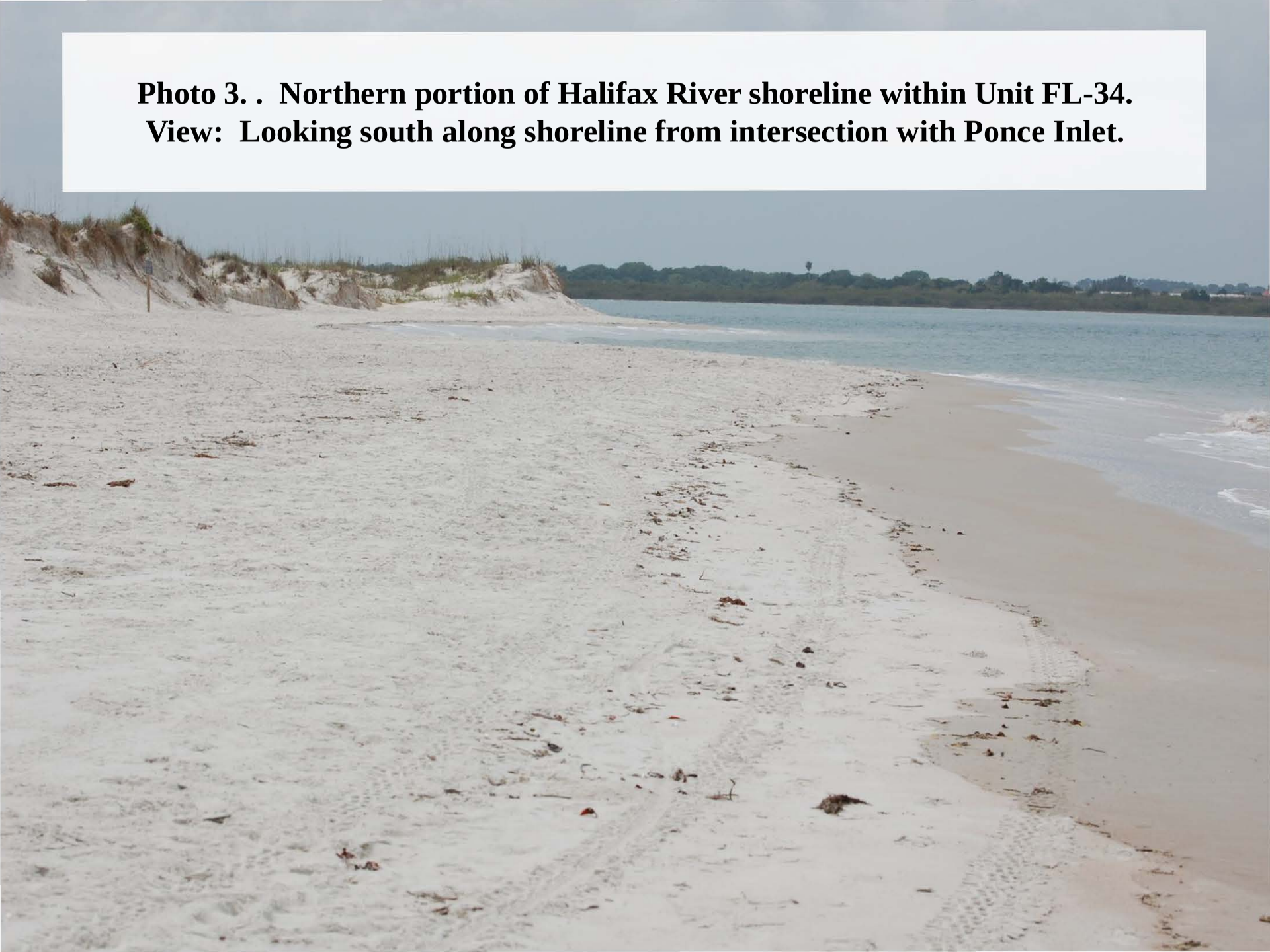


Photo 4. Inlet Beach on south shore of Ponce Inlet within Unit FL-34. View: Looking east toward north jetty and Atlantic Ocean.

Photo 5. Inlet beach on south shore of Ponce Inlet within Unit FL-34. View: Looking east toward inlet.

Photo 6. Construction Staging and Storage Area located on the south shore of Ponce Inlet within Unit FL-34.
View: Looking west from north jetty toward Halifax River.

Photo 7. Construction Staging and Storage Area located on the south shore of Ponce Inlet within Unit FL-34.
View: Looking west toward Halifax River.

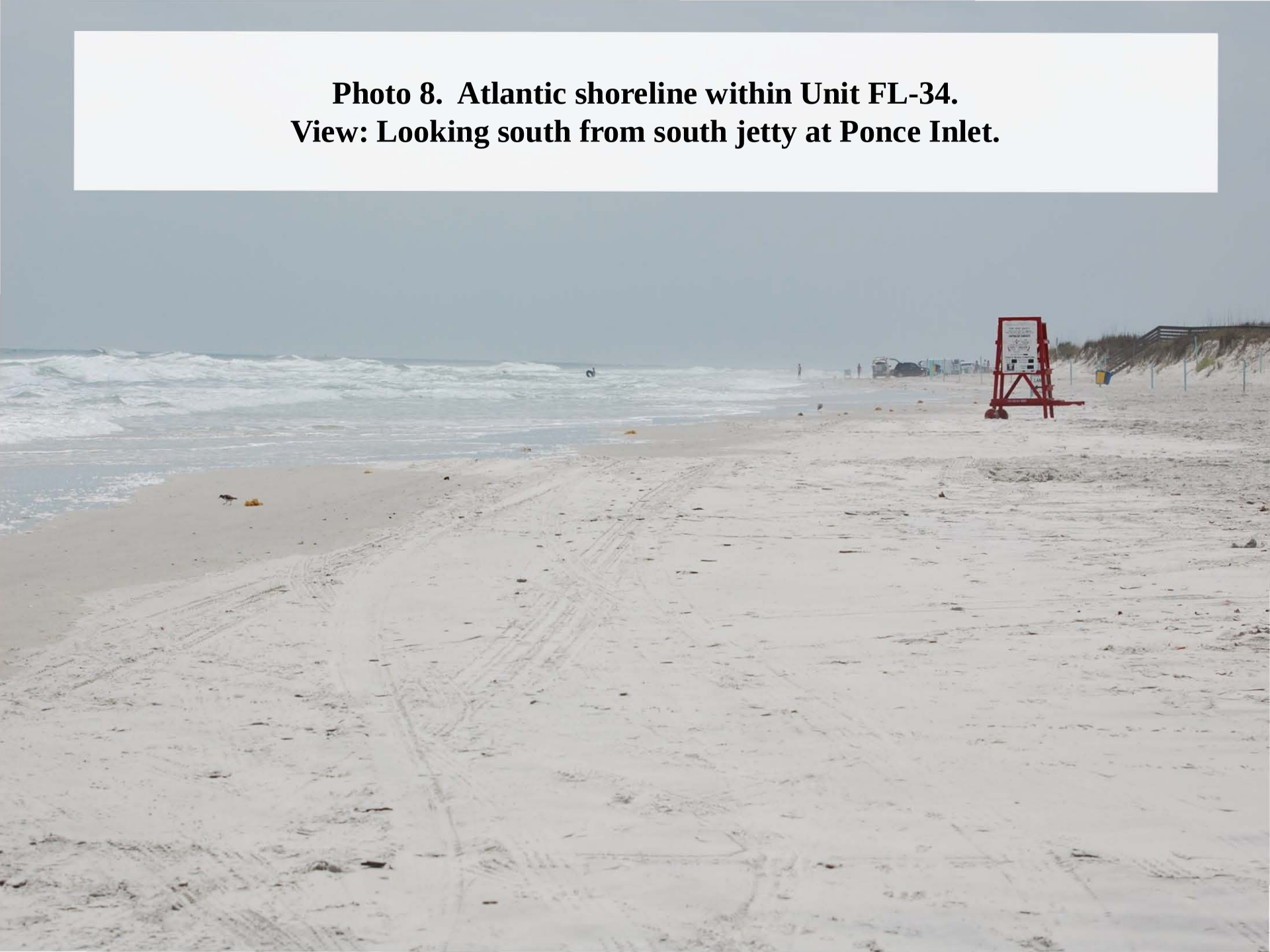


Photo 8. Atlantic shoreline within Unit FL-34.
View: Looking south from south jetty at Ponce Inlet.

Photo 9. Tidal flats at Rockhouse Creek Shoals.
View: Looking northeast toward lighthouse from adjacent spoil island.

APPENDIX G –

MAILING LIST

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PROPERTY OWNERS AND HOLDINGS

GREATER AMERICA LEASING CORP
MINORCA PROPERTY OWNERS
2601 N. PENINSULA AVE
NEW SMYRNA BEACH FL 32169

RESIDENT
2117 OCEAN DR
NEW SMYRNA BEACH FL 32169

RESIDENT
1009 GREENTREE DR
WINTER PARK FL 32789

RESIDENT
1800 SUMMERLAND DR
WINTER PARK FL 32789

RESIDENT
2107 OCEAN DR
NEW SMYRNA BEACH FL 32169

CAMBATA INDUSTRIES
RTE 1 BOX 154
MILLSBORO VA 24460-9533

RESIDENT
731 PINETREE RD
WINTER PARK FL 32789

DUNE CIRCLE PROPERY LLC
3300 UNIVERSITY BLVD #218
WINTER PARK FL 32789

SEYDEL TRUSTEE
312 SURF ST
NEW SMYRNA BEACH FL 32169

RESIDENT
2895 LAKE PARK DR
JONESBORO GA 30236

COCONUT GROVE PROPERTY LLC
3300 UNIVERISTY BLVD #218
WINTER PARK FL 32789

RESIDENT
PO BOX 810490
DALLAS TX 75381-0490

RESIDENT
1819 BEACON ST
NEW SMYRNA BEACH FL 32169

RESIDENT
1432 RIVERSIDE DR T
TITUSVILLE FL 32780

RESIDENT
1813 BEACON ST
NEW SMYRNA BEACH FL 32169

RESIDENT
557 WEKIVA LANDING DR
APOPKA FL 32712

RESIDENT
1807 BEACON ST
NEW SMYRNA BEACH FL 32169

RESIDENT
1805 BEACON ST
NEW SMYRNA BEACH FL 32169

RESIDENT
11 65TH ST
OCEAN CITY MD 21842

RESIDENT
2117 OCEAN DR
NEW SMYRNA BEACH FL 32169

RESIDENT
6 BENDER CT
DIX HILLS NY 11746

RESIDENT
3214 WESTCHESTER AVE
COLLEGE STATION TX 77845

RESIDENT
1665 N ATLANTIC AVE
NEW SMYRNA BEACH FL 32169

RESIDENT
9103 ALTA DR UNIT 1103
LAS VEGAS NV 89145

RESIDENT
1655 N ATLANTIC DR
NEW SMYRNA BEACH FL 32169

RESIDENT
1653 N ATLANTIC DR
NEW SMYRNA BEACH FL 32169

RESIDENT
1623 N ATLANTIC DR
NEW SMYRNA BEACH FL 32169

RESIDENT
3201 SCHILLER ST
TAMPA FL 33629-6535

RESIDENT
12190 E HWY 25
OCKLAWAHA FL 32179

RESIDENT
639 POLO DR
ST LOUIS MO 63105

RESIDENT
1603 N ATLANTIC DR
NEW SMYRNA BEACH FL 32169

RESIDENT
7457 RIVERSIDE DR
DUBLIN OH 43016-9761

RESIDENT
2860 NEIL RD
APOPKA FL 32703-7836

RESIDENT
21 WINDY BUSH LN
SPARTA NJ 07871

RESIDENT
1507 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
102 KENNETT RD
OLD HICKORY TN 37138

RESIDENT
1427 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
30 INTERLAKEN RD
ORLANDO FL 32804

RESIDENT
1423 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 770
WILLARDS MD 21874

RESIDENT
PO BOX 8540
STOCKTON CA 95208

RESIDENT
1293 DELORES ST
SAN FRANSISCO CA 94110

RESIDENT
1411 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
441 FOREST TRAIL
OVIEDO FL 32765

RESIDENT
1407 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
745 FRENCH AV
WINTER PARK FL 32789

RESIDENT
1403 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
3578 MATHESON AVE
MIAMI FL 33133

RESIDENT
900 N PENINSULA DR
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 137
ACME MI 49610-0147

RESIDENT
PO BOX 1018
MOUNT DORA FL 32756

RESIDENT
1201 S ORLANDO AVE #370
WINTER PARK FL 32789

RESIDENT
1321 BRIGHTWATERS BLVD NE ST
PETERSBURG FL 33704

RESIDENT
1315 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
1311 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
3082 SHOAL CREEK RD
LAKELAND FL 33813

RESIDENT
1305 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
5019 GRAN LAC AV
ORLANDO FL 32812

RESIDENT
3640 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
1625 HIBISCUS AV
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 337
COBB GA 31735

RESIDENT
2222 CEDAR ROCK ESTATES DR
LENOIR NC 28645

RESIDENT
1713 E 123RD ST
OLATHE KS 66061

RESIDENT
1982 SR 44 UNIT 358
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 4053
LANTANA FL 33465-4053

OCEAN SERENADE INC
1203 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
713 E AIRPORT BLVD
SANFORD FL 32773-5417

CITY OF NEW SMYRNA BEACH
210 SAMS
NEW SMYRNA BEACH FL 32168

RESIDENT
PO BOX 2115
WINTER PARK FL 32789

RESIDENT
504 S ORANGE ST
NEW SMYRNA BEACH FL 32169

RESIDENT
941 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 1364
SANFORD FL 32772-1364

RESIDENT
919 N ATLANTIC BLVD
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 212
SEVILLE FL 32190

RESIDENT
907 NATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
905 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
280 LAKE SHORE DR
LAKE MARY FL 32746

RESIDENT
5121 CONTOURA DR
ORLANDO FL 32810

RESIDENT
813 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
811 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 1438
GALLATIN TN 37066

RESIDENT
807 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
11028 SHADY OAKS ST
ORLANDO FL 32832

CORONADO TOWERS CONDO ASSOC
705 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
705 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

ATLANTIC VILLAS COA
701 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

GOLDEN ARMS INC
601 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

SEASHELL HOLDINGS LLC
5100 OLD HOWEL BRANCH RD
WINTERPARK FL 32789-2931

WATERMARK COA
401 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

WIN-SAN CONDO ASSOC, INC
111 N ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
1211 ROAYAL OAK DR
WINTER SPRINGS FL 32792

RESIDENT
2112 HAGAN DR
TALLAHASSEE FL 32303-4720

RESDIENT
108 COLUMBIA DR A2
TAMPA FL 33606

SUNBEACH INVESTMENT FO
400 E COLONIAL DR STE 1404
ORLANDO FL 32803

GREAT SOUTHEASTERN INC
5900 DEAN RD
ORLANDO FL 32817

RESIDENT
309 BUENES AIRES ST
NEW SMYRNA BEACH FL 32169

OCEANIA PLAZA COA
421 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

DUNEPOINT COA
C/O RUBY MANAGEMENT
425 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

COCONUT PALMS BEACH RESORT COA
OCEAN DEVELOPMENT GROUP INC
3208 HILL ST
NEW SMYRNA BEACH FL 32169

MEDITERRANEAN CONDOPER
711 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

VIZCAYA AT NEW SMYRNA BEACH
300 INTERNATIONAL PKWY UNIT 300
HEATHROW FL 32746

DOUBLET BERKIE
PO BOX 358
OSTEEN FL 32764

VOLUSIA COUNTY
123 W INDIANA AV
DELAND FL 32720-4612

PRH MARKETING CORP
210 NICHOLS AV
CASPER WY 82601

RESIDENT
4408 SEAMIST DR
NEW SMYRNA BEACH FL 32169

RESIDENT
1009 HILL ST
NEW SMYRNA BEACH FL 32169

HOLIDAY COVES INC
1111 HILL ST
NEW SMYRNA BEACH FL 32169

DEEN PALM B
2127 MALLARD CIR
WINTER PARK FL 32789-6154

1205 HILL ST LLC
151 WYMORE RD 7000
ALTEMONTE SPRINGS FL 32714

1207 HILL ST LLC
208 W WASHINGTON ST
CHICAGO IL 60606

RESIDENT
526 N RIVERSIDE DR
NEW SMYRNA BEACH FL 32169

RESIDENT
1303 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 1605
NEW SMYRNA BEACH FL 32169

RESIDENT
1309 HILL ST
NEW SMYRNA BEACH FL 32169

INKEEPERS MOTOR LODGE
PO BOX 7006
MACON GA 31298-2299

VERIZON WIRELESS
C/O DUFF PHELPS
PO BOX 260968
PLANO TX 75026

ATT&T MOLBILITY LLC
PO BOX 97061
REDMOND WA 980739-9761

HOILIDAY INN OCMULGEE FIELDS INC
131 HOILIDAY DR
MACON GA 31210

T-MOBILE LLC
12920 SE 38TH ST
BELLEVUE WA 98006-1350

METRO PCS INC
100 CONGRESS AVE ST E 1900
AUSTIN TX 78701

JOHN C DEWITT
6520 MILLER DR
MIAMI FL 33155

OCEAN REEF COA
1571 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

ISLANDER BEACH RESORT ASSOCIATION
1601 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

SEA VISTA RESORT INC
1701 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

MALIBU CONDO COA
C/O SENTRY MANAGEMEMNT INC
2180 WEST SR 434 UNIT 5000
LONGWOOD FL 32779

RESIDENT
7000 SW 70TH AVE
MIAMI FL 33143

RESIDENT
75 BANYAN DR
ORMOND BEACH FL 32176

RESIDENT
3413 WILLOWWOOD DR W
MELBOURNE FL 32904

RESIDENT
1805 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
1909 HILL ST
NEW SMYRNA BEACH FL 32169

FAIRCHILD MOSS MGMT LLC
3208 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
2003 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
PO BOX 3347
WINTER PARK FL 33790

RESIDENT
707 DUFF DR
WINTER GARDEN FL 34787

RESIDENT
2103 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
2105 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
3208 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
3807 RAMBLING ACRES
TITUSVILLE FL 32796

KRAKER LIVING TRUST
2305 HILL ST
NEW SMYRNA BEACH FL 32169

PELICAN OF NEW SMYRNA BEACH INC
COA
2401 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
671 GREENVIEW AV
ATLANTIA GA 30305

OCEAN PALMS BEACH CLUB INC
2601 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

RESIDENT
2112 VENTIAN WAY
WINTER PARK FL 32789

RESIDENT
2701 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
2703 HILL ST
NEW SMYRNA BEACH FL 32169

RESIENT
8111 N ORANGE BLOSSOM DR
ORLANDO FL 32810

RESIDENT
2711 HILL ST
NEW SMYRNA BEACH FL 32169

WAVE NEW SMYRNA BEACH COA INC
1215 GESSNER DR
HOUSTON TX 77055

MARGARITVILLE OF NSB INC
233 W PARK AV
WINTER PARK FL 32789

RESIDENT
2765 MARION ST
LEWISTON MI 49756

RESIDENT
951 TUSCA WILLA TR
WINTER SPRING FL 32708

RESIDENT
900 PARK AV N
WINTER PARK FL 32789

RESIDENT
103 FIRST ST
WINTER GRADEN FL 32787

RESIDENT
2021 PALM LN
ORLANDO FL 32803-1538

LAS BRISAS HOA OF NSB
AKA CLUB OCEANIA CONDO PH 1-2
3001 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

3101 HILL ST LLC
711 CANOE TRAIL
VERO BEACH FL 32963

RESIDENT
3101 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
3111 HILL ST
NEW SMYRNA BEACH FL 32169

OCEAN BEACH CONDO ASSOC
3201 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

OCEAN SANDS BEACH CLUB/ COA
3208 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
3505 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
3305 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
3309 HILL ST
NEW SMYRNA BEACH FL 32169

RESIDENT
15 FAWN AV
SMITHVILLE NJ 08205

MJM INVESTMENTS OF VOL LLC
3401 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

HJH LLC
2 JUNGLE HUT RD STE 2
PALM COAST FL 32137

COASTAL WATERS COA
3509 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

CHATEAU BY THE SEA COA
3663 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

POINT EAST ASSOC INC
3801 S ATLANTIC AV
NEW SMYRNA BEACH FL 32169

VOLUSIA COUNTY FLORIDA
PONCE DE LEON O&M
PUBLIC SERVICE
MAILING LIST * = HC ; # = CD

MR HEINZ J. MUELLER
US ENVIRONMENTAL PROTECTION
AGENCY
61 FORSYTH STREET
ATLANTA GA 30303 8960

MR RICHARD HARVEY
EPA-SOUTH FLORIDA OFFICE
400 N CONGRESS AVE
STE 120
WEST PALM BEACH FL 33401

REGIONAL DIRECTOR
US FISH AND WILDLIFE SERVICE
1875 CENTURY BOULEVARD
ATLANTA GEORGIA 30345 3301

FIELD SUPERVISOR DAVE HANKLE
US FISH AND WILDLIFE SERVICE
BAYMEADOWS RD
JACKSONVILLE FLORIDA 32216 0912

DIRECTOR
NMFS SERO HCD
263 13TH AVE SOUTH
ST PETERSBURG FL 33701

ASSISTANT REGIONAL ADMINISTRATOR
NMFS HABITAT CONSERVATION DIV
263 13TH AVE. S.
ST. PETERSBURG FL 33701

*MR. DAVID BERNHART
NATIONAL MARINE FISHERIES SERVICE
CHIEF PROTECTED SPECIES BRANCH
263 13TH AVE. S.
ST. PETERSBURG FL 33701

KEN HOLLINGSHEAD
NMFS- MARINE MAMMAL
CONSERVATION DIVISION
1315 EAST WEST HIGHWAY PR2
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